

Education Retreat 2004

Moving Medical Education Forward

Summary of Curriculum Discussion Groups

Question 1: What are the specific learning objectives for developing a leadership curriculum for Case School of Medicine? How can students achieve them? How can the learning objectives be assessed?

Group leaders:

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Definition of Leadership: a set of processes that creates or adapts an organization to changing situations and inspires risks to happen. Change is useful. Leadership is distinguished from management because management yields predictable results.

Overall Goal: Increase functional level of our graduates in formal and informal leadership. Leaders need professional knowledge and improvement knowledge to effect change.

Competencies: Emotional intelligence leads to self and social awareness, motivation, group dynamics/team skills, giving feedback, receiving feedback, negotiating skills, conflict resolution

Learning Objectives:

Articulate leadership competencies

Demonstrate leadership competencies

Enunciate why leadership competencies are important in the practice of medicine

Assessment: Need both qualitative/observational evaluation and evaluation in team situations

Supporting Infrastructure:

- We need role models.
- Leadership skills need to be valued.
- Those individuals currently in leadership positions need to demonstrate and role model leadership competencies.
- We need to foster a culture that accepts leaders with a conflicting or different vision.
- We should explore interactions with Weatherhead School of Management

Question 2: What are the goals for our students around clinical mastery? What range of skills do we expect them to master? What are the best teaching methods? How do we assess mastery?

Group Leaders:

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Clinical Mastery:

- Students cannot be expected to be clinical masters
- But clinical mastery can be defined for each stage of medical student progression
- Mastery should be defined as arriving at an appropriate level of competency for specific skills, knowledge, attitudes
- A demonstration of mastery should include using skills and applying them to a new situation
- Competency/proficiency vs. mastery

Goals and range of skills: Each of our graduates will demonstrate competency in the ability to evaluate an undifferentiated patient by:

- Performing an appropriate, complete, and accurate history and physical examination
- Generate a prioritized differential diagnosis based on sound clinical reasoning
- Assessing medical literature
- Initiating a cost-effective diagnostic work-up
- Developing a plan for initial management
- Communicating patient information to colleagues in an organized and effective written and oral format
- Communicating effectively to patients and families

Teaching Methods:

- More case-based, small group learning in the first two years
- More bedside teaching and observation with focused correlation to pathophysiology
- Standardized template for written and oral presentations
- Better integration between basic science and clinical years

Assessment: expectation that the Case graduate will be able to come into a completely new situation and have the skills to demonstrate mastery of the situation.

- Develop end of year expectations related to clinical skills – 1st year, 2nd year, etc.
- Better job of assessing clinical skills with more direct observation
- Mastery demonstration: using skills in new situation

Other Points:

- It would be helpful to gather data on residents and on the physician ten years out of medical school
- Competency is lowest level of achievement to meet a standard. Mastery implies a higher level (Dean Horwitz)

Question 3: What alternatives to multiple choice exams can be used to assess learning that would foster an active and scholarly learning environment at Case School of Medicine?

Group Leaders:

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Purpose of Evaluation:

- To assess knowledge (students' performance also indicated how well the faculty are teaching)
- To encourage learning
- To assess accumulation of factual information and integration of that information to achieve understanding. Accomplish of these two goal represents mastery of a topic.
- To help students practice for further tests (licensing and board exams)

Problems with the Current System

- Relative vs. absolute standard (Ex.: do 20 outstanding students get honors or is the number of honors awarded restricted to a set percentage?)
- Some clinical knowledge cannot be assessed
- There is a culture that promotes an attitude among students of studying for the test; it does not promote a scholarly environment
- Shelf exams in clinical years – may not be an effective or useful tool in helping to assess what students have achieved during a clerkship

Alternatives to MCQ exams

- Integrated Exams, i.e., sequential, linked questions that are progressive.
 - Pro: Better evaluate of synthesis, understanding, and utilization of information across topic areas
 - Con: Difficult and time-consuming to develop
- Essay Questions
 - Clinical vignettes
 - Short answer
 - Several paragraphs
 - Pro: Much better test of understanding than MCQ
 - Con: Grading is very time consuming
- Scholarly Project

Written research paper

Oral seminar

Pro: Much better incentive and opportunity for active learning
Much better opportunity to demonstrate understanding (student) and assess understanding (faculty).

Con: Evaluation process much more time consuming

- Oral Exams

One-on-one

Group exams

Pro: Much better opportunity to assess student understanding despite occasional gaps in factual knowledge

Con: Evaluation process much more time consuming

Ideas for Assessment in the Clinical Years

- Develop a testing center where clinical skills learning and assessment can take place. Small clerkships do not have the infrastructure to implement OSCEs.
- Decrease the emphasis on shelf exams
- Offer faculty development on clinical observation and feedback. Made the criteria more objective and have faculty development sessions on how to assess observed behaviors against criteria.
- Use of teaching attendings whose roles would include direct observation of students' clinical skills, i.e., taking a history, performing a physical examination, counseling a patient

Consensus Priorities: The driving force for replacing simple MCQ exams is to foster active learning and evaluate understanding in real time. Out of the discussions outlined above two mechanisms were favored as priorities for further consideration/development.

- Dynamic Group Problem-Based Learning and Evaluation.
The concept of this approach is to evolve small group discussion exercises into opportunities for demonstrating knowledge and understanding with a simultaneous evaluation process. Students would be notified in advance that their participation would be evaluated. There would be at least two faculty engaged in the exercise, one as facilitator and one as evaluator. The facilitator would have the skill to involve all students in an equitable manner. The evaluator would be a silent witness in the back of the room (or even separately watching a video monitor.)
- Progressive Integrated MCQ Exam.

Other Comments

- Distinguish between ratings (measures of achievement) and rankings (stratification of a class into lower and higher levels).

Question 4: How can basic science and clinical curriculum leaders collaborate to create a true integration of basic and clinical science across all years of the curriculum?

Group Leaders:

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Supporting Structure: Leadership must come from the top – the Dean – to encourage a dialogue between basic scientists and clinicians that will result in a **culture change**. A group of master teachers could oversee the integration effort to ensure that basic science core content is clinically relevant and clinical content is linked to basic science.

Coordination of the Curriculum:

- Master teachers who know what is taught throughout the committee and beyond
- Learning objectives
- Clinical and basic science in all years. Use certain diseases in basic science courses that commonly occur on clinical rotations (i.e., diabetes, congestive heart failure). Incorporate basic science in clinical rounds.
- Directory of expertise
- Case studies
- Consider a layered approach: from basic science concept to patient to family to community to population.

Team-based Collaboration:

- Pairing a basic scientist with a clinician so that learning is bidirectional.
- PBL

Question 5: How can PhD courses be integrated with the first year medical curriculum to 1) enhance the teaching of basic science principles in the medical curriculum, and 2) utilize faculty time more effectively?

Group Leaders:

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Reframing the Question: How can the graduate and medical curricula be strengthened by integration?

Differences between medical student and graduate student education to build on:

- Medical education in years 1 & 2 is content oriented while graduate education has more of a focus on process.

- Important for the medical student to have more of a focus on process. We believe this will result in a more evidence-based understanding of whatever field of medicine they study. It will also build a sense of inquiry within the medical students.
- Graduate students need more exposure to human pathophysiology in a clinical context.

Barriers:

- You can't just import a graduate course into the medical curricula. Probably will need to take pieces of both curricula and integrate them.
- Attitudes: Need to start very early in year one with teaching the medical students reasoning skills and critical thinking. They need to understand the value.
- This will actually take more faculty time and additional resources.

Examples of Integration

- Bring discussions of primary literature to the medical school classes throughout the year. We think that students will be most energized by this if they understand the clinical relevance of the primary literature. The Journal Clubs being planned for College students are examples of integrating primary literature with medical education.
- Include graduate students in activities such as clinical correlation conferences and on some committees.

Final Thought: Need to integrate philosophy of graduate education into the medical curriculum. Exactly how this will happen appears complicated and challenging.

Question 6: What should the learning objectives be when the teaching of Public Health and Population Medicine is integrated into the medical school curriculum? How can the integration, teaching and learning be accomplished across all years?

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Learning Objectives for knowledge, skills, and implementation needed.

Knowledge

- Health policy
- Epidemiology
- Biostatistics
- Environmental Health
- Social/Behavior theory
- Genetic markers
- Preventive medicine
- Community Health

Skills

- Behavior change (including patients)
- Advocacy
- Clinical epidemiology
- Working with diverse populations

Implementation

- Faculty development
- Integration – longitudinal
- Interdisciplinary education
- Civic professionalism with a required service component

Externalities

- If a subject is not on the Boards, student do not take it as seriously. May need to lobby the National Boards to include questions on Public Health and Population Medicine.
- Care must be taken not to overtax community sources when instituting a service requirement.

Question 7: Based on a new requirement for an MD thesis, what sorts of projects would be feasible and meaningful for students that would lead them to 1) formulate a question, 2) figure out how to answer it, 3) write their findings in the format of a manuscript, and 4) complete it within the 4 years of medical school?

Project Leaders:

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The Project

- Wide breath
- Define minimal criteria/expectations
- In-depth scholarship

Mentors

- Carefully chosen mentors
- How will they be trained? Rewarded? Rewarded by promotion? Will there be a central list?

Support

- Time in the curriculum (evening the first year)
- Stipends for summer work
- IRB “satellite” devoted to student endeavor
- Consultants to projects
- Project incubator

- Statisticians/statistical training
- Biostatistics course to be offered at College program, based on case studies and group projects

Open Discussion: Dialogue with the Dean

Year II student Ms. Nancy Fleurançois described the thesis as a great idea but expressed concern that students already enrolled in dual degree programs would need instruction how to integrate the requirement without feeling overburdened. **Dean Horwitz** said that he will consider this matter.

Dr. Linda Lewin's question pertained to the clinical curriculum. The dean's added components will necessitate contracting the third, fourth, and fifth years to make room for these new components. How can we be sure that the clinical curriculum will survive in as good a shape as it is now?

Dr. Barbara Messinger-Rapport recognized an added faculty effort: There is a need for faculty to *plan on revising* the current Year I curriculum *along with planning a new curriculum*.

Dr. Joe Miller referred to the prior-mentioned concern for overload of the dual degree student and added that the dual degree student has already qualified for the thesis requirement.

Mrs. Ginger Saha recalled many great ideas suggested at today's retreat that have already been implemented but not communicated. For example, the Health Sciences Library already currently teaches PubMed.

Dr. Barbara Freeman recommended developing a cross-institutional directory arranged by expertise that one could "google."

Dr. Scott Frank suggested creating a "think-tank" with one mentor to five or six students, where students could learn from each other.

Dr. Jeff Ponsky acknowledged that it is not easy to implement so many good ideas, but urged developing a risk-taking attitude. Try an experiment and do not be afraid to fail.

Dr. Mark Cheren was interested in the grading system/document mastery. Are we considering rewarding and recognizing competence or are we planning to use a Pass/Fail system?

Dr. Louis Binder described his background as having an emphasis on student support. He advocated revisiting the support means as the curriculum changes. This includes the society deans with respect to advising conundrums, financial aid, and the Admissions process.

Dr. David Preston encouraged restructuring the fourth year. Some students make good use of Year IV; others do not.

Dean Horwitz, who will complete his first year at Case April 1, concluded the retreat by expressing his gratitude for the number of people who turned out and by recognizing the extraordinary energy of the faculty and students who provide Case with its unique texture and richness. He acknowledged the many wonderful activities going on and agreed that they need better coordination and communication. He urged those present to take risks to propel Case to become the nation's best medical school.

