

## MINUTES OF THE CURRICULUM PLANNING COMMITTEE

April 15, 2009

PRESENT: Darryn Appleton, John Bigbee, Georgia Blackwood, Kate Bowers, Craig Chiefertz, Cindi Cornelissen, Linda Costanzo, Bob Diegelmann, Susan DiGiovanni, Alan Dow, Doug Franzen, Mark Kovacs, Sahar Lotfi-Emran, Julia Messina, Virginia Pallante, David Reines, Evan Reiter, Russ Seneca, Ike Wood.

ABSENT: Mary Ellen Cleary, Steve Crossman, Frank Fulco, Margaret Grimes, Richard Krieg, Vibin Roy, Jeanne Schlesinger, Crystal Shrestha,

The meeting was called to order at 3:10 p.m. by Ike Wood, Committee Chair. Minutes of the March 4, 2009 meeting were approved.

Ike Wood provided the committee with an update on the proposed changes to the USMLE (See Attachment A). The committee believed that the plans for the new curriculum addressed innovations that will be occurring with the licensing examinations.

Alan Dow presented the report from the Core Clerkships and Professional Development Period Subcommittee (See Attachment B). The committee examined changes within the framework of three phases: 1. Pre-clinical; 2. Core clinical; and 3. Electives/AI. Their primary focus was on the core clinical experiences. The subcommittee felt that the core clerkships should be driven by the ACGME core competencies. The subcommittee began looking at competencies in several areas and concluded that they should be grouped based on location and not departments. They used objectives they derived to work backwards in designing the learning experiences. They compared objectives they developed for Women's Health with those established by the American College of Obstetrics and Gynecology (ACOG) and the results were very similar. Their ultimate goal was determining what a general undifferentiated medical practitioner (GUMP) would need to be competent in at the end of the core clerkships. They examined leading and trailing objectives, what could be moved into the "M4" year and what learning experiences would best meet those objectives (e.g., book vs. simulator vs. patient vs. multiple patients).

The recommended clinical curriculum would consist of five phases, each 12 weeks in length with a one week intersession four times:

1. Outpatient Objectives
2. Inpatient Objectives
3. Inpatients Pediatrics/OB-GYN Objectives and vacation/elective
4. Neurology/Psychiatry Objectives and vacation/electives
5. Electives and vacation

The curriculum would run from March of the "M2" year through the beginning of June of "M3" year. Questions were raised about logistics in terms of possible overlap between students from various graduation classes needing to be in the clinical experiences

simultaneously. It was thought that with some flexibility in the “M4” year, this could be accommodated.

Ike Wood brought to the committee’s attention that the LCME requires that we use national benchmarks for defining objectives and competencies (e.g., recommendations from ACOG). Also, he remarked that in looking at the curriculum as a whole, if we are teaching toward clinical competencies, this could serve as a framework for the four years with students being expected to handle the material in a different manner based on their level of training (e.g., the RIME method—Reporter, Interpreter, Manager, Educator). Several committee members echoed that we need to use nationally established criteria for as many parts of the curriculum as possible.

Committee members related that a competency based curriculum will need multiple forms of assessment (e.g., Shelf exams, OSCEs, simulation, observation with real patients, etc.) to assure that competencies have been met and we will need a plan for remediation of students who have not achieved those competencies.

David Reines raised the question about at what point we should bring in the clerkship and program directors for consultation. It was suggested that the subcommittee continue to work on fleshing out more of the details of the core clinical curriculum before seeking additional input. Also, Ike Wood underscored that at this point we need an overarching plan for this component without too much detail so this may be used to present to the faculty and other parties. Alan Dow indicated that the subcommittee will continue to meet to provide additional details.

Linda Costanzo presented the report from the Subcommittee on the Preclinical Content (See Attachment C). The subcommittee recommended the following:

1. The skeletal design of the Scientific Foundations of Medicine should be initiated first. The skeleton would be preliminary and renegotiated after the systems courses are designed. The systems courses would then be designed based on a backwards approach (e.g., begin with diseases and work backwards to determine the basic science content required to support the understanding of the diseases). Then fine-tuning and negotiating the content of the systems and foundations components could be addressed. The subcommittee also recommended requiring biochemistry as a prerequisite to medical school. Discussion ensued and the committee was in agreement with this approach including the requirement of biochemistry as a prerequisite. Bob Diegelmann commented that if students start school with the foundations of biochemistry, this could significantly save time so that in the M1 year, medical biochemistry would be the starting point. There was some discussion about the quality of biochemistry the students would learn based upon where it was taken. A suggestion was made that this either be offered by the SOM as a summer or on-line course with an examination to determine competency.
2. The subcommittee made recommendations about the characteristics of the working groups that will plan the foundations and systems courses. Included were collaborative, non-territorial, open-minded, collective and well-rounded expertise (depth and breadth),

systems thinkers, balance between basic and clinical scientists and comprised of basic and clinical scientists, a lead person in each major area (e.g., Anatomy, Biochemistry, Physiology, Pathology, Pharmacology, etc.) and two students who would apply for committee membership by a written statement of interest.

3. A steering committee would oversee the coordination of the content and didactics of the foundations and systems courses; ensure the content is placed appropriately; and that neither major gaps nor unplanned redundancies would occur. Would also plan necessary and helpful repetition. The steering committee would be comprised of representatives from the foundation course and each systems course.

4. There should be a prototype systems course designed first that could serve as a working template for other systems.

It was pointed out that if the curriculum is clinically driven then the work being done by the two subcommittees would complement each other as the implementation planning begins.

Linda Costanzo suggested that the committee start working on parameters for the courses (e.g., number of hours of lecture allowed per day) to assist in the planning process.

Ike Wood began reviewing where we are in the curriculum planning based upon the valued outcomes (See Attachment D). Due to time constraints the committee was only able to superficially review four outcomes. It was recommended that individual committee members review this on their own and come prepared to discuss at the next meeting.

Ike Wood noted that the committee will meet again in two weeks. **HOWEVER, THIS IS AN ERROR. THE COMMITTEE WILL MEET AGAIN ON MAY 6, 2009.**

The meeting was adjourned at 4:40 p.m.

Respectfully submitted,  
Ike Wood, M.D.  
Committee Chair

ATTACHMENTS

## ATTACHMENT A

### USMLE UPDATE

#### BACKGROUND

- In 2006, the National Board of Medical Examiners formed the Committee to Evaluate the USMLE Program (CEUP) comprising students, residents, clinicians, and members of the licensing, graduate and undergraduate education communities.
- The goal of the CEUP was to determine if the mission and purpose of USMLE were effectively and efficiently supported by the current design, structure and format of the USMLE.
- The CEUP defined themes that emerged into a series of guiding principles:
  - 1 *Primary Purpose*. USMLE is intended for initial medical licensure.
  - 2 *Secondary Uses*. Other uses of examination results may be recognized, provided they do not compromise the primary purpose.
  - 3 *Decision Points*. USMLE will assess readiness for supervised and unsupervised practice.
  - 4 *General Competencies*. USMLE strives to assess competencies necessary for safe and effective practice.
  - 5 *Reliability and Validity*. USMLE assessments must be reliable and valid.
  - 6 *Evolution*. USMLE should reflect the evolution of medical education, training, and curricula.
- Based on these guiding principles, the CEUP made six recommendations:
  - **Recommendation #1:** CEUP recommends that USMLE design a series of assessments that are specifically intended to support decisions about a physician's readiness to provide patient care at each of two patient-centered points: a) at the interface between undergraduate and graduate medical education (supervised practice), b) at the beginning of independent (unsupervised) practice.
  - **Recommendation #2:** CEUP recommends that USMLE adopt a general competencies schema (such as the six general competencies identified by the Accreditation Council on Graduate Medical Education) for the overall design, development, and scoring of USMLE, using a model consistent with national standards.
  - **Recommendation #3:** CEUP recommends that USMLE emphasize the importance of the scientific foundations of medicine in all components of the assessment process. The assessment of these foundations should occur within a clinical context or framework, to the greatest extent possible.
  - **Recommendation #4:** CEUP recommends that the assessment of clinical skills remain a component of USMLE, but that USMLE consider ways to further enhance the testing methods currently used, in order to address additional skills important to medical practice.
  - **Recommendation #5:** CEUP recommends that USMLE introduce, as soon as possible, a testing format designed to assess an examinee's ability to recognize and define a clinical problem; to access appropriate reference

resources in order to find the scientific and clinical information needed to address the problem; and to interpret and apply that information in an effective manner.

- **Recommendation #6:** CEUP recommends that USMLE encourage the NBME to be attentive to ways in which it can meet the assessment needs among the secondary users of USMLE.
- In June, 2008, the Composite Committee, which establishes policy for the US Medical Licensing Examination, approved the recommendation of CEUP.
- In May, 2009 the Federation of State Medical Boards is expected to approve the recommendations of CEUP.

#### **WHERE IS THE USMLE NOW?**

- Over the next several years, the NBME will unfold the recommendations.
- Heart sounds have been added to all steps of the USMLE.
- Pediatric developmental videos will be added to Step 2 this year.
- Are moving to a competency based framework based on the ACGME core competencies.
- More basic and fundamental science will be tested on all steps of the USMLE.
- How to obtain and assess the quality of literature impacting practice will be incorporated into the USMLE.
- Knowledge of research methodology will be on all steps of the USMLE.
- The USMLE will make comprehensive examinations available to medical schools to replace Step 1.
- Testing on the USMLE will change

**ARE WE READY?** Emphatically yes—all are incorporated into the new curriculum.

## ATTACHMENT B

### Core Clerkship Sub-Committee

#### Clinical Curriculum Components

- Pre-clinical experiences (FCM in current curriculum)
- Core clinical experiences (M3 in current curriculum)
- Electives/AIs (M4 in current curriculum)

We are charged with focusing on the core clinical experiences. We sought to define learning experiences by objectives and competencies rather than departmental focus. As a result, we attempted to group learning experiences by clinical locations (i.e. inpatient vs outpatient) rather than department. In order to conceptualize this idea, we created a mock calendar to help as a place holder of our ideas. These block lengths and topics are still under discussion.

Calendar Weeks	9-12	13-16	17-20	Inter-session	22-25	26-29	30-33	Inter-session	35-38	39-42	43-46	Inter-session	48-51	2-5	6-9	Inter-session	11-14	15-18	19-22																								
Block Choice	5-Mar			6/4 (Mem Day)				9/3 (Labor Day)				12/3 (Turkey)				4-Mar			End 6/2																								
1	Outpatient Objectives	Adjusting to third year			Elective + Vacation			Theme			Neuro/Psych Obj + Vacation/Elective			Theme			Career Planning			Inpt Peds/ OB Objectives + Vacation/Elective																							
2	Inpatient Objectives																						Outpatient Objectives			Neuro/Psych Obj + Vacation/Elective			Inpt Peds/ OB Objectives + Vacation/Elective														
3	Inpt Peds/ OB Objectives + Vacation/Elective																															Elective + Vacation			Neuro/Psych Obj + Vacation/Elective								
4	Neuro/Psych Obj + Vacation/Elective																																					Outpatient Objectives			Elective + Vacation		
5	Elective + Vacation																																										
		Inpatient Objectives			Outpatient Objectives																																						

We then attempted to create a set of competencies to assess if this approach was feasible. Our goal was to define the learning objectives for a General Undifferentiated Medical Provider (GUMP). Initially, we chose women's health as our subject area since our committee contained no women's health physicians and the objective set seemed well-circumscribed. We then compared our objective set with the national OB/gyn objectives for students to assess our accuracy and completeness. Having learned that this process is possible and informative, we then turned to creating inpatient objectives. The surgery-oriented members of our group worked on internal medicine objectives while the medicine-oriented members of our group worked on surgical objectives. We are now in the process of reconciling these two sets to create inpatient objectives.

Critical questions: what are the leading and lagging objectives? What from the above calendar should moved to the next phase of the curriculum? What should the typical block length be? Can we fit the core objective into 12 rather than 15 months? When should we bring clerkship directors and program directors into this process?

## ATTACHMENT C

### Report from Sub-Committee discussion for planning pre-clinical phase

Present: Georgia Blackwood, Mary Ellen Cleary, Sahar Lotfi-Emran, Kate Bowers, Jeanne Schlesinger, Margaret Grimes, and Linda Costanzo

April 1, 2009

The subcommittee discussed several aspects of planning details of the preclinical phase of the new curriculum, including: whether the foundations or the systems courses should be planned first; the characteristics of the groups that will design each course; and designing a prototype systems course.

We make the following recommendations:

#### 1. Design foundations or systems course first?

- a. **Design skeleton of foundations course first** (systems need to know what principles the students will already know).
  - This skeleton will be preliminary and will be renegotiated after the systems courses are designed.
  - This skeleton will be distributed to the groups designing the systems courses.
- b. **Then design systems courses**, based on the “backwards” approach (begin with end-point of diseases and work backwards to determine what basic science content is required to support the understanding of those diseases).
- c. **Then fine-tune and negotiate** the content of the systems courses and the foundations course.
  - Content may added to or pulled from foundations course, as determined by the systems course needs.

Other:

--Consider requiring biochemistry as a prerequisite for admission to medical school.

#### 2. Characteristics of working groups that will plan the foundations and systems courses?

- a. Collaborative
- b. Non-territorial, open-minded
- c. Collective and well-rounded expertise (depth and breadth)
- d. Systems thinkers
- e. Balance between basic and clinical scientists
- f. Shall be comprised of:
  - Basic and clinical scientists
  - Lead person in each major area
  - 2 students, who will apply for committee membership by written “statement of interest”

**3. Steering Committee**

- a. Will oversee the coordination of content and didactics of the foundations and systems courses.
- b. Will ensure that content is placed appropriately, and that neither major gaps nor unplanned redundancies occur. At the same time, will plan necessary and helpful repetition.
- c. Will be comprised of a representative from foundations course and each systems course.

**4. Prototype systems course**

--Design one systems course, using the backwards approach and the didactic principles laid out by the Curriculum Planning Committee, which can be used as a general template for other systems.

## ATTACHMENT D

### CURRICULUM UNDER CONSTRUCTION: Results from Faculty and Student Focus Groups<sup>1</sup>

*What Do We Value as Educational Outcomes for Students?  
How We Might Best Educate Students?*

*How Do We Assess Student Performance to Determine Whether Faculty Are Teaching Toward the Valued Outcomes?*

#### 1. *Ability to identify, analyze, synthesize, and assess credibility of relevant information*

- Introduce bioinformatics early in the curriculum and teach students research methodology, including how to identify available resources; integrate this throughout all courses and clerkships with students working in small groups to apply the elements of research design in assessing the credibility of a basic science, clinical and translational research.
- Include monthly seminars on health policy and the health care system; students should demonstrate that they can transfer information and develop new resources.
- Mastery should be demonstrated in a required research experience in the M4 year.
- Rely upon core reference textbooks.
- Employ more critical thinking questions on examinations; critically analyze negative outcomes with virtual and real patients.

#### 2. *Be lifelong learners with intellectual curiosity*

- Only have a core group of dedicated educators; treat teaching as a valuable commodity; have good teachers teach rather than experts in their field; have a core group of master teachers and provide them with the necessary resources; have teachers who are trained to teach and are enthusiastic; recruit master teachers; compensate faculty to develop the curriculum; have faculty present their research in special seminars
- Provide medical school mentors; create a learner-centered environment; create special tracks of interest (e.g., Honors in Genetics); have students work in small groups that begin with a problem that evolves over the year with faculty mentor as a “fly on the wall” and later present this to larger group.
- Survey residency program directors to assess if graduates have achieved, and are continuing to achieve, competency outcomes as defined by the focus groups.

### 3. *Ability to integrate scientific foundations of medicine*

- Clinical scenarios should drive the quest for basic science knowledge; start lessons with a clinical case and have students analyze and apply what they have learned in class; center the curriculum around patient presentations and complaints; emphasize the fundamentals with clinical relevance; build on these fundamentals and clinically apply the information progressively from M1 through M4 (move from reporter function to higher level processor); use multidisciplinary teaching with faculty teams in small groups.
- Basic science topics should be immediately followed by the clinical counterpart (a systems based curriculum that integrates the material in the preclinical years).
- Assessments should be based on actual clinical experiences; multiple choice questions should be based on clinical scenarios.
- There should be fewer examinations and they should require integration across disciplines.
- There should be cumulative examinations at the end of each year.

### 4. *Ability to self-assess learning needs (reflective practice)*

- At the time of matriculation, students should be given assessments to help them understand how they think (metacognition) and how they learn.
- Students should develop individually based learning plans with this information.
- Faculty should respect the way each individual learns in preparing educational material.
- There should be questions for students to answer each day; practice quizzes should be available in every the course.

### 5. *Ability to function in systems and to teach each other (teams)*

- Students should be assigned to learning teams with a mixture of students who exhibit difference learning styles.
- The learning teams should be assigned a cohort of teachers to work with them across the four years of the curriculum.
- Teams should actively problem solve using concepts learned in class and applied to novel situations.
- Students should teach each other and provide feedback; students should re-teach information to other students to thoroughly understand the concepts.

- Students should be assessed on their teaching competencies.
- Students should be assessed as to their ability to teach patients.
- Students should shadow established educators.
- All M4's should be required to assist in teaching some component of the pre-clinical curriculum; students should serve as standardized patients.

#### 6. *Demonstrate competence (outcomes)*

- Assessments should reflect the desired outcomes; multiple assessment tools should be used, including "360 evaluation".
- Students should keep portfolios that demonstrate increasing mastery.
- There should be clinical application of information in a progressive fashion from the M1 to the M4 years moving from a reporter function to a higher level processor.
- Emphasis should be on the retention and application of fundamental knowledge that is tested with comprehensive examinations.
- Competencies should be assessed on a pass/fail system.

#### 7. *Be active learners*

- Less lecturing and more break-out groups with discussion; split sessions between lecture and active learning exercises; have students participate in exercises in class to relate concepts.
- Have students work on problems in small groups; have students use information learned in class to diagnose and manage a virtual patient.
- Stop powerpoint abuse and dependence; reemphasize marker board teaching—slows down teaching to a point where concepts may be comprehended.
- Use more simulations and on line learning at a self-directed pace.
- Use textbooks and resources more and syllabus less.
- Be able to apply information in novel situations; provide opportunities for independent problem solving; in lessons ask more than tell.
- Utilize oral examinations, more OSCE's, short answer and essay on examinations.

- Ask more thoughtful questions on multiple choice examinations.
- Use simulated patients to assess autonomy of learning.
- See how well students use resources to research a question or topic.

8. *Emotional intelligence, able to deal with the whole patient, a love for the profession*

- Students should be assessed in terms of emotional, cognitive and behavioral domains.
- Vignettes and simulated videos should be used to assess ethical and moral dilemmas.
- The behavioral and social context should be integrated into every course and clerkship.
- Students should be provided with longitudinal experiences where they work with families throughout the four years of medical school.
- Students should be provided with multiple opportunities for community based service learning.

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<sup>1</sup>During the Summer of 2008, three faculty and two student focus groups were conducted. The results represent the key themes pulled from these discussion via qualitative analysis techniques.