

# SUNY Downstate College of Medicine Curriculum Renewal Phase 1

## Report of the Sub-Committee on General Information and Opinions

### Background

In the fall of 2008, the Committee on Education Policy and Curriculum (CEPC) and the Curriculum Renewal Steering Committee (the “Steering Committee”) established three sub-committees as a major component of Phase 1 of the curriculum renewal initiative at Downstate, with the long-term goal of establishing a new undergraduate medical curriculum to be implemented in fall, 2011. This document is the report from one of those three sub-committees, the Sub-Committee on General Information and Opinions (“the committee”).

Two approaches were taken by the committee in this initial phase:

- 1) Soliciting information and opinions from MS1 and MS2 Block Directors in hour-long meetings with one or two Block Directors or Discipline Directors.
- 2) Soliciting information and opinions from all faculty and students via a web-based survey after solicitation by e-mail.

**Suggestions for further discussion:** Within the narrative report below, the committee has incorporated recommendations for further consideration by the Steering Committee.

### 1) Meetings with MS1 and MS2 Block Directors & Discipline Directors

#### 1.1 Overview and Approach

Between November 2008 and February 2009, the committee met with Block Directors and Discipline Directors from MS1 and MS2. The goal was to gather opinions and suggestions from these highly involved faculty, in a relatively informal and loosely-structured setting, about various aspects of the current undergraduate curriculum and about the new curriculum that will be developed over the next two to three years. We provided faculty with a list of potential topics for discussion ([Appendix 2](#)), but noted that this format was neither required nor necessary, and we encouraged faculty to bring any and all ideas to the table.

The committee acted largely as a sounding board during the meetings. We kept notes relating to the topics that were discussed, and tried to ensure that the discussion focused on curricular issues rather than tangential issues such as physical plant or budgetary concerns.

The report below is based on the discussions from those meetings. It is focused on issues that were raised by several, or in some cases many, faculty. The issues have been grouped into five broad categories: 1. Integration of topics taught and related Issues; 2. case based learning (CBL) and small group learning; 3. examinations and evaluations; 4. content and format; 5. administration. However, the boundaries between these categories are not rigid.

In addition to the issues discussed below, which represent “common themes” arising from these discussions with faculty, other issues that were “content-specific”, and often raised only by one

individual faculty member, were also noted. Those issues have been abstracted for further consideration in Phase 2 of Curriculum Renewal ([Appendix 1](#)), but are not discussed further in this report.

## 1.2 Faculty Interviewed

The committee, Drs. Miriam Feuerman and Keith Williams (who are also Block Directors), met with Drs. Brian Anziska, Tom Athanassiades, Mary Ann Banerji, Riccardo Bianchi, Tom Brouette, Olga Dvorkina, Shirley Eisner, Mert Eroglu, Steve Fox, John Kubie, Sheldon Landesman, John Lewis, Mary Makowske, Sam Marquez, Lisa Merlin, Hillary Michelson, Sue Mirra, Man Seok Oh, Katherine Perkins, Jim Ranck, Richard Rubenstein, Julie Rushbrook, Lou Salciccioli, Jasotha Sanmugarajah, Haseeb Siddiqui, and Fred Volvert.

## 1.3 Common Themes Arising

The following issues and suggestions were raised by several or many faculty:

### A. Integration and related issues

Lack of integration, and need for more clinical relevance in MS1 & MS2: Many faculty noted a lack of integration within blocks, between blocks in any given year, and between years. It was also suggested that we need greater input from clinicians and greater clinical relevance to lectures, particularly in MS1. There were several MS2 Block Directors who reported having well-integrated blocks with adequate clinical relevance.

Need to maintain basic science teaching through MS3 and MS4: Faculty expressed a need for continuing exposure to basic science in MS3 & MS4, perhaps by didactic teaching methods or by incorporating components of basic science (anatomy, physiology, pharmacology, etc.) in many or all patient write-ups.

Need to better integrate ECM with other components of the MS1/MS2 curriculum: It was generally recognized that the materials and skills covered in ECM are a crucial component of the curriculum—although some faculty had little or no knowledge of what is taught in ECM—but there were repeated concerns about how ECM is structured and integrated with the other components of the first and second year curriculum. These included concerns about the scheduling of material related (or unrelated) to particular blocks and purely practical concerns about the scheduling of exams.

☛ **SUGGESTIONS FOR FURTHER DISCUSSION:** In formulating a new curriculum, the Steering Committee should consider:

- ☛ greater integration of material in MS1 and MS2
- ☛ greater integration of basic and clinical science throughout the curriculum
- ☛ restructuring of ECM to better integrate with other components of the curriculum

## B. CBL and small group learning

Case Based Learning (CBL) does not work well in its current format: Many faculty expressed dissatisfaction with CBL in its current incarnation and felt that CBL does not function well as a learning tool. In part, this involves concerns about the varying levels of student participation within CBL groups and between groups; concerns that many students take a superficial (“Google it”) approach to the material covered in CBL; concerns that CBL does not function as an active learning modality. There were also purely practical concerns with regard to obtaining and/or retaining facilitators for CBL.

Need for small group learning: In spite of the limitations of the current CBL process, it was generally recognized that small-group learning can and should be a valuable component of the curriculum, particularly if it can function as a truly active learning modality. Suggested alternatives or additions to the current CBL format included formats in which all students research and learn a small number of core learning issues and are then asked questions or discuss these as a group; conferences or problem solving sessions (these already exist in some blocks and appear to work well); interactive question and answer sessions.

- **SUGGESTIONS FOR FURTHER DISCUSSION:** In formulating a new curriculum, the Steering Committee should consider a major overhaul of the structure and function of CBL to improve its use as an active learning experience. The Steering Committee should also consider the use of other small group activities in the curriculum as an alternative to CBL or as an adjunct to the other components of the curriculum.

## C. Examinations and evaluations

Fewer exams: Several faculty commented that we should move toward a curriculum with fewer exams, and there were one or two concerns about the use of secure exams.

Cumulative exams: Many faculty thought that it would be valuable to have some form of ‘cumulative’ exams. Models for this could involve the inclusion of cumulative questions covering all previous material on each exam; cumulative exams covering material from several blocks a few times per year; a cumulative exam at the end of the year. It was felt that this structure would help with retention and integration of material and with eventual preparation for the USMLE exams.

- **SUGGESTIONS FOR FURTHER DISCUSSION:** In formulating a new curriculum, the Steering Committee should review the nature and frequency of examinations in MS1 and MS2 with a view toward reducing the number of high stakes exams and, in particular, the incorporation of cumulative exams.

## D. Content and format

Patient presentations: Many faculty were enthusiastic about incorporating more patient presentation into MS1 and MS2. These presentations take place on a very limited basis in the current curriculum, where they work well and are received enthusiastically by students. Ideally, all blocks in MS1 and MS2 should incorporate some form of patient presentation.

Exposure to relevant technologies: There were discussions that students in MS1 and MS2 need better exposure to relevant medical technologies, diagnostic tests, and instruments — for example, imaging technologies, database, record keeping, and computer technologies.

Computer and web-based courses: Faculty suggested greater development and implementation of computer- or web-based teaching modalities. *Inter alia*, these could be used to help teach topics that are under-represented or missing in the current curriculum, such as legal aspects of medicine.

Concerns about retention of material, low attendance at lectures, and a need to focus on principles rather than minutiae: Faculty commented on several issues that may be interrelated, including the ‘binge and purge’ approach to learning and the need to better balance content with regard to focusing on major principles rather than minutiae.

Combine “normal” and “abnormal” subject areas: Only a few faculty commented on the possibility of having a curriculum in which “normal” and “abnormal” (i.e. disease and pathology) are combined and taught at one time rather than taught on a largely separate basis (as with the current division between MS1 and MS2). There were mixed feelings, and certainly no consensus, about combining these areas rather than teaching them separately and revisiting subject areas in MS2 already covered in MS1.

☛ **SUGGESTIONS FOR FURTHER DISCUSSION:** In formulating a new curriculum, the Steering Committee should:

- ☛ pay particular attention to incorporating patient presentations, relevant technologies, and appropriate computer-based learning modalities in MS1 and MS2.
- ☛ investigate in more detail possible modes of combining “normal” and “abnormal” material, while at the same time having a structure that allows for appropriate revision and integration of topics. Changes in structure will facilitate the integration of clinical and patient-based material in the basic sciences.
- ☛ as part of Phase 2 of Curriculum Renewal, establish workgroups or sub-committees to carefully review the emphasis on principles versus detail/minutiae in MS1 and MS2.

Other issues relating to content are not discussed here but have been abstracted in [Appendix 1](#). It is recommended that the Steering Committee review those topics during Phase 2 of Curriculum Renewal.

## **E. Administration and related issues**

Several faculty raised concerns about the timeliness of administrative support from the Office of Education, but other faculty noted that the Office of Education functioned well and provided adequate and timely support for block activities.

A number of faculty raised concerns about the role of the Office of Academic Development. It was recognized that the Office of Academic Development provides pivotal support for students with regard to helping students develop study habits and time management skills, but there were serious concerns about the review sessions and other activities generated by this office in recent years. In some cases, these activities had created problems with the

efficient running of the curriculum and had distracted students from the required and appropriate curricular material and skill sets that the curriculum was developing. It was noted that the mission of the Office of Academic Development should be to support the curriculum, not function independently of it. Perhaps this mission would be better accomplished if the Office of Academic Development were under the purview of the Senior Associate Dean for Education.

- ☛ **SUGGESTIONS FOR FURTHER DISCUSSION:** In formulating a new curriculum, the Steering Committee should consider the role of the Office of Education to ensure adequate and timely support and, more important, the mission and governance of the Office of Academic Development to ensure that it functions to support the curriculum.

## 2) Faculty and Students: Web-Based Survey

### 2.1 Overview and Approach

In early December 2008, all faculty and students were contacted by e-mail, with a request to fill in a brief survey that was available online. Three different surveys were prepared — one for MS1/MS2 students, a second for MS3/MS4 students, and a third for faculty ([Appendix 3](#)) — and the e-mail provided a link to the relevant survey. A second e-mail was sent to all faculty and students in early January 2009, encouraging those who had not yet completed to survey to do so within the next week.

### 2.2 Number of responses

The number of responses received was as follows:

MS1/MS2 survey: 38

MS3/MS4 survey: 15

Faculty survey: 35

The students are regularly surveyed for their impressions of each block and ECM, with response rates of close to 100%. Many of the opinions expressed in our small sample are at odds with the more extensive data collected by the Office of Education.

### 2.3 Analysis of responses

#### A. Common themes

Among the survey responses were comments that echoed many of the 'common themes' that had arisen in discussions with Block Directors (see above). These included discussions related to integration, CBL, small group learning, ECM, technology, and patient presentations. Those themes are not iterated any further in this section. Rather, we have drawn out of the survey data, additional suggestions, in particular suggestions relating to novel (novel to Downstate at least) approaches to curricular structure. We also received many responses either praising or criticizing a particular issue, suggesting there is no consensus on a number of issues such as

the role of lectures in the curriculum. In most cases, the comments below are copied verbatim from the surveys with corrections made to typos etc.

## **B. Suggestions and novel approaches**

### **Career Preparation:**

Continuous faculty advisors, such as provided by the alumni association, with regularly scheduled meetings over the four years

Meaningful exposure to administrative, legal and financial aspects of medicine - and not just 2 days before graduation but early on (for example do rotation with malpractice lawyers, spend a day with the dean or president or similar activities).

On-line courses in law and medicine and medical economics in 4th year.

Encourage additional degrees and time

Encourage international rotations (most students have a life altering experience during such).

### **Clinical Experiences:**

The details are vague, but Harvard has a system where students are assigned to a "group", where there is an assigned faculty for the year (or all 4 yrs?) and a "master senior" faculty/dean person as well.

ECM - have it associated with a continuity clinic across all 4 years. Intersessions in all 4 years to address smaller but important topics - with required attendance.

Patient write-ups in clerkships should require a basic science section relevant to the pathophysiology of the case at hand, helping integrate basic and clinical years

Interdisciplinary workshops/lectures/presentations.

Interdisciplinary training, i.e. sessions with other health care professionals (nurse, PA, etc).

### **The General Medical School Experience:**

Make some of the small groups larger. The highlight of undergrad was taking classes with the experts. Unfortunately our students don't take classes with experts in the fields that the instructor is expert in. By having small (9-10 people) small groups, the students have to be with instructors that are not experts.

Add a few lectures during the year to draw together information learned in different blocks into a picture of how the body works as a whole.

I would like to see small mixed teams of basic scientists and clinicians decide on the appropriate content for the basic science curriculum and then experiment with new ways to teach that material.

Requirements in 4th year for different tracks. Not everyone is going into primary care but some might be - there should be more 4th year structure.

I would like to propose the addition of a primary care track for students who are interested in pursuing this field when they enter.

The block system was praised by many students.

- ☛ **SUGGESTIONS FOR FURTHER DISCUSSION:** In formulating a new curriculum, the Steering Committee should review these suggested approaches for possible inclusion in the curriculum. The Steering Committee should also continue to garner suggestions from faculty and students as the framework for the new curriculum takes shape.

### C. Content-specific issues

As occurred in discussions with Block Directors, a number of “content-specific” issues were raised in the survey responses. These issues have been abstracted and included in [Appendix 1](#), together with content-specific issues and suggestions from Block Directors.

- ☛ **SUGGESTIONS FOR FURTHER DISCUSSION:** Issues relating to content have been abstracted in [Appendix 1](#). It is recommended that the Steering Committee review those topics during Phase 2 of Curriculum Renewal.

## Appendix 1

“Content-specific” issues or suggestions raised during discussions with Block Directors or in the faculty and student surveys. In most cases, these are copied verbatim from the committee’s notes from meetings with Block Directors or from the surveys. These issues should be reviewed during Phase 2 of Curriculum Renewal when content and structure is examined.

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### Particularly relevant to current MS1:

Material in Genes to Cells block would be better spread out over time, and material re-integrated from elsewhere in the curriculum.

Some more longitudinal teaching of topics would be good – e.g. genetics

Need to have students appreciate the relevance of material to clinical tests; this is taught and emphasized, but students “don’t get it.”

It was suggested that cell physiology be taught early in the year, probably in the current Genes to Cells Block; and that synaptic function etc. be taught not in musculoskeletal but in Neuroscience (a concern was that the students had forgotten it by the time they got to Neuroscience).

Some students have weak foundations in math/physics and have clear problems in thinking in quantitative terms and about complex systems.

Could we have a curriculum with “basic principles of physiology” (or whatever) at the beginning – i.e., some sort of “introductory course”.

Gross Anatomy: Change the level of detail at which we teach dissections? E.g., do upper limb in great detail, then lower limb in less detail to focus on major principles rather than minutia. Need input of clinicians as to what may be most appropriate. Maybe include more arteriograms and similar modes to reduce amount of dissection. Include more radiology etc.

Gross Anatomy: In anatomy labs., we could have “teams” of students and the students are forced to interact in this model.

Gross Anatomy: Anatomy should have activities that are “theme based”, requiring students to integrate material and to interact.

Gross Anatomy: A lot of the minutiae (say 25%) in anatomy labs could be cut.

### Particularly relevant to current MS2:

Concern about amount of time available to teach Psychiatry in MS2. Only 8 hrs available for lectures (?) compared to 30+ hours at other schools; some of the material has to be put into MS3.

Discussion of integration of Psychiatry with other areas such as Primary Care. 40 to 60% of Psych patients are seen in Primary Care setting (?). Perhaps we can better emphasize the importance of Psychiatry in these other areas and longitudinally through the curriculum.

Other schools have much more 'pathology' material available online – organs, sections, light microscopy, EM etc. – we should strive to do that.

Not sure we need to do all of one "organ system" in one block. Why not spread it out through the year? Does second year really need to be structured as a "block system"?

**Relevant to both current MS1 and current MS2:**

Small Group Learning: A good format is POPS sessions, which were more prominent in Biochem in the 'old' curriculum.

A well-written CBL epilog would provide a solid example of how to reason and think-through a problem. In the Overview block, the explanation of the case is about 20 pages of carefully reasoned review.

CBL cases should be written up as one would for a journal; students are only just learning how to do a physical at this stage; too many things are left out. CBL case should be written systematically and every case should include a history and physical – i.e., a checklist for each patient, even if many findings are negative.

Interactive sessions. Sessions where students have incentive to prepare. Role-playing. Smaller group sessions. CBL material that is stimulating, clear, and logically oriented. Having an opportunity to give students direct feedback. Making sure students understand logic for educational segments.

Concerns about structure of pathology in MS2 – need better integration and communication with Block Directors.

Include web-based videos to help students recognize clinical problems (e.g. ataxia, movement disorder, aphasia, delirium).

There should be a higher focus on animations and videos as teaching modalities, especially for embryology.

**Relevant to current MS3 & MS4:**

Having small groups of students when teaching clinical interviewing skills is most useful. The ECM small groups are appropriate places for the introduction of these skills, but they must be reinforced when they are out in the real world-and that doesn't happen very often. One on one contact with students in the clinical setting is very powerful.

The Neurology Clerkship is taken by 80% of the class in MS3 and by 20% in MS4. It should be taken by all in MS3; MS4 is too late.

Neurology has an OSCE-type exam that is designed to show students how to do a Neuro exam and how to apply it. Faculty act as patients for this.

Would be better for students to learn to do some exams in ECM before getting to Neurology, then use that knowledge/skills in Neurology.

There should be a required radiology course sometime during MS3 or MS4. Diagnostic imaging has become an essential part of virtually every patient's work-up, in many cases replacing (rightly or wrongly) the art/science of the physical exam and physical diagnosis.

**Topics or formats that are currently missing or under-represented (MS1 through MS4):**

Need more in the curriculum on development, including behavior, language, learning etc.

Pain needs to be taught better. e.g., the management of pain and the basis of pain are currently taught separately.

Material that is lost in the current curriculum includes processes that affect more than one system (e.g., endocrine).

We need to increase amount of content dealing with sexuality and related issues.

It may be helpful to re-introduce CPC (Clinical pathology Conferences), and have a large CPC – resident presents case, pathologist presents path findings, related issues etc. Could do this in MS3/MS4

Radiology required rotation. Radiology integrated into 1st and 2nd year.

Need to strengthen how we teach development & embryology.

Maybe have a block of “integrative medicine” or some way to revisit the material. Or, e.g., CBL as a “mini-integrative” session.

More standardized medical interviewing with surrogate/real patients

More on ethics, communication

Stronger support for primary care careers

Tracks chosen by student to help them learn more about specific fields of medicine

Students should be required to do some type of critical care rotations.

In this age of molecular base medicine our students are woefully underexposed to human molecular genetics, and the school does not even have clinical geneticists on the faculty.

An obligatory 4 week course in imaging.

Return to basic science in 4th year replaced with a 2 week clinical genetics and nutrition courses.

A 4th year block for orphan subjects - sexual medicine, nutrition, ethics, etc. could be given every 6 weeks to cover students.

## Appendix 2

Suggested list of topics sent by e-mail to Block Directors prior to their meeting with the committee. Note that this format was neither required nor necessary, and we encouraged faculty to bring any and all ideas to the table.

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Topics we'd like to cover; but we're open to any and all ideas:

- 1) What's working, what's not working? What would you like to change?
  - 2) What role should the education office play? How well are they filling that role?
  - 3) How well do student support services coordinate with your block?
  - 4) Who determined what is covered in your block? How was the decision arrived at?
  - 5) How often is the material updated? What determines when it is updated?
  - 6) Is there adequate coordination between blocks?
  - 7) Is there adequate coordination between basic science and clinical initiatives?
  - 8) How well does your block coordinate with the rest of the curriculum? Do the students come into the block adequately prepared to learn the material?
  - 9) Does your block cover the material sufficiently well to prepare students for the practice of medicine? MS1 -- Would you value input from clinicians in the material covered in your block?
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## Appendix 3

Questionnaires for students and faculty.

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### Header for all questionnaires:

It is critical that the SUNY Downstate College of Medicine vigorously evaluate and adjust its curriculum to assure our students are prepared for the ever-evolving practice of medicine. In addition, as you may have heard, the USMLE Step 1 and Step 2 exams are undergoing major revision within the next few years.

With all of this in mind we would like your assessment of what works well in the current curriculum and your suggestions for entirely new ways to approach undergraduate medical education.

Please click on the link below to answer 3 questions. If you wish, responses may be submitted anonymously. If there is insufficient space for your response, please send your thoughts in an e-mail to Pamela.Sass@Downstate.edu.

### Group-specific questions:

#### MS1 and MS2:

1. What works well in the current curriculum?
2. Please rate the teaching modalities (CBL, lecture, lab, etc) used in the curriculum for efficacy and retention of material.
3. What novel ideas would you like to see incorporated into a new curriculum?

#### MS3 and MS4:

1. What works well in the current curriculum including clerkships, electives, the basic sciences, and ECM3?
2. How can the experience be improved?
3. What novel ideas would you like to see incorporated into a new curriculum?

### Faculty:

1. What do you teach and what teaching modalities do you use?
2. What works well in the current curriculum?
3. What novel ideas would you like to see incorporated into a new curriculum?