WORKSHOP 1: Designing Principles for Faculty Mentoring Programs

Elza Mylona, Wei-Hsin Lu, William Wertheim, Susan Lane

**Rationale/ Background:** We are in the midst of a major transition with our medical school faculty. First, the demographics of medical school faculty are changing. Large numbers of “Baby Boomer” senior faculty are retiring, taking with them the experience and expertise acquired over the past 30 years. Second, we have a large number of junior faculty attempting to navigate their careers within an increasing complex academic environment. Several studies have reported decreased satisfaction among these junior faculty who find themselves unable to balance expectations for teaching, scholarship, and clinical productivity. Approximately 40% of junior clinical faculty leave academic medicine within the first ten years of their faculty appointment.

During the last decade, formal mentoring programs for faculty have become increasingly popular and widespread as a strategy for addressing faculty retention, satisfaction, and development issues. Much has been learned about strategies for designing, implementing and evaluating institutional and departmental mentoring programs. The overall goals of this session are to provide participants with an overview of literature-based findings, and secondly to address the issues and challenges of designing faculty mentoring programs while applying effective design principles that fit their own institutional culture.

**Session Objectives:**
Participants will be able to:
- Explain literature-based best practices for the design, development, implementation and evaluation of institutional or departmental mentoring programs.
- Describe different mentoring program models.
- Explain the issues and challenges of implementing institutional and departmental mentoring programs.
- Design an effective institutional or departmental mentoring program based on a case study.
- Discuss an evaluation plan to measure the outcomes and effectiveness of the program.

The instructional strategies used in this session will include brief presentations (small group discussions, and a case presentation requiring participants to apply session findings for designing a mentoring program for a medical school or department).

**Audience and Importance:** The target audience is faculty and administrators at all levels working in medical schools or healthcare organizations who are involved in faculty development at the departmental or institutional/organizational level.

Faculty contribute to the educational mission in every institution/organization, however several studies have reported slow academic promotion, low levels of job satisfaction, and high attrition rates.
Format:
Objective #1: A short introduction and summary of the literature on designing effective mentoring programs (15 minutes)

The session will include three (3) different small group activities.

Objective #2: Participants will describe the current faculty mentoring programs and efforts at their institutions. Facilitators will manage and post common program elements (20 minutes)

Objective #3: Participants (in small groups) will discuss the issues and challenges of implementing institutional and departmental mentoring programs. A master list of issues and challenges will be compiled. The entire group will be asked to brainstorm possible solutions to these challenges, which will be posted. (15 minutes)

Objective #4, 5: Participants (in small groups) will be provided a written case study. Groups will be asked to suggest a “best design” and an evaluation plan. Groups will present and receive feedback. (30 minutes).

References:
1. Bunton SA, Corrice AM, and Mallon WT. Clinical Faculty Satisfaction with the Academic Workplace. (Faculty Forward Alliance of the AAMC) June 2010.

Workshop 2: Techniques to Teach Clinical Reasoning: Models vs. Experience

Jennifer Purcell, Lisa Lapman, Harini Kumar, Ellen Tattelman

Behavioral Objectives:
During this 90-minute workshop, participants will:

- Reflect on their own clinical reasoning process
- Identify current approaches to teaching clinical reasoning skills to medical students and residents
- Discuss common models and biases in clinical reasoning
- Practice techniques to teach clinical reasoning through a role-playing exercise

Background: Advancements in technology have brought many conveniences to medicine. Computers are readily at hand and some gadgets are small enough to fit in one’s hand, allowing students, residents, and attending physicians to have even the most obscure answers at their fingertips. Accompanying these conveniences, however, are stringent time constraints and a focus on patient care and clinical productivity. With simple solutions such as “UpToDate,” the question arises: How can we teach clinical reasoning in the busy clinical settings?

Research on clinical reasoning began in the 1970’s and some consider it to be “the physician’s most critical competence” (Pelaccia, 2011). Many frameworks have been developed to explain how a physician comes to a diagnosis. The hypothetico-deductive model, for example, describes how a provider “generates several diagnostic hypotheses, and gather[s] subsequent data to rule in or out these hypotheses” (Norman, 2005). Another model uses heuristics and has been called the “going with your gut approach” (Croskerry, 2009). In the “dual-process” theory, both intuition and analytical approaches are combined (Eva 2004, Pelaccia, 2011). After 40 years of research, however, some researchers still conclude that “there is no such thing as clinical reasoning; there is no one best way through a problem” (Norman, 2005).
If there is no best way to develop a diagnosis, it becomes extremely difficult to formulate a succinct method to teach learners to do the same. Even with a number of models available, demonstrating and evaluating proper clinical reasoning requires a level of expertise that novice clinical providers have not yet attained (Bowen, 2006).

Given these challenges, how do faculty preceptors teach medical students to clinically reason through a case? A more difficult question is how to teach residents to teach medical students the clinical reasoning process, when they themselves are still developing their own clinical reasoning skills. This session provides faculty with the tools and strategies to identify gaps in reasoning and encourage learners to think through specific decision making steps.

### Format/Content/Methods

<table>
<thead>
<tr>
<th>TIME</th>
<th>TOPIC</th>
<th>METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 min</td>
<td>Introductions (Presenters, Audience)</td>
<td>Ice Breaker</td>
</tr>
<tr>
<td>10 min</td>
<td>Pre-test</td>
<td>MCQ plus Metacognitive Activity</td>
</tr>
<tr>
<td>5 min</td>
<td>Clinical Reasoning: What is it and why is it important?</td>
<td>Discussion</td>
</tr>
<tr>
<td>10 min</td>
<td>Clinical Reasoning Literature</td>
<td>Mini-Lecture Demonstration</td>
</tr>
<tr>
<td></td>
<td>- Models</td>
<td>ARS</td>
</tr>
<tr>
<td></td>
<td>- key elements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- heuristics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- hypothetico-deductive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- dual process</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Novice vs. Expert in diagnostic error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Biases</td>
<td></td>
</tr>
<tr>
<td>40 min</td>
<td>Strategies to Promote Clinical Reasoning</td>
<td>Handout Role Play Discussion</td>
</tr>
<tr>
<td>10 min</td>
<td>Practical Value of Teaching Models</td>
<td>Presentation of Results</td>
</tr>
<tr>
<td></td>
<td>- Research Results</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Presentation of Data from Resident-as-Teacher session on clinical reasoning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Audience perspective</td>
<td></td>
</tr>
<tr>
<td>5 min</td>
<td>Wrap-up and Next Steps</td>
<td></td>
</tr>
<tr>
<td>90 min</td>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

### References:


Workshop 3: Step-by-Step Guideline to Create Own Web-Based Learning Modules

So-Young Oh, Stephen Maher, Sabrina Lee

Background: Until recently, web-based learning modules seemed impossible for medical school educators to develop without programming skills and an expensive technical infrastructure. Today, emerging technologies such as tools provided by learning management systems and online applications make it easier for faculty to create and implement their own learning modules. The success of Khan Academy or educational YouTube videos has also increased interest in online curricula for medical education. Despite the effort toward the integration of web-based learning and the rapid growth of available online materials in health education, it remains challenging for medical educators to design educationally effective online modules.

From a simple podcast to an learning ecosystem, the efficiency of online learning modules is deeply linked to effective instructional design with appropriate use of multimedia, careful application of copyright law and efficient implementation policy.

The abundant research done in the field of instructional design can help medical educators develop effective web-based modules. Based upon cognitive science and learning theories, the evidence-based instructional design models explain the step-by-step procedures to optimize learning outcomes.

To facilitate the use of their online modules, it is important that medical educators understand U.S. copyright law. Educators need to be conscientious about attribution and obtaining permissions before using the content in their modules. They should also be aware that other educators may use their modules and decide what permissions and/or restrictions comes with said use.

NYU School of Medicine’s experience may provide an example of how to incorporate online learning modules within the curriculum, using the aforementioned practices.

Outcomes: Through an interactive workshop, we aim at providing the participants with a scientific background and practical skills to design their own web-based learning materials.

At the end of the session, participants will be able to:

- Apply evidence-based multimedia learning design principles
- Write efficient learning objectives
- Find and use appropriate educational material online
- Plan implementation of their web-based modules in their curriculum
- Design their own web-based learning materials
- Choose appropriate multimedia applications

Session Format: The workshop will consist of 30 minutes of framework, 30-minute small group-based interactive atelier, 20-minute group presentation, and 10-minute conclusion.

In the 30-minute of framework, So-Young Oh, an instructional media design specialist, will explain the step-by-step instructional design procedure and multimedia learning principles with hands-on tools such as iBook Author, Google Drive and podcast software. Sabrina Lee, assistant director of the DEI at NYU SOM, will present the NYU experience of implementing web-based modules in curriculum. Stephen Maher, a librarian at NYU Health Sciences Libraries, will help participants navigate copyright issues with useful tips to find free material.

In the interactive atelier activity, participants will work in small groups on a given project to define assessable learning objectives, outline the content of web-based learning modules with multimedia materials and create a blueprint for implementation in the curriculum.

After the group activity, each group will present its plans and receive feedback from other participants. The conclusion will consist of a Q&A.
References:
1. Effective use of educational technology in medical education. Colloquium on Educational technology: recommendations and guidelines for medical educators. AAMC Institute for improving medical education. March 2007. To request additional copies of this publication, contact: Chris Candler, MD Director of Educational Technology, Medical Education, AAMC. 2450 N Street, NW, Washington, DC. 20037. ccandler@aamc.org

Workshop 4: Constructive Comparisons: Strategies for Peer Observation with Reflection in the Formal Medical School Curriculum

Delphine S. Taylor, Jonathan M. Amiel, Beth Barron, Michael James Devlin, Boyd F. Richards, Aubrie Swan Sein

Theoretical Framework: Because medical schools are required to facilitate student active learning and self-assessment on learning needs,1 schools have incorporated activities to facilitate peer-assisted learning into their preclinical and clinical curricula. Most of these activities focus on the value of student contributions to the learning of their peers with information that he or she prepares and discusses. A body of literature is growing that supports these important outcomes and encourages associated peer-assisted learning activities.2-5

In this session, however, our focus is on the potential benefits of peer observation on the student observer via a subsequent reflective activity that involves comparing his/herself to the peer.

Our interest in this element of peer-assisted learning stems from recent successful experiences using this simple learning technique. In our doctoring course, students watch a peer’s videotaped encounter with a standardized patient immediately after watching their own encounter and write reflections on their own performance as influenced by comparison to that of their peers. Additionally, in the Medicine clerkship rotation, peers observe each other conducting the required “Observed History and Physical” and write a reflective paragraph on what they learned by having watched their peer.

Objectives/Intended Outcomes: Considering the extent of the growing use of and literature supporting peer-assisted learning in general, our goals for this session will be to 1) explore the potential benefits of peer observation on learning more specifically, 2) identify ‘best principles’ underlying use of peer observation and reflection as a learning strategy, and 3) prioritize questions about use of peer observation worthy of scholarly investigation. We will pursue these goals by discussing the following “problems to solve”:

1. What appropriate opportunities exist in our medical school curricula for students to observe their peers, and reflect on this experience, in a safe and constructive manner?
2. What knowledge, skills and attitudes are needed by students to benefit from peer observation and subsequent reflection, and how might students achieve these prerequisites?
3. What contextual curricular variables enhance peer observation (ie: establishing a safe space; faculty strategies for facilitating student reflection; setting up a supportive evaluation and grading structure).
4. How do we evaluate the merit and worth of peer observation activities and how might these evaluations result in scholarly outcomes worthy of dissemination?
Format of Activities:

2. [10 min] Moderators review literature relevant to peer-assisted learning generally and identify gaps regarding peer observation and reflection more specifically.
3. [30 min] Moderators share curricular case examples (e.g., uses of peer observation described in the introduction) and encourage participants to share similar examples from their own institutions. In doing so, they also identify and discuss the factors that appeared to influence learning the most.
4. [30 min] Moderators facilitate small group discussions surrounding “problems to solve”.
5. [15 min] Moderators facilitate a large-group discussion about most common themes and next steps, including eliciting ‘take home points’ participants gained from the discussion. Problem-Solving Discussion

Constructive Comparisons: Strategies for Peer Observation with Reflection in the Formal Medical School Curriculum

1. What appropriate opportunities exist in our medical school curricula for students to observe their peers, and reflect on this experience, in a safe and constructive manner?
2. What knowledge, skills and attitudes are needed by students to benefit from peer observation and subsequent reflection, and how might students achieve these prerequisites?
3. What contextual curricular variables enhance peer observation (i.e., establishing a safe space; faculty strategies for facilitating student reflection; setting up a supportive evaluation and grading structure).
4. How do we evaluate the merit and worth of peer observation activities and how might these evaluations result in scholarly outcomes worthy of dissemination?

References:
1. Liaison Committee on Medical Education. (2012). Medical Education Database for Professional Accreditation 2012-2013; Standard ED- 5-A.

Workshop 5: Creating Performance-Based Assessments

Felise Beth Milan, Andrea L. Flory, Jeffrey LaRochelle

Background/Importance to Medical Education

Achieving competency in health care professions includes mastery of content specific knowledge as well as skills in communication, physical exam and clinical reasoning applicable to the clinical context. Performance-based examinations assess learners at the “shows how” level of Miller’s pyramid and are therefore stronger predictors than written exams of whether they will demonstrate these skills in the clinical setting. Course leaders, clerkship and residency directors must create performance-based assessments to document that learners have achieved these competencies yet many have little training in how to create valid, reliable and feasible assessments. There is a rich literature on performance-based testing to inform this process. This workshop has been designed to provide the evidence based best practices for creating clinical skills assessments.

Learning Objectives

- Describe the structure and rationale of a clinical skills exam blueprint.
- Apply learning objectives to the creation of a clinical skills exam case.
- Create clinical skills exam cases appropriate to the level of the learner being assessed.
- Identify key components and variables needed to construct a clinical exam case.
- Select the appropriate type(s) of assessment tool(s) for use with clinical skills exams.

**Workshop Plan and Timing**

**I** Introduction/Overview of session  
5-10 min

**II** Activity 1  
5-10 min

Through a show of hands we survey the group members about the sorts of competency based assessments they use at their institutions:
1. What's being assessed?
2. Who is the rater?
3. How high are stakes?
4. How is feedback given?

**III** Short Didactic on:
1. Blueprints, how to structure/create an outline for an exam  
2. Writing cases to match learning objectives  
15 min

**IV** Activity 2  
20 min

Participants are divided into groups of 5-6. Each group receives a set of learning objectives and variables of a case (level of learner, length of time, etc) and writes a skeleton of a case.

**V** Short Didactic on creating assessment tools for cases  
15 min

1. Choose the right assessment based on multiple variables, global rating vs. checklist
2. How to create scales (Likert, behaviorally anchored, dichotomous)

**VI** Activity 3  
10 min

Participants return to small groups to determine the raters and type of assessment tool for their case

**VII** Large group discussion, wrap-up  
15 min

Groups share cases, choice of assessment tool(s)

**References**


**Workshop 6: The Use of Blended Learning in Medical Education: A Guide for New Directions**

Sarah Reinbold, Jason Korenkiewicz, Michele Fuortes

**Background:** Rapidly shifting technology, medical advances and increased demands on medical education have changed the direction that educators must take. More must be taught with less time. Learner-centered, competency based education is key. (1-5) How do educators adapt? How do we continue to educate future physicians and encourage necessary life-long learning practices? One solution is blended learning: a combination of classroom, online, and mobile learning. (2,3,4) This integrated approach provides multiple touch points for instructors, adjusts for various learning styles, opens communication channels, and increases student learning opportunities. (2,3)

**Objectives:**
1. Participants will review the principles and methods of blended learning.
2. Participants will review case studies of blended learning in medical education.
3. Participants will determine when and how to integrate blended learning into medical education.
4. Participants will be able to integrate blended learning successfully at their institution.

Format:
Introduction of participants and presenters. (5 minutes)

Group brainstorming activity: What is blended learning and what are its applications and implications? (10 minutes)

Brief presenter-led review of successful blended learning examples currently in use. (10 minutes)

Small group exercise: Each small group will be given a sample case study and asked to outline a blended learning strategy. They will then report discussion and results to large group for feedback. (20 minutes)

Presenter-led recap of blended learning strategies and current available technologies and tools. (15 minutes)

Pair up participants: Participants will work together to build a blended course from a traditional course they are currently teaching, or a course they may teach or be involved with in the future. A worksheet will be provided. (20 minutes)

Presenter and participant-led recap of session. (10 minutes)

Audience: This workshop will benefit medical educators at all levels of medical education. Technological expertise or online teaching experience is not necessary.

References:

Workshop 7: Professional and Personal Formation through Reflection: G-TRR Reflective Rounds for Medical Students in the Clinical Years

Benjamin Carl Blatt, Christina Puchalski

Background: Patients’ psychological and spiritual suffering can be as bad or worse than their physical suffering. To care for their patients optimally, physicians must be able to attend to patients’ psychological and spiritual as well as physical needs. In medical schools professional development is focused mainly on biomedical skills. Little attention is given to students’ psychological and spiritual inner formation. Professionalism consists of attaining competency in psychosocial/spiritual as well as biomedical domains.

Reflection is a powerful tool for psychosocial/spiritual development. To address the lack of attention to this sort of inner professional development in medical school curricula, we have created a program of Reflection Rounds expressly for medical students in their clinical clerkships. This program is called the GWish-Templeton Reflective Rounds program (G-TRR), named in part for the Templeton Foundation, which funded its development. Through this reflective program, students have
the opportunity to share the significant experiences they have with their patients and how those encounters have affected them emotionally and spiritually, with spirituality defined broadly as the inner life of the student. Reflection Rounds is also intended to refocus students on medicine as a vocation and not as a job. Out of vocation stems the commitment to journey with our patients in the midst of their suffering, to be a compassionate presence to others, to recognize that healing is more than cure. Being open to not only caring for one’s patients but also being transformed oneself by one’s patients is the essence of that healing relationship.

With Templeton support, eight medical schools piloted the GTRR rounds in a clerkship for the 2011-2012 academic year.

In this workshop we will review the pilot program and its methods to prepare workshop participants to try out Reflection Rounds themselves. The bulk of this workshop will be devoted to give participants the experience of performing Reflection Rounds, followed by a discussion of how G-TRR might fit into their own training programs.

**Objectives:**
By the end of the workshop participants will be able to:

1. Describe the role of reflection in medical student personal and professional formation
2. Utilize the G-TRR structured format in a reflection round
3. Identify the process/requirements for integrating reflection rounds in a third-year clerkship

**Workshop Format:**
- **Presentation** – brief introduction of participants and why they chose to attend. Drs. Puchalski and Blatt summarize the G-TRR project and its methods, which the participants will next use to experience the rounds themselves. They will introduce the unique structure and objectives of the G-TRR rounds, the spirituality and health competencies that form the basis of the rounds, and the principles of reflective listening that guide the conduct of the rounds. (20 minutes; large group)

- Experiencing Reflection Rounds – Participants will break into small groups and participate in G-TRR reflective rounds with the guidance of workshop leaders. (50 minutes; interactive small groups)

- Discussion—Participants will discuss reaction to reflection rounds with Drs. Puchalski and Blatt. (15 minutes; large group)

- Evaluation—Participants complete workshop evaluations and pre/post self-efficacy survey (5 minutes; individual activity)

**Workshop Materials:**
Participants will receive
- Copy of the G-TRR Format, a modified verbatim document that includes questions to prompt discussion and related spirituality-related competencies
- Summary of data from the pilot implementations
- Contact information for leaders from the eight pilot medical schools
- Access to G-TRR materials online at gwish.org
- Full list of spirituality-related competencies from the 2009 National Competencies in Spirituality and Health Medical Education Initiative
- Spirituality and Health Medical Education Initiative
- Learner Assessment: Pre/post self-efficacy survey measuring skills, knowledge, and comfort level with practice of reflective listening and G-TRR format
- Seating Arrangement: Rounds of 6-8 at a table or chairs that can pulled into small groups the unique structure and objectives of the G-TRR rounds, the spirituality and health competencies that form the basis of the rounds, and the principles of reflective listening that guide the conduct of the rounds

**References:**
Workshop 8: Connecting Mixed Methods as an Education Research Strategy

Rebecca Blanchard, Jack R. Scott

**Background:** Both quantitative and qualitative research methods yield valuable data for investigating a phenomenon or challenging educational practice. Just as physicians gather both qualitative and quantitative data on their patients, so too can research projects benefit from combining these methods. Yet researchers might not be familiar with the process of combining methods into a cohesive mixed-methods study to more explicitly understand education practices and outcomes.

**Objectives:**
1. Identify opportunities and challenges associated with single-method (quantitative or qualitative) studies
2. Apply a mixed-methods study lens to current research topics
3. Identify opportunities and challenges for mixed methods research

**Activities**
- Introductions + Pre-test (10 min)
- Limitations of quantitative and qualitative research (15)
- Short presentation on the benefits and limitations of single-method research, including advantages and challenges common to education research (sampling, confounding variables, effect size, etc.)
- Activity: Research “Team Building” (20)

Each participant is given a card with an example of one of the following categories: research topic, participant group, method of data collection, or “potpourri.” Potpourri is a mixed bag of elements of research design (e.g. a theory, access to a qualitative researcher, large number of participants, different type of participant). Some participants in this category may also get a “Wild Card,” which can be any element of a research design which might contribute to a successful study.

The group is then instructed that the purpose of the exercise is to build a team which will describe a successful research study. Each team must include at least one person from each category – research topic, participant, data collection method, and wild card – but teams may have more than one of any item. Once gathered as a team, the group must use a “Research Summary Worksheet” to put together a quick summary of their study.

Then, groups will be asked to blindly choose another data collection method from a bag. They are then to change their study summary to incorporate the new data collection method.

**Post Activity Debrief (15)**
The point of the exercise is to highlight how a research topic can be explored through many methods. Some questions guiding the debriefing will be:

- Who would like to share your original Research Summary?
- How easy/difficult was the process of building the first study?
- Did you feel limited with the components of your study?
- Who would like to share their second Research Summary?
- How did having two methods improve or detract from your original study?
- How easy/difficult was it to combine methods?
- Are there other options for combining methods that were not considered?
- Are both of these studies feasible?
- If not, what would still be needed?
Mixed-Methods Discussion (20)
The activity and debrief will provide context for this presentation on mixed methods research designs, framed by work from a pioneer in mixed-methods education research, John Creswell. The didactic will also include a discussion of practical considerations for conducting mixed methods research in medical education, guided by the literature.

Post-Test/Conclusion (10)

Categories and Cards for Activity:

<table>
<thead>
<tr>
<th>Research topic</th>
<th>Participants</th>
<th>Data Collection Method</th>
<th>Potpourri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students acclimating to a new care environment</td>
<td>Residents</td>
<td>Interviews</td>
<td>Theory (Adult learning theory, Theory of Planned Behavior, Diffusions of Innovation theory, Social Cognitive Theory)</td>
</tr>
<tr>
<td>Motor skills in simulation</td>
<td>Medical students</td>
<td>Focus groups</td>
<td>Large number of participants</td>
</tr>
<tr>
<td>Successful transitions of care</td>
<td>Faculty</td>
<td>Quantitative Instrument measuring attitudes or opinions</td>
<td>Access to a Qualitative researcher</td>
</tr>
<tr>
<td>Inter-professional care in simulation</td>
<td>Nurses</td>
<td>Any Quantitative measurement (blood pressure, temperature, time, etc)</td>
<td>Access to Different type of participants</td>
</tr>
<tr>
<td>Clinical decision-making</td>
<td>Interprofessional students (nursing students, PA students, med students)</td>
<td>Survey</td>
<td>- WILD CARD -</td>
</tr>
<tr>
<td></td>
<td>Interprofessional team of employees</td>
<td>Observation</td>
<td></td>
</tr>
</tbody>
</table>

References:

Workshop 9: Innovative Strategies for Active Learning within a “Flipped” Classroom Environment: Team-based Learning and Just-In-Time Teaching Compared

Rachel J. Gordon, William Pluta, Boyd F. Richards

Background: Trends started years ago to promote active learning in the classroom continue. Most recently, the concept of the “flipped curriculum” has caught our collective attention. In the flipped curriculum, students study ahead of class, often using specially prepared video lectures, so that class time can be spent in application activities designed to operationalize, solidify, and elaborate on the content learned outside of class. One important, but often under-emphasized aspect of the flipped curriculum is the specific pedagogy used during class time to ensure the effectiveness of the application activities. In response, this workshop will compare and contrast two recently espoused methods: team-based learning--TBL and just-in-time teaching--JiTT.
TBL was introduced from business education into medical education approximately 10 years ago and has gained widespread appeal(4). Key elements of the method include pre-class preparation followed by in-class readiness assurance and subsequent application of content in iterative intra- and inter-group discussions, in teams of 5-7 students scattered throughout the classroom.

JiTT has only recently been introduced into medical education, from physics education(5). Key elements of the method include pre-class preparation and responding to on-line test questions--the answers to which provide the instructor an idea of where to focus the in-class time, which is spent asking questions and providing content in areas where answers reveal a lack of understanding. In areas where answers suggest mixed understanding, students form ad-hoc groups to teach each other.

Objectives: After this session, participants will be able to: 1. articulate the rationale for using a flipped classroom; 2.compare and contrast key features of TBL and JiTT to maximize in-class activities; 3) and recognize potential uses of each method in their own teaching.

Format:
20_min: Introduction to participants, concept of the flipped curriculum, TBL, and JiTT
10_min: Individual and group readiness assurance testing of content covered in the introduction.
30_min: Discussion of potential uses of TBL and JiTT across the medical education continuum. Participants will use a worksheet to note advantages and disadvantages of the two methods for each of 4 specific learning situations (e.g., pre-clinical lecture, hospital teaching session with residents and/or students, CME course).
20_min: Application activity consisting of a case discussion. This case will be about a faculty member preparing to teach medical students. During the case, participants will be asked to make a series of decisions about using TBL and/or JiTT.
10_min: Wrap up and summary.

References:

Survey Response
Category of Submission (please check one): Other
If you selected Other, please list the category. This workshop is relevant to UME Pre-Clerkship, UME Clerkship, GME, as well as CME.

Workshop 10: Introducing Interprofessional Education into the Curriculum: The ITEACH (Interprofessional Training and Education at Cornell-Hunter) Experience

Joseph Murray, Joyce Griffin-Sobel, Stacey Plichta, Carmen Murano, Pam Mahon, Kathy Nokes

Background/Theoretical Framework, including Importance to Medical Education: In 2010, faculty from the Weill Cornell Medical College, Hunter-Bellevue School of Nursing, Hunter College School of Social Work, and CUNY School of Public Health at Hunter College met to design a curriculum which would include students from each institution to work together with some of the following goals:

- Describe the professional competencies of other members of an interprofessional team
- Improve team functioning through understanding of team dynamics
- Work with members of other professions in the evaluation of a patient
- Participate in a health fair or community service organization as a team
While much of health care is practiced with providers from many disciplines working together in the care of patients, there is often little preparation for such interprofessional practice in the actual training programs of the respective disciplines. Graduates of medical, nursing, social work, and public health schools (among other disciplines) have been expected to work together without often having ever been taught how to do so. They frequently have little knowledge of the professional competencies of their colleagues and often have little training in how to work in teams. (1-3)

Our curriculum is a year-long course for a small number of students at each institution which meets every 2-4 weeks. Methods of instruction include large-group lectures/discussions, small-group discussions, online modules, independent work with interprofessional teams, visits to hospitals/nursing facilities/patient homes to meet with patients, simulation exercises, and written assignments.

Objectives/Intended Outcomes:
By the end of this workshop, participants should be able to
1. Describe the importance of IPE (Interprofessional education) for the current and future practice of medicine
2. Identify opportunities for IPE in their home institutions
3. Outline a plan of action whereby the participant might investigate the prospects for IPE at the home institution, establish contact with colleagues of other disciplines, and identify learning objectives

Format of specific activities within 90-minute time frame:
• Introductions and an overview of IPE (10 minutes)
• Breakout groups: Describe what interprofessional competencies you think your students should have (15 minutes)
• Large group discussion about interprofessional competencies (15 minutes)
• The ITEACH experience: Cornell/Hunter’s experience and curriculum (10 minutes)
• Breakout groups: Identify local resources and institutions where collaboration might occur. What might an IPE curriculum entail? (15 minutes)
• Large group discussion using examples from the breakout groups (15 minutes)
• Next steps: large group discussion and individual take-home assignments (10 minutes)

References:

Workshop 11: Integrating the Visual Arts into Medical Education
Rachel Dubroff, Carol Capello

Background: Although the ability to accurately observe is an essential skill for the competent physician, traditional medical education lacks a forum for its development. As such, as medical educators across the country have increasingly harnessed the humanities to foster medical professionalism and critical thinking skills, the visual arts have been utilized in a variety of ways to focus on observation.¹,² It is generally accepted that the visual arts can be clearly related to visual diagnostic skills.³ We argue that other skills that play integral roles in the practice of medicine, such as communication, attention, and self-reflection, can also be explored and enhanced via the use of the visual arts.

At Weill Cornell Medical College (WCMC), we have developed a unique set of visual-arts-based elective courses that not only stimulate the development of observational skills, but challenge students to consider the role of perception in observations. Various activities help increase students’ awareness of emotion and bias in observation, enhance their communicative abilities, and teach them to think critically during the visual process.
In this workshop, we will consider the role of the visual arts in medical education, model novel methods of utilizing the visual arts in medical learning, and discuss best practices of bringing the visual arts into traditional curricula.

**Objectives:**
1. Recognize the potential uses of visual arts education in medical training.
2. Describe specific methodologies for engaging the medical community with the visual arts.
3. Discuss strategies for implementing visual arts programs. Identify possible barriers to implementation, as well as methods for overcoming those barriers.

**Format:**
1. Introductions and Overview (10 minutes)
2. Individual Activity followed by Group Share and Discussion: What visual arts education that I am aware of occurs at my home institution or at another institution? What role does it play in medical education? (15 minutes)
3. Four Small Group & Individual Visual Arts exercises (via slide projection) followed by Group Share and Discussion: active participation by workshop attendees in sample exercises used in the WCMC visual arts educational series with discussion of objectives and outcomes of those exercises (45 minutes in total)
   - Using art to focus on Observation: in small groups, with brief discussion/share to follow
   - Using art to focus on Perception and Biases: individually, with brief discussion/share to follow
   - Using art to focus on Emotion in Observation: individually, with brief discussion/share to follow
   - Using art to focus on Communication: in small groups, with brief discussion/share to follow
4. Small Group Brainstorm/Discussion: How to bring visual arts education to my home institution (15 minutes)
5. Wrap-up and Final Thoughts (5 minutes)

**References:**
1. Dolev JC, Friedlaender LK, Braverman IM. Use of fine art to enhance visual diagnostic skills. JAMA 2001 Sep 5;286(9):1020-21.

**Workshop 12: Global Health at Home: Developing a Vulnerable and Immigrant Populations (VIP) Program to Address ACGME, Diversity and Population Needs**

Nicole Sirotin, Carla Boutin-Foster

**Background:** There is increasing recognition that academic medical centers need to be prepared to care for diverse and emerging populations. Training focused on health disparities and cultural competency for vulnerable populations improves both doctor and patient satisfaction [1]. Vulnerable populations include the urban and rural poor, newly insured and uninsured, multiethnic, lesbian, gay, bisexual and transgender populations, and people with disabilities, many of whom are foreign born [2]. Secondly, there is increasing desire by medical students and residents for global health education opportunities, although most physicians trained in the United States will practice in the United States [3]. There are many traditional “global health themes” present in caring for vulnerable populations in the United States and there is a need to develop creative, competency based curricula for both emerging global and local populations [4]. Thirdly, attracting and retaining diverse students, housestaff and faculty is an important goal of every major medical education organization. Further, trainees who have received advanced training in health disparities are more likely to practice in underserved areas [5]. In order to properly prepare our future workforce in how to care for these populations, we need to identify “out of the box education”, recognizing that many themes traditionally thought of as “global health” are present in caring for local vulnerable populations. We present the Vulnerable and Immigrant Populations (VIP) program at the Weill Cornell Medical College/New York Presbyterian Internal Medicine Residency Program as an illustrative case on how to incorporate themes of global and local health disparities paired with creative educational opportunities. The VIP curriculum is a six-part small group discussion series including Health.
Disparities, Food Insecurity, Immigrant Health, LGBT health, Caring for People with Disabilities and Mistrust, Misunderstanding, and Bias. This curriculum is taught during the PGY-2 year and focuses on in-depth discussion, case presentations and critical review of the literature. We discuss issues ranging from the cost of a food stamp diet to hospital deportations, the care of transgendered people to recognizing our own innate biases. This program, paired with additional aspects of the residency curriculum, serve to create culturally competent physicians who recognize global health themes in vulnerable populations at home.

Objectives: 1) Define vulnerable populations and identify local and global health themes in caring for these populations. 2) Gain knowledge of the vulnerable populations program at WCMC/NYP and other creative curricular activities at WCMC. 3) Create a NEGEA working group to create a document for publication on the region’s current curricular activities in health disparities and vulnerable populations.

Specific Activities: 1) Guided writing exercise with group discussion on the identification of emerging or vulnerable populations by answering the question “What does it mean to be vulnerable?”, 15 min. 2) Introduction to the WCMC/NYP Vulnerable Populations curriculum and alternate teaching/learning experiences, 15 min. 3) Small group idea generation about “out of the box education”, 30 min 4) Idea sharing and formation of a NEGEA working group, 30 min.

References:

Workshop 13: Enhancing Cultural Competency in End-of-Life Care

Joyce A. Sackey, Amy Chi, Maria Alejandra Blanco

Background: Evidence strongly suggests increasing the cultural competency skills and expanding diversity education of medical students and physicians are key parts of an overall strategy to improving patient outcomes. 1 Cultural and personal values strongly influence patients’ decision-making relating to different aspects of medical care.2 Nowhere is the role of a patient’s cultural, religious and family background more evident than in End-of-Life Care (EOL). Despite this widely held view of the central role of culture, there is limited understanding of the best strategies for teaching medical students and residents on how to effectively communicate with patients from diverse backgrounds about EOL care.3 At Tufts University School of Medicine (TUSM) the Innovation in Diversity Education Awards (IDEAs) aim to support faculty innovations in diversity education, including EOL initiatives, through an intramural grant seed program. At this workshop, participants will be introduced to an IDEAs project focused on cultural competency in EOL, and have an opportunity to share their related curricular initiatives and ideas and receive peers’ feedback.

Objectives:
By the end of the session, participants will be able to:
1. Identify barriers to, as well as successful integration of, diversity education in medical education.
2. Discuss a specific example of innovative and scholarly curricular offering in culturally competent EOL education for medical students and residents.
3. Exchange approaches to promote faculty development and scholarship in cultural competency and EOL education.
**Format and Content:**
90-minute, interactive session with brief mini-presentations as follows:

**Welcome, introductions and overview of workshop (5 minutes)**
Presenters will introduce themselves and review workshop objectives. Presenters will invite participants to introduce themselves and share a key goal/expectation for attending the workshop.

**Interactive Presentation (20 min)**
Presenters will briefly describe the design and implementation of the IDEAs program at TUSM. Presenters will then invite one of our IDEAs faculty awardees to describe briefly a project involving the development of a modular-based curriculum for cultural competency education in End-of-Life care. Participants will be encouraged to ask questions.

**Reflection exercise - small group discussion (15 min)**
Participants will break into small groups and discuss examples of curricular offerings in diversity education at their home institution. Participants will be asked to identify elements of success, as well as challenges, associated with these efforts.

**Large group discussion (15 min)**
Designated person at each table will sum up key points from small group discussion. Presenters will then summarize tips for successful integration of novel curriculum approaches to diversity education with a focus on end of life care.

**Brainstorming exercise (20 min)**
Participants will discuss in pairs existing curricular gaps in diversity education, and identify areas in need of scholarship for effective approaches to teaching and evaluation. Participants will be encouraged to brainstorm on ideas for addressing these gaps. Participants will then share their ideas with the large group.

**Wrap up and Workshop evaluation (10 min)**
Participant will be encouraged to reflect on a personal action plan - how to apply a lesson learned during the workshop at their home institution. Participants will complete a brief workshop evaluation.

---

**Workshop 14: Tackling the Tough LCME Hot Topics for Medical School Accreditation**

Suzanne Rose, Latha Chandran

**Background:**
Accreditation by the Liaison Committee on Medical Education is an important activity for all medical educational programs. The LCME self-study process provides an opportunity for institutions to evaluate the quality of their curricular programs and to identify and address areas of strengths and vulnerabilities. In this session, the authors plan to address three hot topic areas in the accreditation process. These topics relate to either new standards or enhancements of standards that lead to increased scrutiny from the LCME. This workshop will focus on active learning (standard ED 5A), institutional diversity (IS 16), and interprofessional education (ED 19A) and will facilitate discussion among educators on effective ways to meet the standards for accreditation. ED 5A and IS 16 are among the most commonly cited standards and interprofessional education is a new topic. The leaders of this workshop have experiences in leading their schools through successful LCME visit with compliance on these hot topics.

**Objectives/Intended Outcomes:**
At the completion of this workshop, the participant will be able to:

1. Describe the LCME standards on active learning, institutional diversity and inter professional education
2. Analyze real scenarios describing institutional plans on these three standards for compliance with standards
3. Develop institution specific action plans to ensure compliance with these standards
Workshop 15: Strategies for Teaching the Physical Exam

Stephen Holt, Geoffrey Connors, Trishul Siddharthan, Christopher Sankey, Dana Dunne

Background: A proficiency at physical diagnosis is recognized as an essential ingredient in humanistic, cost-conscious, evidence-based medical care. Despite this, the teaching of the physical exam remains an undervalued component of medical education. Physicians at all levels lack training and confidence in their exam skills and tend to undervalue reliable physical exam findings.

We have developed a workshop designed to demonstrate successful strategies for teaching the physical exam. We will provide an overview of the key principles in teaching physical diagnosis and provide an opportunity to practice teaching with observation and feedback by seasoned clinician educators.

Objectives:
Upon completion of this session, participants will be able to:
- Identify the principles of effective physical diagnosis teaching
- Anticipate challenges that arise when teaching the physical exam to learners in various stages of their education and in different venues
- Practice strategies to overcome these challenges

Intended Audience: Clinician educators, residents and medical students interested in teaching clinical medicine

Format:
Part 1 (15 min) Welcome and Overview: Review of current strategies for teaching the physical exam.
Part 2 (60 min) Small Group Sessions: Participants will break into small groups, each with a faculty facilitator. Participants will spend 15 minutes at each station, exploring four unique teaching situations while receiving immediate feedback.
Station 1: Inpatient, bedside, small group, varied learners

Specific Goals:
  a) To understand how to engage learners at different levels
  b) To appreciate the particular challenges inherent to bedside teaching

Activities: After reviewing a description of how to test diaphragmatic excursion, one participant will practice teaching the maneuver to a group of three “Standardized Learners” (SLs) – participating Yale medical students of differing levels - at the bedside of a standardized patient (SP).

Station 2: Inpatient, bedside, observation and feedback

Specific Goals:
  a) To observe a resident teaching a student at the bedside
  b) To give tailored feedback to the resident while still in the presence of a patient

Activities: Participants will observe a resident teaching the auscultation of an S4 gallop to a single SL at the bedside of a SP. One participant will then have the opportunity to practice giving feedback to the resident while still in the SP’s room.

Station 3: Outpatient, bedside, single learner

Specific Goals:
  a) To engage a learner and a patient simultaneously

Activities: After reviewing several exam maneuvers in the evaluation of carpal tunnel syndrome (technique, operating characteristics, and common pitfalls), participants will decide which content would be the most useful to the learner(s). A single participant will practice teaching to the learner and SP.

Station 4: Conference room, small group, varied learners

Specific Goals:
  a) To understand how to simultaneously engage multiple learners when teaching the physical exam

Activities: After reviewing a description of Carnett’s Test, one participant will practice teaching the maneuver to a group of 3 SLs in a conference room setting.

Part 3 (10 min) Discussion: Discussion about remaining perceived barriers to teaching the physical exam and strategies to overcome these barriers.

Part 4 (5 min) Evaluations

References:
Workshop 16: Purpose, Empathy, and Compassion in Medical Education

Thomas Pruzinsky, Anna-leila Williams

Background/Theoretical Framework: Recent scientific advances in our understanding of psychological well-being provide an important and compelling foundation to address the empirically-documented decline in empathy and development of burnout that often occurs in medical education (Neumann, Edelhäuser, Tasuschel, Fischer, Woopen, Haramati, & Scheffer, 2011). In this workshop we present three specific methods that may help prevent medical students from experiencing deterioration of empathy and avoid burnout: 1) the articulation and cultivation one’s sense of purpose as a physician; 2) the enhancement of empathy via narrative medicine methods; and 3) the practice of mindfulness-based self-compassion. Research points to the efficacy of articulating a clearly defined sense of purpose in enhancing psychological and interpersonal functioning as well as overall health and well-being (e.g., McKnight & Kashdan, 2009). Additionally, the benefits of medical students crafting their own personal mission statements have been reported (Rabow, Wrubel & Remen, 2009). The burgeoning scholarship in the field of narrative medicine describes effective methods for enhancing empathy (Charon, 2012). Finally, there is a large and compelling body of scientific research on the many benefits of mindfulness. Of particular interest to us is the benefit of mindfulness in the cultivation of self-compassion (Barnard & Curry, 2011), a recognized safe-guard against burnout.

Objectives/Intended Outcomes:
At the conclusion of the workshop participants will:

1. Understand the value of promoting purpose, empathy, and self-compassion in medical education as a means of mitigating burnout;
2. Experience three interactive classroom activities used to promote purpose, empathy, and self-compassion;
3. Develop an action plan describing ways to include promotion of purpose, empathy, and self-compassion in curricula.

Format of Specific Activities: We will use several different interactive activities to engage participants including reflection, writing exercises, close reading, guided meditation, completion of measurement tools, and small group discussion.

We will present the empirical evidence for, and then engage in, three experiential classroom activities that can be used to promote purpose, empathy, and compassion, in medical education. The three activities are: 1) Setting the Course for Our Best Possible Selves; 2) Hearing the Patient’s Voice in Literature; and 3) Experiencing Mindfulness-based Self-Compassion. Each activity will be allotted 10 minutes for presentation of empirical evidence and 20 minutes for interactive activities (total 30 minutes per activity x 3 activities = 90 minutes). The interactive activities for Setting the Course for Our Best Possible Selves will include reflection on a future ideal self with particular reference to one’s professional role as a physician, and then development of a personal oath that will help workshop participants to maintain those ideals over the vicissitudes of medical training and practice. During Hearing the Patient’s Voice in Literature participants will explore literary pieces and discover the patient’s experience of life, illness, interpersonal relations, and the healthcare system. In Experiencing Mindfulness-based Self Compassion participants will practice a guided meditation, as well as complete a mindfulness measure and self-compassion scale which they will discuss in small groups.

References
Workshop 17: A Developmentally Based Longitudinal Undergraduate Medical Education Curriculum in Communication and Interpersonal Skills: Can you Bring This to Your Own Institution?

Joseph Weiner, Alice Beth Formari, Marie Barilla-Labarca, Ellen Ruth Pearlman, Judith Brenner

Background and Importance to Medical Education Literature:

Effective communication is essential to: 1) foster working relationships with patients, family and co-workers, 2) elicit accurate and complete information - essential for diagnostic purposes, and 3) formulate treatment plans that are personalized and implementable. Mastering communication requires guided practice, role-modeling, the facilitation of emotional and attitudinal growth, and ongoing assessment and reinforcement of good skills. While communication training is present in many medical school curricula, barriers continue to hinder the achievement and maintenance of outstanding communication skills. To our knowledge, there is no longitudinal four-year, developmentally based, integrated curriculum in medical student education. This presentation will discuss the initiation of such a longitudinal curriculum and offer attendees the opportunity to explore what they can bring back to their home institution.

Learning Objectives

Attendees will:

1) Identify the core components of delivering a developmentally-based communication and interpersonal skills curriculum to medical students that is applicable to early clinical training.
2) Initiate development of skills-based communication sessions using a curriculum template.
3) Identify appropriate ways to apply the principles of formative assessment to communication and interpersonal skills longitudinal development.
4) Discuss ways to integrate these skills into students’ early clinical experiences.
5) Identify the essential components of inter-professional faculty development to support the delivery of a developmentally-based communication and interpersonal skills curriculum.

Format:

1) [0:00-0:20] Didactic: Summary of Hofstra North Shore-LIJ School of Medicine’s Communication Curriculum for MS1s & MS2s
   a. Identification of developmentally appropriate communication and interpersonal skills (K, S, A)
   b. Faculty Development
   c. Hofstra’s skills-based training methodology
      i. Pre-reading
      ii. Brief framing lecture
      iii. Skills based training
      iv. Resources to implement the training
2) [00:20-00:30] Group exercise for workshop participants to identify important communication/interpersonal skills for the developmental stage of their trainees
3) [00:30-1:00] Practice constructing a class for one of the identified skills in small groups
   Note: Workshop Faculty will each facilitate small groups and be a resource
   a. We will ask the attendees to use the following template:
      i. Pre-reading (internet to search)
      ii. Framing lecture (identify key components)
      iii. Skills based training/practice (outline)
      iv. Resources needed to implement education plan
   b. Larger group discussion
4) [01:00-1:15] Assessment Skills (formative)
   a. Our longitudinal assessment model
      i. Skills-based coaching model
   b. Integration of classroom communication/interpersonal skills into the clinical setting
5) [1:15-1:25] Faculty Development for consistency and quality

6) [01:25-1:30] Workshop Evaluation:
   a. Complete One Minute Paper
      i. What you have learned
      ii. What is still unclear or unanswered
      iii. What you will apply to your home institution

Teaching Materials for Workshop Attendees
1) Sample copies of Hofstra North Shore-LIJ Communication/Interpersonal Skills Curriculum
2) Sample script and checklists for student communication skills assessment
3) Worksheets for participants to complete in small groups
   a. Communication and interpersonal skill you would like to teach
   b. Goal
   c. Learning objectives
   d. Pre reading
   e. Class structure
      i. Framing lecture
      ii. Skills based training
      iii. Wrap up
   f. Resources needed to implement the class

References:

Workshop 18: Mastering the Art of Negotiation for Your Career and for Institutional Change

Mary Lee, Joyce A. Sackey

Background: Academic institutions are dealing with rapidly changing environments. Each of us, as faculty, chairs, or administrators, has an important role to play in positive institutional change. Being able to negotiate to be more effective in our roles and to improve our working environment is key for individual and institutional success, and for effectively managing change (1). However, academic medical centers need to improve the climate for negotiation (2). Negotiation is a skill that can be learned and practiced, but is underutilized, particularly by women (3). Based on prior feedback and experience from years of negotiation workshops, the workshop leaders will introduce “tried and true” key concepts of effective negotiation, concrete examples, and focused strategic approaches. Participants will practice specific negotiation skills within the workshop, and thus are encouraged to come prepared with their own workplace negotiation challenge. A bibliography of “high yield” references will be distributed as additional resources.

Objectives and Intended Outcomes
By the end of the workshop, participants will be able to:

1. Define their negotiation goal
2. Assess their negotiation environment
3. Identify concrete language and approaches to frame their negotiation
4. Outline next steps for preparing to negotiate toward their goal

Format and Content
90 minutes fast-paced, interactive workshop allocated as follows:
Welcome, Introductions and Overview – large group (10 min)
Presenters will introduce themselves and review workshop objectives and handouts. Presenters will invite participants to introduce themselves and to share a key goal/expectation for attending the workshop (if group is large, will collect just a sampling).

Negotiation Challenges—paired exercise (15 min)
Presenters will frame the exercise, and explain the worksheet. Participants will share their negotiation challenge/goal with a partner focusing on why it is important to them and what the challenge is (5 min. each).

Negotiation Challenges—large group (20 min)
Share and record key challenges identified during paired exercise, including those relating to diversity issues. Use the Understanding the Sources of Conflict ratings worksheet to help participants assess their negotiation environment. Focus discussion on items that are rated as extremely challenging by the group.

Negotiation Strategies—paired exercise (15 min)
Using the most challenging part of negotiation scenarios from the previous discussion, each person in a pair will try to “start the conversation” with their partner using the worksheet questions as a guide (5 min. each).

Negotiation Strategies—large group discussion (20 min.)
Discuss what worked, what didn’t, and why. Discuss alternatives and principles to keep in mind, including what factors in their environment may help or hinder. Provide handout on “Conversation Starters” to help brainstorm alternative approaches.

Wrap up (10 min.)
Will review key points and lessons learned, and have participants identify personal next steps. Provide follow-up reading reference sheet, additional tip sheets on “Strategies for Dealing with Conflict Situations” and “Process for Uncovering Resistance”, and brief evaluation sheet.

References

Workshop 19: Why Co-teaching? Collaborative Inter-professional Education in Clinical Skills Courses

Michelle Daniel, Steven Rougas, Karen Harrington, Sarita Warrier, Nicole Carreau, Lynn Kosowicz

Background: Co-teaching has become an increasingly popular pedagogic method in undergraduate medical education, especially in clinical skills courses. Co-teaching is defined as having two educators deliver meaningful instruction to a diverse group of students in a common setting. Co-teaching pairs in clinical skills courses are most often comprised of a physician and an allied health professional, but may be composed of other educator pairs. Co-teaching models inter-professional collaboration and teamwork and provides complimentary subject matter expertise. It also has the potential to address current barriers to recruiting and retaining physician faculty to teach in clinical skills courses amidst their multiple competing demands for clinician-educator time. Advocacy for the practice of co-teaching is strong, but there is a paucity of literature to describe the benefits, challenges, and the nuts and bolts of “how to” effectively co-teach in both the clinical and classroom settings.
Objectives:
1. Define co-teaching and discuss existing co-teaching models in clinical skills courses
2. Identify potential benefits and challenges to effective co-teaching
3. Brainstorm practical strategies to promote effective co-teaching in both the clinical and classroom settings
4. Discuss how best to evaluate the effectiveness of co-teaching, including outcome measures such as student performance and faculty teaching evaluations; student attitudes about teamwork and co-teaching; faculty surveys about satisfaction with solo versus co-teaching

Format:
Didactic presentation, large group discussion, break-out groups (90 minute interactive session)

Participants will begin the session with an introduction to co-teaching as a pedagogical method, review the various models described in the literature, and discuss the most common co-teaching arrangements currently utilized in clinical skills courses at a variety of institutions (15 minutes). As a large group, participants will discuss potential benefits and barriers to effective co-teaching, and avenues of recruitment of co-teachers (15 minutes). The participants will then divide into two small groups to focus on co-teaching in either the clinical or the classroom setting. Working groups will generate strategies for effective team instruction (30 minutes). Each small group will report out to the large group and common themes, and a potential model for team-teaching will be discussed (15 minutes). The session will close with a large-group discussion of how to best evaluate the effectiveness of co-teaching (15 minutes).

Target Audience: Directors of Clinical Skills Courses (DOCS), curricular deans, faculty and staff involved in instruction in preclinical skills course, other instructors in UGME who use co-teaching

References:

Workshop 20: You Can’t Fix by Analysis What You’ve Spoiled by Design: A Workshop in Survey Design for Medical Educators

Jeffrey LaRochelle

Background: Surveys are one of the most commonly used research and evaluation tools in medical education (Gehlbach, Artino, & Durning, 2010; Rickards, Magee, & Artino, 2012). Unfortunately, few medical educators are familiar with the best practices of survey design. As a result, many medical education surveys fail to adequately capture the very attitudes, opinions, and behaviors they are designed to assess (Rickards et al., 2012).

Objectives/Intended Outcomes: The initial portion of the workshop will feature a brief lecture on an evidence-based, seven-step process for survey design (Gehlbach et al., 2010). Then, in small groups, participants will have the opportunity to discuss various constructs related to the study of medical education. In the small groups, participants will actively engage in the development of an appropriate survey scale to assess a specific construct. Emphasis will be placed on conceptualizing relevant medical education constructs, collecting reliability and validity evidence for a survey scale, and identifying common mistakes that occur in writing survey items. Lessons learned from the small-group activity will be shared with the entire group, emphasizing common themes that arise during the initial development phase of survey design. Finally, the benefits of expert validation, cognitive interviewing, and pilot testing will be discussed.
This workshop is intended for any medical educator, from novice to more experienced, who is currently developing, implementing, or thinking about using a survey in future work. Given the frequency with which surveys are used, a rigorous approach to the design process will have significant positive benefits to those interested in studying medical education at the undergraduate and graduate levels, to include surveys directed at students, faculty, and patients, to name just a few.

At the completion of this workshop, participants will be able to:
(1) Recognize how to use a systematic, seven-step design process;
(2) Describe how to define the educational construct to be evaluated;
(3) Demonstrate how to develop a set of items to characterize the selected construct; and
(4) Define the purpose of expert validation, cognitive interviews, and pilot testing.

**Format:** At the beginning and end of the workshop, time will be dedicated to didactic lectures. In the middle of the workshop, the majority of the time will focus on interactive small groups led by two content experts. During this time, participants will be given time to creatively develop items for a specific construct that is relevant to medical education. Lessons learned and general feedback from the small-group sessions will be shared with all the participants in an open forum near the end of the workshop. In addition, participants will be given a variety of deliverables to include an outline of the seven-step design process and accompanying articles with detailed explanations on more advanced survey design topics (e.g., La Rochelle, Hoellein, Dyrbye, & Artino 2011). Participants will also be given handouts describing common pitfalls in survey design (e.g., Artino & Gehlbach, 2012; Artino, Gehlbach, & Durning, 2011), basic information on reliability and validity, common response scales, a glossary of survey terms, and a list of survey references.

**References:**

**Workshop 21: Fostering Student Scholarship in Medical Education**

Jonathan M. Amiel, Janet Palmer Hafler, Terry Wolpaw

**Aims**
1. To share and discuss models of institutional support of student scholarship in medical education.
2. To engage in a discussion of opportunities and challenges in developing and supporting students’ participation in medical education scholarship.

**Background:** Many medical students value medical education research and educational scholarship and aspire to engage more deeply in medical education later in their careers. Academic medical centers have a variety of opportunities available to foster student development in medical education. A growing number of medical schools are providing opportunities for students to contribute to scholarship in medical education. Through informal collaborations, elective courses and formal scholarly projects, students may offer the perspective of the learner and learner-scholar to projects involving curriculum design, teaching methods, learner assessment, program evaluation and leadership throughout the continuum of medical education. In this interactive workshop, we will present and analyze the perspectives from three institutions that foster student scholarship in medical education. This will be followed by a facilitated discussion to identify elements of programs that can be generalized to other medical schools and brought back to attendees’ home institutions.
Learning Objectives:
The participants will be able to:
1. Identify a variety of roles for student involvement in MedEd scholarship
2. Contrast and analyze three models that have facilitated student involvement in MedEd scholarship
3. Explore the characteristics of successful models in faculty and student MedEd scholarship collaborations

Format: In this workshop both large and small group interactive formats will be used.
Part 1 (5 mins.): Welcome and overview of the workshop with a brief highlight of the issues facing the development of students participating in medical education scholarship.
Part 2 (30 mins.): A faculty and a student from each school will frame the model at their school and pose a question that will be actively discussed in small groups.
Part 3 (20 min) Each participant will experience a small group exercise, facilitated by one of the listed faculty and one student from their school. In each small group, for 30 minutes, they will:
   Group a
   Discuss the advantages and disadvantages of the 3 designs of educational scholarship models for medical students
   Group b
   Identify the challenges and propose solutions in designing an educational scholarship program for students at your own institution
Part 4 (20 mins.): In the large group, participants will discuss and analyze their experiences as they explore the application of developing medical education scholarship opportunities or models for their home institutions, specifically exploring the challenges to be met and obstacles to be overcome for successful implementation.

Learner Assessment: Through a reflective self-assessment exercise, each participant will assess his or her level of confidence and knowledge in discussing how to design a medical education scholarship model at their home institution

References

Workshop 22: Using a Reflective Writing Portfolio to Assist Students in Developing and Pursuing Medical School Learning Objectives
Hetty Cunningham, Gina T. Farias-Eisner, Anna M. Bank, Melanie J. Bernitz, Julie S. Glickstein, Deborah P. Jones, Marina Catallozzi

Background/Theoretical Framework: The portfolio is becoming increasingly accepted as a tool for structuring learning and reflection in the context of core competencies in medical education. Portfolios may be utilized to enhance reflective practices, summative and formative assessment, or knowledge management. The day-to-day rigors of medical education often preclude learners from gaining a longitudinal perspective on who they are and what they are becoming. Within this environment, portfolios can serve a unique role. They have the potential to capture snapshots of development over a prolonged period of time, facilitating both personal growth and development of a professional identity. There are many known challenges to successful portfolio implementation including allocation of time and faculty resources, preconceived attitudes and creating user buy-in, and aligning faculty and student goals. Nevertheless, potential benefits of portfolio implementation are great in terms of healthy professional identity formation.

Columbia University College of Physicians & Surgeons (P&S) implemented a pilot student portfolio designed to be non-evaluative, formative, longitudinal, aligned with school-wide learning objectives, and paired with mentorship. Reflective writing, which is a major component of many medical student portfolios, can be used to reach toward core school-wide learning
objectives such as the development of self-awareness, curiosity, and understanding patients deeply. Writing increases self-reflection; reflection-in-action leads to reflection-on-action; and sharing writing among peers builds community and empathy. Reflective writing is seen as a means to help students learn interpersonal aspects of medicine, understand their own experiences, and aid faculty in comprehending what students have learned.

Within health professions, the crafting of formative responses to reflective submissions has been identified as a major challenge. Students require a reader/mentor to guide the learning process and faculty development is essential to meeting this challenge. At P&S, we have embarked upon an intensive faculty development process based on the principles of close reading and narrative medicine, which we will share during this workshop.

**Objectives/Intended Outcomes:**
1. Experience the use of reflective writing in medical education
2. Explore and understand the approach to the reflective writing portfolio adopted by P&S
3. Assist participants in crafting responses to student reflective writing that encourage self-aware professional identity formation

**Specific Activities:**
We will open the workshop with participants actively engaged in a structured writing exercise as they write to a prompt and experience facilitated sharing in dyads. For the next 15 minutes current medical students will describe their motivation and involvement in portfolio development. Then, faculty will take 15 minutes to present the design and process of reflective writing portfolio development at P&S. The next activity will foster skill acquisition in responding to student reflective writing pieces in order to enhance students’ professional development. With guidance from workshop leaders, participants will spend 20 minutes reading and crafting written responses to a student portfolio entry. Through sharing responses to student writing, participants will learn and be able to apply varied approaches to reflective response that can benefit students at varied times of their medical school careers. The final 20 minutes will be reserved for questions and discussion.

**References:**

**Workshop 23: Attracting Medical Students to an Academic Career in Medical Education: Programs for Students in Leadership, Teaching and Scholarship**

Larrie W. Greenberg, Benjamin Carl Blatt, Jonathan Rosen, Lisa Coplit

**Background:** Recruitment and retention of junior faculty in academic medicine is a daunting process, especially given the challenges that presently confront academic medicine (1). New faculty will experience a revenue-driven environment focused on clinical productivity and grant procurement. Simultaneously, health care reform legislation will transform the practice of clinical medicine and approaches to ongoing societal issues, including serving the uninsured and underinsured. Added to these challenges is the imperative to address the educational core mission of a medical center, which is to train the next generation of clinicians. Academic physicians must negotiate this complex landscape, often receiving lower income than their colleagues in clinical practice.

To encourage interest in academic medicine in the face of such challenges, Social Cognitive Career Theory supports early exposure, clarification of misperceptions, and delineation of clear pathways to entering the field and sustaining success (2, 3). Medical students, in the process of considering, testing, and exploring career pathways, are an obvious group to target.
Innovative methods of attracting medical students to an academic career in medical education are emerging. (4, 5). The goal of this workshop is to present background theory in career-building and then to demonstrate how it plays out in three categories of career-building innovations: leadership, teaching and scholarship. Innovations example that the workshop will present are the NEGEA Student Track for the annual medical education conference (leadership), the Albany School of Medicine required students-as-teachers program (teaching) and the Mt. Sinai Scholarly Concentration in medical education (scholarship). We plan to have medical students who have experienced each of these innovations present for the small group rotations.

**Objectives:**
By the end of this workshop participants will be able to
1. explain social cognitive career theory and how to apply it to interest students in an academic career
2. generate at least one new idea to attract students to a medical education career path that they can implement in their home institution

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 15 min | Introduction: large group  
1. Reasons that participants have chosen to attend  
2. Objectives  
3. Social Cognitive Career Theory |
| 60 min | Rotation through 3 Stations (20 min/station): small group  
1. Leadership  
--Example (presented by student): the NEGEA Student Track (5 min)  
--Discussion (15 min)  
2. Students-as-Teachers Program  
--Example (presented by student): Albany School of Medicine Student-as-Teachers Program  
--Discussion  
3. Scholarship: the Scholarly Concentration  
--Example (presented by student): Mt Sinai School of Medicine Scholarly Concentration  
--Discussion |
| 15 Min | Discussion: large group  
Participants discuss ideas to use in their home medical schools |

**To take home**
1. Reference list
2. Guide to implementing social cognitive career theory

**References:**
Workshop 24: Understanding Change and the Key Leadership Skills to Navigate it

Elza Mylona, Susan Lane, William Wertheim

Becoming an effective change agent requires an awareness of one's own strengths and shortcomings, an understanding of the institutional culture and an appreciation of the change process and its complexity. This hands-on session offers a framework and valuable insights from research and practice aimed to enhance the participant’s understanding of leadership and organizational change.

Rationale/Background: The last decade has been marked by a worldwide process of change in medical education that includes significant curricular reforms, establishment of new schools, and complex accreditation requirements. The challenges posed by such changes are enormous for individuals and institutions but so are the opportunities. Gaining an understanding of the change process, especially in the health care environment, educational leaders will be able to challenge the existing paradigm that looks at health care training as linear and predictable and turn instead to a collaborative and integrative approach. Becoming an effective change agent requires an awareness of one’s own strengths and shortcomings as well as an understanding of the institutional culture (its history, structures of relationships and expectations).

Session Objectives: The purpose of the workshop is to provide participants with a deeper understanding of the complexity of change and useful guidelines for developing the skills required for managing and sustaining change. At the end of this workshop participants will be able to: 1) recognize the change process and its complexity, 2) examine assumptions of how institutions work and why change fails 3) appreciate different leading styles and their effect on change 4) apply a powerful model for leading change in their own setting.

Audience/Importance: Faculty and administrators at all levels in medical schools and healthcare organizations interested in increasing their personal effectiveness and ability to achieve institutional excellence. A variety of interactive strategies and exercises will include tasked small group discussions, guided discussions, and a short presentation by the participants.

Format:
Introduction of presenters (name, role in the institution, interest in this topic) (5 min)

Small Group Activity (10 min): What makes change so difficult?
• Small group or dyad: you have eight minutes to identify the range of issues that you believe makes change difficult.
• Extra credit goes to the group that can rank order their list of challenges
Debriefing of the activity (5min)
• The goals are to: a) Encourage participants to start talking about change and b) Generate a list of issues that will be discussed throughout the workshop

Didactic presentation (10 min)
• Steps of Change and Model
Small Group Activity (15)
• Case-based discussion in large group format

Didactic presentations (10 min):
• Role of the leader
• Role of the team
Small Group activity and debriefing (20 min)
Small Group activity (15min)

Work and reflect on your own story: Using the information presented how are you going to approach your situation?
• Consultation from your group
• 2-3 new insights are shared
References:
Short Communication 1: A Pilot Medical Student Summer Course on Medical Innovation

Akhilesh K. Sista, Daniel J. Holzwanger, Roman J. Garcia

Goals and Objectives

• Provide medical students with a structured process to identify unmet health care needs and translate them into innovative solutions that improve patient care
• Introduce medical students to seldom-taught, integral aspects of healthcare

Background: A medical innovation education like the Stanford Biodesign fellowship gives novice entrepreneurs the tools necessary to identify, research, and solve clinically significant medical needs. At present, this is separate from the traditional medical school curriculum. Yet the subjects essential to innovation (stakeholder analysis, reimbursement, FDA regulation, market size) are also critically important to a physician leader. Moreover, medical students are not given a formal education on how to critically evaluate medical dogma. Thus, a pilot innovation course was taught to 10 medical students from June-August 2012 at Weil Cornell Medical College.

Method: The course consisted of 8 didactic lectures and group projects. The first lectures taught students how to identify unmet clinical needs, conduct due diligence, and brainstorm. The final ones, taught by topical experts, covered medical reimbursement, business models, and FDA regulation.

The group projects involved taking an already identified unmet clinical need (e.g., high infection rates for central tunneled lines) through the biodesign process. Each group gave a final presentation that included its unique solution to the unmet clinical need.

Reflective Critique: As one participant stated, “It is clear that [biodesign] can be a much more organized process than I once thought.” On an anonymous survey, students ranked the pilot course as a 4.5 (on 5-point scale). The most common student dissatisfactions were the inability to identify their own unmet clinical needs and course brevity. To address these shortcomings, we are proposing a formal integration of a biodesign program as a 3-month elective during the 4th year of medical school.

References:


Short Communication 2: Evidence-Based Medicine Literature: Use and Feedback from Students

Kathleen Crea

Problem Based Learning (PBL) has been a required segment of the graduate medical curriculum at University of Connecticut School of Medicine in the pre-clinical years since 1995. Starting in 2001, I have worked as a facilitator for PBL with medical students. Participating in PBL weekly requires students to develop effective clinical search strategies early in their careers, and to “test drive” a variety of subscription health science resources to answer learning issues generated by group discussions. In PBL, I serve as both instructor and librarian-trainer. Working with new medical students in their first year is an appropriate time to introduce clinical databases or demonstrate search strategies that they may not discover on their own.

In November 2012, I was invited to present for AAMC Librarians in Medical Education (LiME) special interest group on the topic of “Evidence-Based Medicine across the Four Year Curriculum”. To prepare for this webinar, I created and administered
a brief survey of UConn medical students, asking them to describe their own unique exploration of medical resources, databases, search strategies and practical applications for “finding evidence” over four years of medical school.

Their comments provide direct feedback about sources, methods and strategies they use to answer complex medical questions, make treatment decisions or work with patients in a variety of healthcare settings while searching “on the run”.

My proposed presentation for NEGEA 2013 will focus on two aspects: 1) an overview of the process of Problem Based Learning and working with students in small groups, and 2) survey results describing medical students’ own assessment of how they use health science resources for clinical care or research. These findings may prove useful for academic-health science librarians, educational or hospital administrators, course directors or clinical faculty.

Short Communication 3: Breaking Down Barriers to Care: A Summer Immersion Program

Michael E. Steinhaus, Lily R. Mundy, Katherine A. Nash, M. Christine Krause, Boyd F. Richards, Stephen William Nicholas

Goals and Objectives: We developed and implemented an eight-week summer language and cultural immersion program to better prepare health professional students to be successful communicators and compassionate providers for Spanish-speaking patients. Our immediate aims were three-fold: improve Spanish language proficiency; improve cultural literacy; and foster inter-professional relationships among health professional students.

Background/Theoretical Framework: The sizeable and growing Latino population in the U.S. presents a challenge to the medical community. Investigations such as the Office of Minority Health’s on healthcare disparities in the U.S. demonstrate that Latinos have poorer health outcomes than whites, as indicated by higher rates of obesity, asthma, HIV/AIDS, diabetes, and low birth weight. Hospital departments and residency programs have implemented language programs that have succeeded in improving Spanish proficiency and patient interaction among participants, but medical schools lag behind and are in a unique position to provide integrated language and cultural experiences.

Instructional Methods and Materials: Students attended daily language class (15 hours/week), lead by a physician who teaches medical and conversational Spanish. Students completed internships (12-16 hours/week) at community organizations and clinical sites, gaining experience working with community members, and participated in weekly cultural seminars, and social and cultural events.

Reflective Critique: Participants reported significant improvements in Spanish language and cultural understanding, and that they would recommend the program to others. Students were particularly satisfied with the teaching, afternoon internships, cultural seminar series, and inter-professional aspect of the program. Participants recommended including more time conversing in class, selecting students at similar language levels, incorporation of cultural topics in the classroom, better integration of non-medical health students, and several internship site-specific recommendations. In the future, we will continue to offer the program with minor modifications and assess the program’s impact through validated language and cultural evaluations, and examine students’ communication skills in the clinical years.

Short Communication 4: Ultrasound Teaching and Curriculum Development by Peer Teachers

Diane West, Yiju Teresa Liu

Goals & Objectives
1. Provide small-group, interactive ultrasound instruction to MS1 students, creating a base for longitudinal exposure to ultrasound throughout medical school.
2. Active participation of MS4 peer-teachers in curriculum development.

Background/Theoretical Framework: As the role of bedside ultrasound (US) becomes more prominent in first-line evaluation and diagnosis, there is increasing support for vertical integration of US teaching throughout the undergraduate curriculum. However, there is a gap in knowledge concerning methods of integration and effective educational strategies.
MS4 students enrolled in an education elective are trained in adult education with an experiential component of teaching MS1 students in the Physical Diagnosis (PDx) course, where structured encounters with standardized patients are led by MS4 peer-tutors to optimize learning and engage all types of learners\(^1\). Including MS4 students as both peer-teachers and course-evaluators provides an innovative, unique perspective into curriculum development.

**Instructional Methods & Materials**

- Training MS4 in abdominal US and the teaching of US.
- MS4 home preparation for peer teaching including review of MS1 learning objectives, cases, and clinical correlations Powerpoint slides.
- During the PDx session, peer-teachers provide theories and guides for assimilators, demonstrations for accommodators, discussions for divergers, and case simulations for convergers\(^1\).
- A self-selected group of MS4 peer-teachers participate in a focus group with course leadership to evaluate the effectiveness of the session and provide input for future curriculum.

**Reflective Critique:** In addition to traditional advantages of peer teaching\(^2\), utilizing MS4 teachers enabled implementation of US instruction in a small group setting. Furthermore, we relied on peer-teachers to shape the US curriculum. Their unique perspectives, as both faculty and students, serve to balance the needs for both parties in the process of curriculum development. However, focus group outcomes should be evaluated for selection bias as participants were possibly more engaged and prepared for teaching sessions.

**References:**


---

**Short Communication 5: Lessons in Laparoscopy: Using Didactics and Simulation**

Nancy Zhining Tang, Erin Stevens

**Goals and Objectives:** To increase resident knowledge and comfort with fundamental laparoscopic skills through a combined didactic/simulation course.

**Background/Theoretical Framework:** According to the FDA, 45% of the more than 4.7 million annual surgeries in the United States are being performed laparoscopically\(^3\). However, in a survey of 321 senior surgery residents, more than one-third of respondents did not feel adequately prepared to perform laparoscopic procedures independently after their residency training and stated that it would be necessary to seek additional laparoscopic training post-residency\(^2\). Proposed factors in the residents’ unease include new work hour regulations that limit surgical opportunities, limited mentorship in laparoscopic skills training, as well as limited structured didactic and simulation based experiences.

**Design/Methods:** Through an organized “fundamentals of laparoscopy” didactic curriculum currently underway at our institution, we hope to ameliorate some of these factors. The curriculum is an integrated didactic and simulation program using laparoscopic box trainers. The residents at our institution were surveyed on their confidence in their laparoscopic skills and underwent a pretest assessment on basic laparoscopic principles, prior to participating in the combined didactic/simulation course.

**Expected Results:** We expect the residents to demonstrate an improvement in both academic knowledge on the posttest as well as increased confidence in their overall laparoscopic skill set.

**Reflection & Conclusions:** The didactic and hands-on simulation curriculum helps to increase confidence and understanding of basic laparoscopic principles. Our study is limited by the small sample size, as it only includes the 24...
members of the SUNY Downstate OB/GYN residency program. However, with the promising findings from this study, the curriculum may be well suited for implementation and evaluation in other NYC residency programs.


Short Communication 6: Effect of a Musculoskeletal OSCE Using Senior Internal Medicine Residents as Standardized Patients

Christina Harris, Johanna Martinez, Robert Meyer, Judy Tung, Cathy Jahali

Purpose: In an effort to improve the confidence and knowledge of internal medicine residents in their evaluation of patients with musculoskeletal complaints, we created an OSCE using our senior residents as standardized patients, teachers and evaluators of the interns.

Background: Residents commonly express a lack of comfort evaluating patients with MSK complaints. Due to the complexities of teaching the musculoskeletal examination, traditional didactic teaching sessions are often inadequate and require supplementation with hands-on modeling.

Methods: The musculoskeletal OSCE was integrated as a required component of the residents’ ambulatory block. Senior residents selected a standardized patient scenario which focused on one of 5 common musculoskeletal complaints (neck, shoulder, back, hip, or knee pain). Senior residents were expected to: (1) deliver a 15-minute hands-on session reviewing how to accurately evaluate a patient with the pain in their selected body region; (2) serve as a standardized patient for interns rotating through the OSCE; (3) provide immediate formative feedback to each intern. Self-assessment surveys assessing confidence and knowledge were performed before and after the OSCE. Post-OSCE focus groups were also conducted.

Results: Interns and senior residents experienced gains in medical knowledge, with the interns gaining significantly more knowledge than the seniors (p=0.02). In a post-OSCE focus group, 100% of interns and seniors reported an increase in their confidence in evaluating patients with musculoskeletal complaints. Seniors felt most confident in their assigned body region. All interns reported that they preferred learning from a resident rather than an attending as they felt it was an extension of the intern-resident teaching dynamic in the hospital. Residents perceived the OSCE to be a nonthreatening learning environment for the interns.

Conclusions: A musculoskeletal OSCE utilizing senior residents as the educators and the standardized patients is effective at improving the knowledge and confidence of residents in evaluating musculoskeletal complaints.

Short Communication 7: Does Empathy, Power and Personality Change during Residency? A Longitudinal Look at a Pediatric Training Program

Regina Toto, Dewesh Agrawal, Benjamin Carl Blatt, Larrie W. Greenberg

Background: The expression of empathy is an essential part of effective communication between physicians and patients. Previous publications have defined empathy, which encompasses both cognitive (perspective-taking) and affective (empathic concern) dimensions. Neumann’s 2011 literature review on empathy in graduate and undergraduate education revealed a decrease in resident empathy over time in seven publications. Only one of these publications included a very small number of pediatric residents.
Objective: To examine the relationship between empathy (cognitive and affective), sense of power, and personality over time in pediatric residents

Design/Methods: The authors administered the following validated and reliable instruments to 34 entering PL-1s at the Children's National Medical Center (CNMC) in June, 2010 and to the same group at the start of their PL-3 year in June, 2012: Ten-item Personality Inventory (TIPI), an abbreviated instrument measuring personality traits when personality is not the main focus of the study; Interpersonal Reactivity Index (IRI), using those subscales measuring perspective-taking (PT) and empathy; and Sense of Power Scale (SPS), applied in business and psychology literature to measure perceived power by participants. All data was treated anonymously and aggregated. GWUMC gave IRB approval.

Results: 34 residents (100%) completed the first data set and 25 (74%) two years later. In contrast to Neumann's review, empathy and PT did not decrease in our residents over two years. Residents did not report an increasing sense of power over time. There were two statistically significant changes regarding personality and its relationship to empathy: "agreeableness"(P=.005) and "open to new experiences"(p=.05), both decreased from PL-1 to PL-3 years.

Conclusions: This is the first report of pediatric residents' self-reported empathy as it relates to perceptions of power and personality type over time. We found no significant changes in our residents nor were there increases in their perception of power, which we anticipated based on their increasing knowledge and clinical experiences. The authors were not able to explain the personality changes, which should be stable over time. The debate about whether empathy declines over the continuum of education continues. Resolving this dilemma likely requires simulations or direct patient care to supplement self-reported data.

Short Communication 8: Caring for Oneself While Caring for Others: Does Medical Student Self-Compassion Predict Empathy?

Shereen Singer, Norma Susswein Saks

Purpose: To examine the relationship between medical student self-compassion and empathy.

Background: Self-compassion requires self-kindness, realizing that imperfection is part of being human, and not dwelling on past mistakes. It impacts mental health, motivation, and satisfaction with life. Despite its likely effects on patient care, self-compassion has not been well researched in healthcare professionals. There is a well-documented decline in empathy during medical school; causes and interventions to prevent this continue to be investigated. The association between self-compassion and empathy in medical students warrants study.

Methods: Robert Wood Johnson Medical School students (N = 599) were invited to complete an online survey, consisting of demographic data and validated scales, e.g. Self-Compassion Scale (SCS), Jefferson Scale of Physician Empathy-student version (JSPE), Perceived Stress Scale (PSS), Medical Student Well-Being Index (MSWBI). ANOVAs examined the effects of gender and education status (pre-clerkship or clerkship) on empathy and self-compassion. A stepwise linear regression was used to determine if gender, education status, SCS, PSS, and MSWBI scores predict JSPE scores.

Results: Ninety-four students (55 female; 40 pre-clerkship) anonymously responded. There were no differences in self-compassion between gender or education status. Men had lower empathy scores than women, F(1, 88) = 4.46, p < .05; clerkship students had lower empathy scores than pre-clerkship students, F(1, 88) = 4.74, p < .05. Self-compassion positively correlated with empathy (r = .282, p < .01). Only self-compassion (ß = 0.31, p < .01) and education status (ß = 0.23, p < .05) predicted empathy, explaining 13.3% of the model variance.

Reflection/Limitations/Conclusions: This initial study at one medical school showed the expected empathy differences, and self-compassion was predictive of empathy. If through further study this association is sustained, we may discover self-compassion actually protects against empathy decline. If so, implementation of programs to increase self-compassion could potentially enhance patient care.
References


Short Communication 9: Hello Operator: Reflections on the Use of Mobile Devices to Restructure Telemedicine Encounters in OSCEs

Jason Korenkiewicz, Yoon Kang

**Goals and Objectives:** To share the early experience of Weill Cornell Medical College (WCMC) — both its challenges and successes — in implementing iPads into Objective Structured Clinical Examinations (OSCEs)

**Background:** Recent literature reflects the extent to which mobile technology is being implemented quickly in professional education.¹ iPads and FaceTime technology are also specifically gaining ground as important patient care tools. ² WCMC was one of the first US medical schools to deploy iPads to students in biomedical science courses. While use in lecture and other traditional pedagogical sessions was an immediate success, the utility of mobile devices in clinical simulation and standardized patient sessions continues to be a work in progress.

**Methods:** In summer 2012 WCMC replaced the telemedicine case for 20 students in their end of third-year standardized patient OSCE with a video conference via iPads using the FaceTime application. This session will share some of these outcomes and facilitate a discussion of ways to use iPads to enhance traditional tele-medicine

**Results and Reflection:** Students felt that practice in the use of FaceTime and other similar technologies was imperative since “this is the direction that medicine seems to be taking” and that “these technologies expand options for delivering patient care.” SPs noted the primary advantage for assessing student skills with FaceTime vs. telephone encounter was placing a “face” to the student but did not feel that there was a real difference in establishing rapport. SPs noted that in some instances, as patients, they would prefer telephone to FaceTime encounters. The primary challenge with use of FaceTime was wireless connectivity.

Future sessions and formal evaluation of this teaching tool are planned for summer 2013.

References:
   http://www.educause.edu/Resources/MobileITinHigherEducation2011R/238470
2. “iPad Use at UCLA Helps Patients Manage Chronic Intestinal Ailments”; September, 2012 http://www.eweek.com

Short Communication 10: Is There a Need for Advanced Physical Examination Courses in Medical School

Dale Berg, Katherine Berg

**Background:** Physical diagnosis is central to the practice of medicine. It is patient-centered, cost-effective and allows the clinician to assess patient problems. Almost every medical school in the United States has a basic course in this skills set, but there has been little documented about reinforcement of these skills or advanced physical examination courses in clinical years. Deficits in these skills however have been reported in the literature.

**Methods:** In 2012, the authors surveyed incoming interns (n = 154) regarding the physical examination training they received in medical school and their self reported assessment of their ability to perform physical examination in the domains of
cardiovascular, pulmonary, abdominal, dermatologic, ENT and musculoskeletal systems. The self-assessment component used a Likert-scale with 1 being poor, 3 average and 5 excellent.

**Results:** Eighty-five percent of incoming interns reported receiving a course for basic physical examination during their second year of medical school; whereas, 21% (65/308) of stated they took an advanced course in physical examination during their clinical years. Their self-assessed ability to perform physical examination skills for specific systems included: cardiovascular: 3.7 with 63% (97/147) good to excellent, pulmonary: 3.7 with 68% (105/148) good to excellent; abdomen 3.7 with 66% (100/148) good to excellent, dermatology: 2.8 with 19% (30/148) good to excellent, ENT: 3.2 with 34% (54/146) good to excellent and musculoskeletal: 3.1 with 35% (54/147) good to excellent.

**Discussion:** These results indicate that although almost all medical students receive formal physical examination training during preclinical years, there is little opportunity to receive reinforcement of these skills or develop advanced techniques during their clinical training. The lack of self-assessed proficiency in physical examination, especially in ENT, dermatology and musculoskeletal examinations indicates the need for advanced physical examination courses in the clinical years.

---

**Short Communication 11: Medical Students Learning from Residents in the Workplace**

Reena Karani, H. Barrett Fromme, Danelle Cayea, David Muller, Alan Schwartz, Ilene B. Harris

**Purpose:** To explore what third-year medical students learn from residents and which teaching strategies are used by residents in their interactions with students in the clinical workplace environment.

**Background:** Residents are essential teachers of medical students in the clinical environment. The strategies included in popular “Resident-as-Teacher” (RAT) programs are based on teaching behaviors of distinguished clinical faculty, derived from observations of faculty2 or designed for use by faculty in encounters with residents.

**Method:** In this three-institution study, we conducted focus groups with medical students who were mid-way through their third year. Qualitative analysis was used to identify themes.

**Results:** Thirty-seven students participated and contributed 228 comments related to teaching methods used by residents. These were categorized into 20 themes within 7 domains including Role-Modeling, Focusing on Teaching, Creating a Safe Learning Environment, Providing Experiential Learning Opportunities, Giving Feedback, Setting Expectations and Stimulating Learning. Role-Modeling, the most frequently classified method of teaching, was not included in three popular RAT models. Strategies such as offering opportunities for safe practice, involving students in the team and providing experiential learning opportunities were not emphasized in these models either. 197 student comments representing the knowledge and skills students learned from residents were categorized into 33 themes within 9 domains including Patient Care, Communication, Navigating the System, Adaptability, Functioning as a Student/Resident, Life-Long Learning, General Comments, Career/Professional Development and Medical Content. Most of these areas are not emphasized in popular RAT models. Reflection and Conclusions: Residents have an important teaching role yet current RAT models are based largely on the behaviors of faculty. Generalizability to outpatient settings and the opinions of residents themselves are next steps to address this study’s limitations. Importantly, the content and teaching strategies identified by students in this study should serve as the foundation for future RAT program development.

---

**Short Communication 12: Building Resident Comfort in Communication Skills During the Gynecologic Exam**

Harini Kumar, Lisa Lapman, Jennifer Purcell, Ellen Tattelman

**Purpose/Objectives:** The purpose is to design, implement, and evaluate a resident skill-building workshop to improve communication skills during the gyn exam. The objective is to measure changes in residents’ comfort with communication during the gyn exam.
**Background/Theoretical Framework:** The pelvic exam is a central component in the routine care of women by primary care physicians. The ACGME places emphasis on measuring resident competency in this area. However, few residents receive formal training in pelvic examination beyond medical school (Goldstein, 2005). Very little resident education has focused on the use of effective women-centered communication skills during the gynecologic exam. The language we use as physicians has the means to empower patients by allowing them to share their own thoughts and knowledge about their health (Candib, 1995). There currently exists a need in graduate medical education to assess competency in resident use of women-centered language during the gyn exam.

**Methods:** A needs assessment was conducted with primary care residents and faculty within the Department of Family and Social Medicine. These residents were then invited to participate in a skill-building communication workshop, where they practiced the use of women-centered language in an interactive format. The project will be evaluated qualitatively via a two-month post-workshop resident focus group. A pre-workshop and two-month post workshop survey will be administered to quantitatively measure changes in the residents’ level of comfort with communication.

**Results:** The results of the needs assessment identified an interest across all primary care tracks for a workshop to build communication skills. Evaluation data from the resident focus group and surveys are currently being analyzed and will be presented.

**Reflection and Conclusions:** Challenges in scheduling impacted attendance during resident skill-building workshop sessions. Conclusions from evaluation data and any further limitations will be presented.

**References**


**Short Communication 13: Enhancing Sensitivity and Responsiveness to Disability**

C. Ronald MacKenzie, Inmaculada de Melo-Martin

Although many human beings will experience disability or impairment in the course of their lives, those suffering from rheumatologic and orthopedic diseases are at particular risk. Despite the prevalence of disability, training in the health care professions often fails to attend to disability issues. Compounding this problem, research suggests that a significant obstacle to people with disabilities attempting to access health care is the attitude, conscious and unconscious, of health professionals. In order to enhance sensitivity and responsiveness to disability and to foster professionalism, we have developed a seminar for residents in orthopedics, rheumatology, and allied health care professionals. The main goal of this seminar is to promote ethical reflection and understanding. As the ACGME considers ethical reflection a core competency of Medical Professionalism, the seminar’s focus is to enhance ethical reflection and understanding in an area of relevance to those involved with the rheumatologic and orthopedic disorders.

The objectives of the seminar are to provide participants with the tools to identify the roots of contemporary ideas about normalcy, assess how different models affect the role of medicine in contributing to the well-being of disabled people, and to evaluate the connections between disability and justice/injustice. We hope the course will help participants to improve their attitudes towards people with disabilities.

A variety of methods, including didactic lectures, panel debates, use of pertinent medical cases, and critical reflection on relevant readings and personal experiences are used during the seminar period.
Medical professionalism in general, and ethical reflection and understanding in particular, are long-term professional aspirations. Clearly, one does not become a better professional or an ethically self-reflective individual by taking a single course. Nevertheless, seminars such as the one proposed, are likely to present new perspectives, enhance knowledge of ethical principles and considerations, incite reflection, support moral integrity, and promote sensitivity.

Short Communication 14: Development, Implementation, and Evaluation of a Longitudinal Curriculum in Professionalism, Ethics, and Communication Skills for Surgical Residents

Ana Berlin, Abbey Fingeret, Tracey Arnell

Surgical practice requires competency outside the domains of surgical knowledge and technical skill. To that end, instruction in professionalism and ethics is mandated by professional and accrediting organizations in surgical education. While resources do exist to meet these requirements, they are often disjointed and not readily applicable or portable. We have addressed this need by creating a year-long curriculum in professionalism, ethics, and communication skills that can be feasibly integrated into any surgical residency program.

Surgical residencies typically provide little formal education in ethics and professionalism. Learning in these areas more often occurs via an implicit curriculum (role-modeling), which is perceived as inadequate by residents and experts alike. To successfully fill this void, the professionalism and ethics curriculum must integrate structurally into the existing formal curriculum, adhere to principles of adult learning, and produce a demonstrable impact on residents’ knowledge, attitudes, skills, and behaviors.

We developed and implemented a longitudinal professionalism, ethics, and communication skills curriculum built on a series of case-based modules that follow the course of a hypothetical surgical patient. The storyline unfolds over twelve “episodes” that stand alone or in combination, and whose themes include informed consent, physician impairment, advance directives, surrogate decision-making, artificial nutrition and hydration, difficult conversations, and team dynamics. Instructional content is delivered through videos, role-plays, and group discussion, debriefing and reflection. Impact of the curriculum was evaluated with a voluntary, anonymous survey administered at the first and last sessions of the year-long curriculum.

Resident reaction to the curriculum in its first year was positive overall, with most residents favorably rating the relevance and impact of their curriculum on their practice. Current and future efforts will focus on determining the optimal dose, tone, and venue for content delivery, better assessment of learning outcomes, and dissemination of the curriculum throughout the surgical education community.

Short Communication 15: Virtual Journal Club: Using Mendeley Groups to Teach EBM

Sarah Reinbold, Joseph Davis

Goals and Objectives: To increase multidisciplinary learning and promote evidence-based medical education. Mendeley provides a new method for teaching critical appraisal skills.

Background/Theoretical Framework: Medical training in the modern day has a strong emphasis on “evidence-based learning” (EBM)(1). One key mechanism for promoting EBM education is journal club where participants learn to critically evaluate research and become aware of important breakthroughs in their field. The journal club format has been shown to be one of the best methods for teaching critical appraisal skills which are integral to learning EBM(2). Conventional journal clubs are somewhat limited because participants are generally people located within the same institution or geographical area. Expanding the expertise within the group by including participants in other specialties and countries will enhance learning. This can be achieved by utilizing web-based resources for article review.

Instructional Methods and Materials: Mendeley is a free online software application for reference management. The “Groups” feature allows users from different locations to read, highlight and comment on articles. These comments are available for group members reading the article to see thereby creating a virtual journal club. Group members can select articles for the group to read and see what other group members are reading.
Reflective Critique: Mendeley allows for increased exposure to current high yield literature and encourage communication between diverse peers in a particular field of medicine. The limitation of internet journal clubs however is the lack of in person interaction.

References


Short Communication 16: Engaging Sub-Interns with Narrative Medicine

Susan C. Ball

Purpose: Fourth-year medical students on their subinternship rotation have little opportunity to process the barrage of new experiences or reflect on the impact of these experiences. Recognizing that improving narrative competence can enhance students’ well-being and patient care, we initiated weekly Narrative Medicine sessions for these Sub-I’s. Our goals were to create a safe place to share experiences, improve skills in close reading and critical reflection and link narrative exercises to clinical experiences.

Methods: The students meet weekly for an hour with a facilitator. After a general discussion of their evolving clinical experiences, the group reads and discusses a short prose or poetry piece, attentive to frame, form, character, mood, symbolism, and message. Next, students write in response to a prompt loosely linked to the reading. The remaining time is spent sharing and discussing their writing.

Results: Twenty-four students, in total, have completed a three-question evaluation at the end of the four weekly sessions: 80% reported being better listeners; 100 % felt their capacity for reflection had been enhanced; and 75% believed these sessions would influence them as physicians. Comments reflected these positive results: “These sessions reminded me that literature keeps me grounded to . . . . different meanings there are to health and life and … better understand my patients and their experiences with their illness”.

Conclusions: Although merely four hours over four weeks, Narrative Medicine sessions offer fourth-year students a safe place for dialogue, close reading, and reflection which can enhance patient care. This curricular innovation is ongoing. Efforts are underway to expand these sessions into the mandatory third-year clerkship.

Short Communication 17: Cultural Competency in End-of-Life Care in the Intensive Care Unit (ICU): What Students Learned in a Pilot Curriculum

Amy Chi, Elizabeth Bennett, Rebecca Blanchard

Purpose: The purpose of this study was to explore what medical students learned about cultural competence in an end-of-life care(EOL) family meeting during a fourth year ICU rotation, specifically: What did students learn about navigating cultural competence through reflection on a EOL family meeting?

Background: Decisions about EOL care are complex, influenced by factors such as understanding prognosis, preferences in life-prolonging treatment, family beliefs, patient-physician communication and culture. No literature on the impact of implementing cultural competency curriculum in EOL care exists.
Methods: Fourth-year medical students enrolled in pilot curriculum ICU rotation, lasting four weeks. Curriculum included online modules, reading material, observation of an EOL family meeting and written reflection about the meeting, along with small group debriefing.

Results: 69 students participated over ten blocks, but only 32 completed the curriculum. All written reflections (n=32) were analyzed using general inductive methods, resulting in 3 categories. Students learned that in navigating cultural competency: 1) levels of understanding influenced care decisions, 2) conversations must balance information and feelings, and 3) balance between individual and family dynamics is important (specifically conflict and consensus).

Conclusions and Reflections: Communication surrounding EOL care can be challenging particularly with families of different racial/ethnic background. Effective cultural competence allowed healthcare teams to reframe decisions in terms acceptable to families. Study results demonstrate important learning occurred through observing and reflecting upon an EOL family meeting, which was evaluated the most important part of the pilot curriculum.


Short Communication 18: ITEACH (Interprofessional Training and Education at Cornell-Hunter)

Joseph Murray

Goals and Objectives: In 2010, faculty from Weill Cornell Medical College, Hunter Schools of Nursing, Social Work, and Public Health met to design a curriculum to include students from each institution. Goals included:

1) Describe the professional competencies of other members of an interprofessional team
2) Improve team functioning through understanding of team dynamics
3) Work with members of other professions in the evaluation of a patient
4) Participate as a team in a health fair or community service project

Background/Theoretical Framework: While much of health care is practiced with providers from many disciplines working together in the care of patients, there is little preparation for such interprofessional practice in the actual training programs of the respective disciplines. Graduates of medical, nursing, social work, and public health schools (among other disciplines) have been expected to work together without having ever been taught how to do so, with little knowledge of the professional competencies of their colleagues, and with little training in how to work in teams. Finally, well-functioning teams can improve patient care. 1-3

Instructional Methods and Materials: The curriculum is a year-long course which meets every 2-4 weeks. Methods include large-group lectures/discussions, small-group discussions, online modules, independent work with interprofessional teams, visits to hospitals/nursing facilities/patient homes to meet with patients, simulation exercises, and written assignments.

Reflective Critique, to include strengths, limitations, future-directions: Our strengths include a well-functioning faculty team, contributions from multiple disciplines, and enthusiastic cooperation from the administration of our respective institutions. Limitations are that this pilot project was implemented with a small group of students. Our main future-direction is to work on figuring out how to identify and implement some essential elements to a wider selection of students.

References:
Short Communication 19: The Evolution of Longitudinal Self-Assessment by Third-Year Medical Students

Marina MacNamara, Paul George, Jamie Gainor, Nilay Patel, Richard H. Dollase, Julie S. Taylor

Project Purpose and Objectives: To evaluate third-year medical students’ self-assessment of competencies and learning goals both during and after a three-week transition course, a Clinical Skills Clerkship (CSC), taken prior to specialty-specific clerkships.

Background: Self-assessment is an essential component of the lifelong learning expected of physicians. However, there is sparse data on the relationship between self-assessment and self-directed learning goals.

Methods: We administered a confidential, written survey to rising third-year medical students at one medical school (n = 98) three times over 15 weeks. The investigator-developed survey had sixteen Likert-style questions asking students to assess their own competencies in twelve clinical and four professional skills; eight additional qualitative questions addressed learning goals.

Results: The mean Likert score for the 16 professional and clinical competencies included in the survey were significantly higher at the end of the three-week CSC compared to the start. In the first survey, means ranged from 1.08 to 2.83 (1 = “very incompetent,” 4 = “very competent”) and from 2.10 to 3.24 in the second. Twelve weeks later, the mean for nine of the 16 competencies had decreased compared to the survey administered at the end of the CSC, including eight clinical skills. Self-designated learning goals inversely reflected this pattern, though without statistical significance.

Reflection/Conclusions: Though limited to one institution, our study’s findings provide evidence to support what medical educators understand intuitively: the path to knowledge for medical students is one of not knowing, then thinking they know, then realizing that they do not know. The decrease in students’ self-assessment scores for certain clinical skills after obtaining some clinical experience may indicate a positive impact of experiential learning on self-assessments. The corresponding increase in citations of these same skills as learning goals demonstrates a direct relationship between the process of self-assessment and the setting of learning goals.

Short Communication 20: Faculty Perspectives about Facilitators and Barriers to Interprofessional Education (IPE) of Healthcare Students

Eve Colson, Paula Schaeffer, Rachel K. Miller, Amy Corcoran, Kelly Witse, Janet Hafler, Mary L. Warner, Jennifer S. Meyer

Background: IPE is necessary for students to develop the knowledge, skills and attitudes to improve patient care and safety. It is not clear why IPE is not integrated into most curricula.

Objective: To identify faculty beliefs about facilitators and barriers to IPE as the initial steps in developing IPE curricula.

Design/Methods: Using grounded theory and purposeful sampling we conducted in-depth interviews of faculty with experience in education from Yale Schools of Medicine, Nursing and the Physician Assistant Program and the University of Pennsylvania Schools of Medicine and Nursing. Interviews were recorded and transcribed. Data were analyzed in an iterative process with input from all authors.

Results: 31 interviews were conducted with participants from each profession. Three main themes emerged:
1) Most faculty spoke of challenging LOGISTICS bringing schools together, although some believed it possible to get past these logistics.
Quote: I think in talking about the actual kind of nitty gritty of the policies and registration, the grading and the non-grading of the courses may be a barrier. We can figure that out.

2) Many participants commented on the challenges of the CULTURE.

Quote: Trying to get this interprofessional education through the med school is going to be tough through the curriculum committee because a lot of those people can be older doctors that sit on this thing that aren't going to go for this at all. They are going to say, why bother? Why do this?

3) Many participants emphasized the need for SUPPORT by individuals, teams or administrators who will lead IPE forward.

Quote: ...what facilitates the implementation? ...buy in. ...leadership that supports it and thinks it’s important.

Conclusions: Identifying themes about facilitators and barriers to IPE provides direction to promote IPE curricula. Facilitators and barriers go beyond logistics and must be considered for IPE to be successful.

Short Communication 21: Ready to Join Forces: Medical Students’ Receptiveness to Learning Military Medicine

John Mahoney, Hollis Day, Kathryn Scott, Rocky Tuan

Purpose: In January 2012, AAMC and its constituency pledged to work with Joining Forces, a national initiative launched by First Lady Michelle Obama and Dr. Jill Biden to “call attention to the critical health issues facing veterans and military families.” To inform additional curricular development, it is important to understand the extent to which students are currently prepared to meet specific needs of military personnel, veterans, and their families.

Methods: 312 third and fourth year medical students were surveyed about their experiences with active duty/reserve personnel, veterans, and their families. Questions included items on specific service-related health concerns and whether students ask about military service of patients and their families during history-taking.

Results: 31% of those surveyed responded. 17% of respondents have had no rotations at the VA. 40% don’t know if they’ve encountered family members of active duty personnel. Over half of students had encountered PTSD and traumatic brain injury (TBI) patients but only 12% had encountered military sexual trauma (MST) patients. 86% reported formal instruction on PTSD, 65% on concussion, and 69% on TBI. 87% had not learned about MST. Despite these results, 50% of students wanted to learn more about PTSD, 68% about TBI and 61% MST. 52% of respondents felt they were less prepared to care for active duty/reserve patients compared to the general population. 43% affirmed that completing this survey was itself likely to increase their attention to military medicine issues.

Conclusions: Beyond existing exposure to military medicine topics, students have self-identified areas for curricular improvement. In light of this national initiative, it is encouraging to see how eager students are to learn more about the care of military personnel and their families.

Reference:

Short Communication 22: Design and Implementation of a Simulation-Based OPPE in Psychiatry: A Novel Tool for Competency-Based Measurement

Robert Birnbaum, Tristan L. Gorrindo, Lydia Chevalier, Elizabeth Goldfarb, Benjamin Meller, Jonathan Alpert, John Herman, Anthony Weiss

Purpose of the Project and Objectives: The current effort sought to develop a violence risk assessment simulation using the computer simulation assessment tool (CSAT) and to use this simulation as a competency based measurement in an ongoing professional practice evaluation (OPPE) project. For departmental leaders, the CSAT provided a way for the department to perform OPPE and identify individuals for required focused review of physician performance (FPPE). For participating clinicians, the CSAT was a way to safely practice risk assessment and receive immediate educational feedback on ways they could improve their methods.
Background/Theoretical Framework: Web-based simulation exercises that are coupled with educational interventions are one means of conducting OPPE assessments which allow for screening large number of participants for FPPE, and represent a win-win for departments and participants. Additionally, the use of this tool fits into the shift towards competency based measurement as it evaluates physicians on a task that is both clinically relevant and standardized.

Methods: Using email notifications, 412 participants were directed to an online simulation over a 7 week period. Within the CSAT interface, participants viewed an introductory video and then were given 15 minutes to navigate a web-based simulation. Two measures of performance in the simulation, number of required topics viewed during the simulation and an open-ended description of risk, were calculated.

Results: After the third reminder email was sent, 92% of the participants had completed the activity. 381 (92.9%) participants passed measure 1, and 359 (87.6%) passed measure.

Reflection and Conclusions: Overall, web-based simulation and email engagement tools were a scalable and effective way to assess a large number of clinicians and to identify those that required FPPE. Data from the project also identified educational and training gaps to be addressed in future curricular planning.

Short Communication 23: Disseminating Medical Education Research Literature to Medical School Faculty

Kerry O'Rourke, Sarang Kim, Laura Willett, James Galt

Goals & Objectives: To keep clinical and research faculty apprised of current trends in medical education research.

Background/Theoretical Framework: The medical literature is the predominant method health professionals use to stay current about research and trends in their primary discipline. Many literature review services allow clinicians to stay current with latest developments in their field via email alerts or newsletters. In medical education, such review services are lacking; the most common methods for keeping up with advances in medical education include discussion with colleagues, participating in academic meetings or school committees. To meet the need of our teaching faculty, an in-house medical education literature review service was developed with monthly reviews written by our own clinicians and educators.

Methods and Materials: DR MERL (Dependable Reviews of Medical Education Research Literature) launched in April 2012 with two clinicians regularly reviewing new publications in three leading medical education journals. Articles are selected based on reviewer interest and their relevance to the medical school curriculum. Dissemination of information is provided in numerous formats including posters, flyers, emails, website and Twitter. Each month DR MERL posters are refreshed with new medical education topics. A QR code on the poster directs the user to a website that includes links to the full-text of the article.

Reflective Critique: Incorporating numerous formats of distribution and placing the poster in a high traffic area increased awareness of the service. The poster and the monthly email message announcing new reviews was redesigned to include large, colorful icons that encapsulate in one word the article’s essence. Immediately after launching the new design, positive feedback was received as well as requests for expanded distribution. Moving forward we plan to expand journal coverage and recruit more faculty reviewers.

References:
2. Ozuah PO 2002 JAMA 288:1061-1062
Short Communication 24: Cultivating New Talent: Baystate Medical Center’s Junior Faculty Interest Group

Rebecca Blanchard, Gina Luciano

The goal of the Baystate Junior Faculty Interest Group (JFIG) is to amplify the potential of junior clinician faculty by challenging practice and fostering excellence in the areas of teaching, scholarship, service, and leadership.

Background: Junior faculty (< 5 years as an attending) often begin clinical careers without adequate formal instruction or guidance in the areas of teaching, scholarship and service. As a result, junior faculty may have difficulty building collaborative networks, advancing academic careers and navigating the promotions system.

A model of empowerment used for a junior faculty program at Penn State highlighted the importance of mentorship in addition to cultivating knowledge, skills and resources of junior faculty. JFIG is loosely based on this model and on a conceptual model for faculty development arguing that faculty development programs must be presented within the culture of the institution in order to succeed.

Instructional Methods: JFIG emphasizes peer mentoring through a mixture of formal and informal instructional and collaborative components, including: 1) project groups - interdisciplinary small groups who meet regularly to review and encourage each others’ progress on a scholarly project, 2) quarterly full-day CME workshops, and 3) monthly brown-bag discussions on a scheduled list of topics. In addition, JFIG encourages participants to connect through a private online social network called Yammer.

Reflection: JFIG has already received positive feedback from junior and experienced faculty because it meets real-time faculty needs through the mixture of formal and informal instructional and collaborative opportunities. We have not yet been able to measure outcomes but plans for assessment include; attendance, participant publications, measurements of confidence in teaching, and self-reflection exercises and other metrics.

Content highlighted by JFIG will be driven by the needs of participants and will continuously evolve by balancing faculty needs with institutional expectations in the areas of teaching, research, and service.

Short Communication 25: Functional Neuroanatomy Resource Innovation for iPads

Santosh Sangari, Roselinda Guce, Rachel Koshi, Martin Hamburg, Michele Fuortes, Estomih P. Mtui

Goals and Objectives: To describe the Functional Neuroanatomy Resource (FNAR) innovation created at Weill Cornell Medical College (WCVM) – the first homegrown functional neuroanatomy teaching application (“app”) developed for iPads by a medical school, including the learning options actively utilized by students and plans for continued development of the app.

Background: Computer assisted instruction has long proven useful in teaching of neuroanatomy, particularly when accompanied by traditional lecture presentations that present image and text data to students. At WCVM, teaching of functional neuroanatomy has relied heavily on gross brain and histological material created at the college and presented through computer technology initially server-based and then web-based. When the institution decided to move students to mobile devices (all students were provided iPads in 2011), the Functional Neuroanatomy Resource (FNAR) Faculty and Educational Computing team accepted the challenge to make the FNAR content available through an iPad app.

Methods: This first local FNAR app integrates and indexes an image database along with various text resources. The app utilizes mouse-over and overlay technology, allowing users to easily highlight and select different areas of the brain and their related labels; it includes students to incorporate self-assessment tools onto the image overlays so they can test their knowledge as they progress.

Conclusion and Reflections: A recent student evaluation reflects students rating the overall quality and usefulness of the FNAR as “excellent” (3.85 on a 4-point scale). Future plans include incorporating radiographic images and an “on-the-fly image set” technology, allowing students to query the database specifically designed to answer their questions. The system will also be expanded and deployed to assist gross anatomy teaching for medical and physician assistant students.
References


Short Communication 26: Comparison of Length-of-Stay and Resource Utilization of Trauma Patient “Pass-On” Rounds and Pre-“Pass-On“ Rounds with Multi-Level, Inter-Professional Participation

Heidi Hansen, Brian Kinkead, Mary George Kutty, Kathy Aronow, Francis Baccay, Juan Asensio, Mary George, Marini Corrado

Purpose: Year two evaluation of a new EBM curriculum designed to improve basic EBM skills (e.g., question formation, search strategies and critical appraisal) and facilitate practical application of these skills.

Background: EBM is traditionally taught in the context of journal club. Research suggests that teaching EBM in an integrated format may improve practical application. In 7/2010, we initiated a 3-year curriculum with a redeveloped series on critical appraisal (year one) and use of a Critically Appraised Topic (CAT) presentation in place of journal club (year two). We present data from year two. Residents chose a clinical question, conducted a literature search, identified 4-5 relevant articles (guided by EBM faculty and a medical librarian). Each presented an appraisal of the literature, formulated a clinical bottom line, made recommendations for practice and prepared a summary abstract for publication in an online CAT bank.

Methods: CAT session attendees evaluated presentations with a survey (rating scale: 1(strongly agree) to 5(strongly disagree)). Presenters completed a self-reflection to assess confidence with EBM principles. Faculty attitudes were surveyed before and after the implementation of the CAT format (rating scale 1(never) to 5(all the time)).

Results: Six sessions were evaluated by 12-23 attendees each. Attendees (n=91) all agreed/strongly agreed that CATs were well presented and relevant (mean score=1.43, SD 0.12-0.28). Comments included: "very organized;" "informative." Presenters felt sessions were worthwhile and their practice of medicine would change as a result (mean score=2, SD 0.6-1.6). Faculty felt residents selected more relevant articles (3.5 v. 4.3, p=0.01), and were better able to critically appraise the literature (3.3 vs. 4,p=0.02).

Reflections/Conclusions: Results from the first cohort completing Year Two of this curriculum reinforce improvement seen in the prior cohort completing Year One (presented separately), suggesting that teaching EBM in an integrated fashion may improve its clinical use. Further evaluation continues.

2. Kersten et al, Evidence-Based Medicine in Pediatric Residency Programs: Where Are We Now, Ambulatory Pediatrics 2005; 5:302 – 305

Short Communication 27: A Comparison of Arthrocentesis Teaching Tools

Jessica R. Berman, Ami Ben-Artzi, Mark C. Fisher, Anne Bass, Michael Pillinger

Background: Each year, internal medicine programs across the country teach incoming residents the skill of arthrocentesis, but the relative effectiveness of various teaching techniques has not been assessed in a systematic way.
Objectives: We compared approaches to teaching arthrocentesis using cadavers and anatomic models, respectively.

Methods: Internal medicine residents (n=55) taking part in a month long rheumatology rotation were surveyed on their confidence level performing knee and shoulder arthrocentesis prior to a cadaver teaching lab and at the end of their month rotation. Participants rated their confidence levels for arthrocentesis of specific joints using 9-point Likert scales. They also rated the utility of individual teaching modalities in helping them to learn.

Results: This study confirms a significant increase in residents’ confidence levels following the cadaver lab teaching. The residents’ initial confidence levels performing arthrocentesis were low, with an average confidence level for knee 2.39+/-0.22 and shoulder 1.61+/-0.14 prior to the session. After the cadaver teaching session, residents experienced an overall increase in confidence levels, up to 5.97+/-0.23 for knee and 5.53+/-0.22 for shoulder. The learning experience fellows considered most effective was the cadaver learning, followed by supervised practice, followed by lectures.

Conclusion: While all teaching interventions for internal medicine residents learning arthrocentesis are helpful for increasing confidence with arthrocentesis, the use of cadavers appears to be superior. The specific impact of these teaching interventions on actual competence, defined as a performance outcome, deserves additional study.

Short Communication 28: Bridging the Gap from Internship to Residency

Moyna H. Ng, Anunta Virapongse, Vanya Grover, Andrew Gotlin, Robert Edward Graham

Goals and Objectives: To help our housestaff transition from intern to resident physician, we designed an innovative curriculum that was piloted in July and August of 2012. The curriculum which is led by senior faculty reviews a few core skills. The skills include effective teaching methods, how to assess the junior members of your team and how to provide constructive, meaningful feedback. By the end of our course, the residents should recognize the need to build these skills and utilize them in their practice.

Background: The transition from first to second year residency is as dramatic as becoming an intern. Intern orientation is generally well established in residency programs, but a well structured new resident orientation is not as well built into training programs.1-3

Instructional Methods and Materials: The curriculum consists of four, one-hour seminars. The sessions included ‘assessment of the intern,’ ‘feedback,’ ‘diagnosing the problem intern,’ and ‘resident as teacher.’ At least two faculty members facilitated each session. Each participant took a pre- and post-survey to assess their attitudes on the course and knowledge of the skills taught.

Results: 42 of 54 internal medicine residents participated in the seminar series. Of these participants, 23 residents completed both the pre- and post-survey. Using the Wilcoxon signed rank test, the difference between pre- and post-testing on the 6 attitude questions was not statistically significant. A T-test was used to assess the four knowledge questions, which was statistically significant on pre- and post-survey (p=0.002).

Reflective Critique: Resident knowledge of the core skills improved following participation in the seminar series. A follow-up survey in 6 months will be obtained for further comparison to determine if residents were better prepared as ward-team leaders. Future steps include expanding the seminars to other service-lines, and utilizing the seminars for faculty development.

References:
Short Communication 29: The Courteous Consult: A Pocket Card and Training to Improve House Staff Consults

Anna Podolsky, Lauren Peccoralo, David Thomas Stern

**Purpose:** Communication and courtesy are important components of consultations, but little is known about the quality of physician trainee consults and no published interventions have improved these interactions. The goal of this study was to assess residents’ views on the impact of consults on patient care and assess the impact of a pocket card on the quality of trainee consults.

**Methods:** Participants included physician trainees at Mount Sinai School of Medicine. From March to May 2011, we conducted a pre-training consult survey (based on focus groups). Based on survey results, literature and guidelines, we developed a pocket “Consult” card and a training session for calling consults (didactic, video and role-play) as part of hospital-wide intern orientation in June 2011. We evaluated the training session and card from October to December 2011 using post-training surveys. Results were analyzed using descriptive and nonparametric tests.

**Results:** 399 trainees (40% response) responded to the pre-training survey. When asked to rate the impact of the consultation interaction on the following patient outcomes, participants reported a large impact on: timeliness of treatments (62% of participants), timeliness of tests performed (57%), appropriateness of diagnosis (56%), discharge planning (49%), and timing of discharge (43%). 300 trainees (30% response) responded to the post-training survey. After the training, trainees felt that the caller more often showed appreciation to the consult team (Mean[M]; 3.28(pre) vs. 3.50(post), p=0.016) and came to the bedside for evaluation (M; 2.4 vs. 2.7, p=0.013). In addition, trainees felt more comfortable calling consults after the session (M; 3.0 vs. 3.45, p<0.001) and using the consult card (M; 3.25 vs. 3.4, p<0.001).

**Conclusion:** Trainees believe that consult interactions impact patient care and outcomes. Evidence suggests that our consult training intervention improved trainee comfort calling consults and may improve consult interactions especially regarding courtesy and in person interaction.

Short Communication 30: A Clinician-Educator Track for Internal Medicine Residents

Sarita Warrier, Kate Mavrich, Michelle Daniel, Jennifer Jeremiah

**Background:** Many graduates of residency programs seek careers as clinician-educators, but most receive little formal training to prepare them for academic careers. Previous studies have reviewed the creation of clinician-educator tracks in residency programs 1-3; however there is no literature evaluating the effectiveness of such tracks in internal medicine residency programs.

**Objectives:** At one Internal Medicine residency program, we developed a clinician-educator track for residents interested in medical education. We will describe the creation of the track, educational requirements of the track, initial assessment data, and plans for future assessment.

**Instructional Methods:** We conducted a survey of the residents to identify the need for a clinician-educator track, and to collect self-assessment data about skills relevant to careers in medical education. We identified core concepts that should be taught in a resident clinician-educator track; described the requirements of the track in terms of self-study modules, group workshop sessions, teaching activities and scholarly projects; and identified educational activities that could serve as opportunities for teaching.

**Reflective Critique:** There appears to be an interest in and need for a clinician-educator track in our medicine residency program. Curriculum development is ongoing, with prioritization of the creation of self-study modules and workshop sessions. Continued assessment of the effectiveness of the track will include resident self-assessment of skills as well as an objective structured teaching exercise (OSTE).
Short Communication 31: A Student-Created Study Materials Website

Sheela Krishnan, Josef Toft, Julie S. Taylor, Paul George, Richard H. Dollase

Background/Theoretical Framework: Internet-based learning in medical education has positive educational effects for learners.1 However, technology use in education also creates new challenges for medical students who must access, organize, and archive large amounts of information.2,3

Goals and Objectives: Medical students need effective electronic methods to share both student-generated review materials and external resources in order to facilitate learning. Based on peer and faculty input, our conceptual framework for such an electronic resource-sharing system included: support for different resource formats, search capabilities, prioritization of study resources via user recommendations, and adequate storage capacity. The system must be secure to allow students to share resources while requiring minimal effort to attain access.

Instructional Methods and Materials: After consulting our institution’s Information Technology Department and testing a variety of website platforms, we chose Google Sites™ to build a resource-sharing website for first- and second-year students at our school. We created pages corresponding to each subject block with forum-style message boards, search functions, and commenting and attachment capabilities. We used existing email login credentials for site access, and Google Analytics™ to track site usage. After one academic year, we administered an anonymous, electronic survey to students to evaluate site content, site usage, and student satisfaction.

Results: There were 31,955 page views and 9,762 site visits. Usage patterns correlated with examination schedules. Our overall survey response rate was 40.6% (n=133/327). Twenty-six percent of users reported posting materials. The majority of users reported that they preferred using the site for content distribution as compared to email. Detailed results of site usage and survey results will be presented.

Reflective Critique: A medical student-initiated website like ours enables sustainable electronic study-material sharing and distribution to enhance medical student education using modest financial and administrative resources. Other medical schools could develop a similar resource using our model.

References
Short Communication 32: Learning for the Future: Leadership Skills for Medical Students

Esther Rollhaus, Virginie Halpern-Cohen, Reena Karani, Shashi Anand

The demands of current medical practice necessitate a greater number of trained physician leaders to ensure outstanding quality of care in a multi-disciplinary, patient-centered environment. Thus, medical education must provide students with leadership skills by creating initiatives that reinforce the value of leadership, outline specific competencies, and provide students with opportunities to directly apply acquired skills.

We developed a leadership skill-building curriculum for Year 1 and 2 medical students designed to develop competency in navigating and implementing reform in a complex healthcare system. The curriculum’s five modules are: effective communication and multi-disciplinary cooperation, conflict resolution and negotiation, management fundamentals, self-reflection on leadership qualities, and direct application of skills to medical students. Each session incorporates formal didactics, case-based learning, and practical skill development and is designed and facilitated by a medical student, physician, and non-physician partner in medical education or healthcare. The opportunity for reflection and discussion, direct application of leadership skills to students’ preclinical experiences, and inclusion of interprofessional faculty will contribute to the success of the curriculum.

Pre- and post- surveys and an Observed Structured Clinical Examination will be used to measure the knowledge, attitudes, and skills gained following participation in the program. Future curricular initiatives will be geared toward leadership development and reflection in the clinical years, as well as cultivating skills specific to physician advocacy and policy reform.

References:
2. Goldstein AO, Calleson D, Bearman R, Steiner BD, Frasier PY, Slatt L. Teaching advanced leadership skills in community service to medical students. Academic Medicine 2009; 84(6); 754.

Short Communication 33: DIME: Preparing Medical Students to Engage in Educational Scholarship

Robert Lebeau, Norma Susswein Saks

Goals/Objectives: To review outcomes/challenges of the Distinction in Medical Education Program (DIME) at Robert Wood Johnson Medical School (RWJMS) 5 years after implementation.

Background: The DIME Program recognizes students for significant contributions to medical education during 4 years of medical school. The requirements are a non-credit elective (pre-clerkship), credit elective (M3 or M4), and a mentored scholarly project (dissemination within and beyond RWJMS). DIME projects must document a systematic approach informed by the relevant literature and best practices, be framed as a research question, and be appropriately designed, implemented, and evaluated. DIME prepares students for careers informed by and contributing to educational scholarship.

Instructional Methods and Materials: The DIME non-credit elective includes instruction on learning principles, assessment, teaching methods, and research fundamentals; each session is evaluated. Students moving forward propose a project, work with a faculty mentor, and utilize the credit elective to advance the project and teach. Twenty-nine students have completed the elective requirement; 7 students have graduated with Distinction in Medical Education (3 more scheduled in 2013). DIME projects have yielded four (1 more in review) peer-reviewed journal publications, one MedEd Portal publication (1 more in review), and 4 peer-reviewed presentations at medical education conferences (1 award winner).

Reflective Critique: Strengths of the program are evident in its outcomes: a cadre of students with growing knowledge of medical education scholarship and a core of DIME graduates whose work has been disseminated in the medical education community. Challenges are the potential for elective sessions to be isolated or superficial experiences given limited time
available, and project mentoring is a labor-intensive process for faculty. The core elective curriculum is being revised to enable students to pursue self-directed learning to begin projects earlier. Further evaluation will include following DIME alumni to trace how the program can promote careers in medical education.

References

Short Communication 34: A Descriptive Analysis of Short-Term versus Long-Term Evaluation of a Preparatory Course for Third-Year Medical Students

Eloise Salmon, Archana Ashok Pradhan

The transition from the basic science years to the clinical years of medical school is one of the most dramatic changes in the career of a physician. Rather than functioning largely in lectures, laboratories, and the library as they did as first and second year medical students, third year students spend many hours interviewing patients, writing progress notes, and following up on test results. Beyond meeting new workplace expectations, students must also develop coping strategies for emotionally trying situations. At Robert Wood Johnson Medical School (RWJMS), the Introduction to the Clinical Experience (ICE) serves to orient incoming M3 students to the expectations of the clerkships and to offer tips for success during the first week of the third year. ICE week includes faculty presentations, student panels, and procedures training.

Ninety-five students completed a survey at the conclusion of ICE week to offer feedback on each of these components, fifty-seven student completed a similar survey twelve weeks into the M3 Clerkship Experience. By surveying students at these two points, this study aims to identify whether student ratings of the effectiveness of ICE week vary with clerkship experience and to determine if the areas students identify as most-prepared and least-prepared after some clinical experience are consistent with those identified at the end of ICE week. Since all questions in the study survey generated categorical outcomes, statistical analyses will be based on the Chi-square. Preliminary analyses show some interesting statistically significant differences between male and female medical students.

Educators recognize the importance of transitional programming between the M2 and M3 years, yet data on how students view the effectiveness of these programs once they have begun their clerkships is limited. Patterns in responses may shape future transitional programming at RWJMS, as well as lead to recommendations that may benefit programs across the country.

Short Communication 35: Validation of a Service-Learning Outcomes Scale: AMSARS

Julie Westberg, Henry Sidney Pohl, Ingrid Allard

Purpose: The major objective of this project was to create a valid and reliable tool to assess service learning outcomes, attitudes and self-assessed skills, of medical students. A secondary objective was to use a scale validated on college undergraduates and validate it on medical students.

Background: Service learning literature suggests many learning outcomes but evidence is lacking. Hunt et al. in 2011 noted articles they reviewed indicated that service learning taught topics like barriers to healthcare and social determinants but few explained how learning was measured. Additional outcomes include interpersonal and communication skills.

Methods: Using a combination of a validated survey created for undergraduate students (CASQ) and the literature on service learning outcomes in medical students, a new survey the AMSARS (Albany Medical Student Patient Attitudes and Social
Responsibility Scale) was created. After administering the survey, analysis of the data was performed to validate and assess reliability. Cronbach’s Alpha, factor analysis and item-total correlations were carried out to determine which questions to maintain in the survey.

Results: The completed survey response rate was 71% (405/569). In all 10 scales consisting of 6-12 items each, using a 5-point Likert scale, made up the survey. Cronbach’s alpha on the final survey scales ranged from 0.789 to 0.930. Additionally, factor loading was set at a minimum of 0.4 showing some evidence of the scales’ content validity. Finally, a value of 0.40 was used as the threshold for acceptable item-total correlation.

Reflection: The AMSARS is a valid and reliable survey for medical student service learning outcomes. It is important to realize that this is only the first step in assessing the impact of service learning on medical education. Future studies will look more closely at medical students taking part in service learning versus those who have not.

References:

Short Communication 36: Increasing Awareness of Disaster Preparedness: Online Modules for Pre-Clerkship Medical Students

Laryssa Patti, Norma Susswein Saks

Goals and Objectives: To develop online disaster preparedness modules for M1 and M2 medical students, and evaluate their effectiveness at Robert Wood Johnson Medical School (RWJMS).

Background/Theoretical Framework: Disasters are defined as emergencies that result in death, injury, illness, and/or property damage that overwhelm normal procedures and resources of communities. Past and current events (e.g. 9/11, Hurricanes Katrina and Sandy, H1N1 pandemic) emphasize the importance of preparedness to mitigate the effects of a disaster. Healthcare workers, a group that includes medical students, are likely to care for disaster victims, and risk becoming victims themselves. Organizations, including a CDC-AAMC-DHSS joint committee, recommended disaster preparedness training, but few schools include it in their curricula.

Instructional Methods and Materials: Three online modules for training M1/M2 students in disaster preparedness were created: Overview of the Incident Command System, Triage, and Weapons of Mass Destruction. These topics were selected based on opinions of physicians and emergency services personnel, and identifying disaster preparedness topics taught at other medical schools. The modules were created using word processing, and included interactive questions throughout. Fifteen volunteers completed the modules, pre- and post-tests of knowledge, and an evaluation survey via the RWJMS course management system.

Reflective Critique: Student knowledge, as measured on the pretest/posttest, increased after completing the modules (63% to 83% correct.) All participants agreed the information in the modules was “easy to understand”, and 93% reported they would recommend the modules to a classmate. Many (87%) stated that this was their first exposure to disaster preparedness topics during medical school, and 53% were interested in learning more about disaster preparedness. A limitation was that a small number of students completed these modules. Future directions include refining and sharing existing modules, creating additional ones, and finding a place for the modules within the curriculum.
Short Communication 37: Mechanisms & Practice: An Inter-Clerkship Professional Conference for Medical Students

Michael James Devlin, Patrice Fox Spitalnik

**Goals and Objectives:** The Mechanisms and Practice (M&P) course consists of three one-week classroom sessions between clerkships during the major clinical year (MCY). Its goal is to help students to consolidate key skills, such as medical decision-making and conflict resolution, and to promote further learning during and beyond clerkships. Leadership and teamwork are implicitly emphasized. Particular cases are used as examples of a multi-level approach to thinking about disease from the molecule, its interaction with the cell, tissue and organism to issues of global health and the impact of health and disease in the community.

**Background/Theoretical Framework:** The structure of MCY, consisting of a sequence of core clerkships, provides little opportunity for students to reflect on experience, review relevant theory, and establish goals for further learning. These are all necessary for effective learning. Some medical schools have initiated inter-clerkship or trans-clerkship classroom courses to address similar needs, but this remains a relatively innovative curricular element.

**Design:** In order to differentiate this course from previous courses, we conceive of M&P as a medical conference for students with themes, keynote speaker, plenary sessions, oral/poster presentations, and participant-initiated workshops, as well as ample refreshments. A central feature of the week is the multi-level case in which groups of 4-5 students analyze a case drawn from the preceding clerkship and identify questions at levels ranging from molecular to global. Throughout the week, the group members each research a question and then present as a group at the end of the week.

**Reflective Critique:** Perceived strengths included creativity and depth of student-led workshops, teamwork and excellence in multi-level presentations, and inspiring keynote addresses. In our first year, student feedback highlighted the value of involving students in programming, and the need to include both high-quality learning experiences and planned unstructured time.

**References:**

Short Communication 38: Establishing an Online Database to Connect Medical Students with Physician Mentors

Jonathan Weiner, Alexander Small, Lianna R. Lipton, Kristian Stensland, Jillian Aristegui, Meredith Grossman, Peter M. Gliatto

**Purpose:** We designed and launched a novel web-based database to enable medical students to identify and connect with faculty mentors.

**Background:** Faculty mentors provide medical students with clinical and research experiences as well as contribute to students’ professional development, stress reduction, and social support systems. Students can connect with mentors
through mandatory meetings, faculty-facilitated partnerships or informal individual relationships. Nevertheless, barriers to finding mentors still exist.\(^2\)\(^3\) We aimed to reduce these barriers by assembling a large, diverse cohort of faculty mentors and enabling students to contact faculty based on individual academic and personal preferences.

**Methods:** We recruited faculty at our institution and solicited professional information and mentoring interests via an online questionnaire. Medical students could access faculty profiles through an online searchable web portal. We analyzed the faculty information in the database, and six months after launching the database, we evaluated database usage and effectiveness among first and second year medical students.

**Results:** Of 463 invited faculty, 221(48%) completed questionnaires and were included in the mentor database. Faculty from 48 specialties and subspecialties were represented, including 65 (29%) in Internal Medicine, 36 (16%) in Pediatrics and 34 (15%) in Surgery (all including subspecialties). Faculty expressed interest in general mentoring/career advising (86%), residency planning (60%), shadowing (44%) and research (44%). Two hundred thirty-three first and second-year students (84% of the classes) completed the survey. Overall, 68 (29.2%) students used the database; 73.5% of users found it helpful, and 26.2% reported that it helped them directly find a mentor. Database users set up shadowing (39%), research (18%) and personal advising (9%).

**Reflection:** The online mentor database included a large and diverse group of faculty with all major specialties represented. Students who used the database found it highly beneficial. In the future, we hope to expand student usage of the database.

**References:**


---

**Short Communication 39: Medical Student Boot Camp: A Two-Week Elective for the Advancement of Cognitive and Technical Skills in Preparation for Internship**

Raquel K. Belforti, Adam Kellogg, Lucienne Lutfy-Clayton, Gladys Fernandez

**Objective:** Medical Student Boot Camp is a two-week intensive elective course for third year medical students that highlights the integral components of practicing medicine across three disciplines, Emergency Medicine, Internal Medicine, and Surgery, based on the six ACGME core competencies. The aim of the elective is to provide students with simulated, directly-observed, and evaluated experiences in the critical components of patient care.

**Background:** Some medical schools have integrated boot camp experiences in conjunction with the OSCE to better prepare their students for internship. The challenge faced by medical schools is having their graduates ready for direct patient care responsibilities. Efforts are exhausted to provide the appropriate medical education and exposures to all aspects of providing patient care. However, in the midst of all that is being taught, we must ask ourselves how much is being practiced. Medical Student Boot Camp will provide experiential learning through the simulation of situations and decisions often not experienced until internship.

**Methods:** This elective is comprised of six simulation sessions in which learners will care for two patients from the emergency room to the medical wards to the operating room. The learners will be responsible for all aspects of patient care including orders, documentation, and handovers. The course includes procedure training in suturing and IV access. The learners will be provided with formative and summative feedback on all aspects of their patient care delivery.

**Educational outcomes:** The outcomes from medical student boot camp will include pre and post medical knowledge and confidence assessments as well as quantitative and qualitative evaluation on the boot camp and its impact on the learners’ delivery of patient care.
Conclusion: This elective is an interdisciplinary experience that will provide learners with the opportunity to practice medicine in the safe setting of the simulation lab, as well as receive direct feedback.

Short Communication 40: Educating Medical Students in Practice Based Learning and Improvement (PBLI) through Feedback from Standardized Patient Encounters

Pamela Daun Sass, Klara Katalin Papp

Goals and Objectives: Development of communication skills depends on cycles of practice, feedback, reflection, and continued practice. Students can use feedback from standardized patient (SP) encounters to write independent learning plans.

Background: The ability to use feedback to select a skill to work on, to develop a plan, carry out the plan and reflect on one’s progress is an example of Practice Based Learning and Improvement. Independent learning plans are structured to help learners through that process.

Instructional Methods and Materials: During a primary care clerkship, students received verbal feedback from a SP and the next day received a copy of their own communications rating form. With the rating form in hand, students broke into dyads and chose 2 communications skills to practice during the clerkship and wrote a plan for practice and improvement. In the larger group, each student shared why they chose what skill, and how they planned to practice. At the end of the clerkship, students turned in a reflective essay in which they described the skill, the challenges they faced, and how they would continue to build the skill as they continued in other clerkships.

Reflective Critique: Sixty percent of the first two cohorts of learners (n=85) spontaneously indicated that the ILP helped them improve and the majority indicated the SP feedback was helpful. A majority of students’ reflections revealed that they were able to see improvements in the quality of their interactions with patients as a result of the ILP. This intervention would have been more effective if students had reminders, encouragement, and feedback over time by trained faculty. Using videotapes of the SP encounter could provide an opportunity for richer feedback on which to base an ILP.

Short Communication 41: A Unique Integration of Self-Reflection into a Medical School Curriculum: Utilizing the Interview Process for Self-Assessment and Development at Howard University College of Medicine


Goals: To determine the educational value of creating a senior year medical school elective which integrates the concept of self-reflection into the interview process. This integration would further enhance the student’s development of self-awareness, self-assessment and personal growth, as it relates to the core competency of professionalism.

Background: Daudelin defines reflection as “the process of stepping back from an experience to ponder, carefully and persistently, its meaning to the self through the development of inferences.” Utilizing the residency interview settings as the “experience,” we offer an opportunity for senior students to identify their personal strengths, challenges and values through a series of self reflexive exercises which apply to their interview encounters. Students will be able to self reflect on choice of residency programs and career decision choices. In addition, we hope to impact the level of comfort and effectiveness in performing interviews.

Method: A 4-week experimental course for senior medical students during peak-interview season has been designed. Each student’s progress will be monitored weekly by a dual-role Student Affairs/Clinical Faculty Advisor. Student preparation will begin with mock interviews and pre-selected on-line educational modules (with pre and post tests). Completion of questionnaires and evaluations, on each interview experience, will be evaluated through quantitative and qualitative assessments using the principles of content analysis to identify key themes that are relevant to the assessment and growth of students. Students are required to complete a final course evaluation, generating feedback that will also be assessed.
Potential Conclusions: We will determine the effectiveness of the elective for future usage; compare this style of learning to existing similar courses; identify patterns in residency programs to prepare future students for the interview process; and consider whether this model of study should be shared with other medical school curricula.

References:

Short Communication 42: National Initiative to Develop Competencies in Spirituality and Health Care

Christina Puchalski, Benjamin Carl Blatt

Goals and Objectives: To create competencies in spirituality and health care for health care students and providers.

Background: Spirituality and Health is a new, rapidly growing focus for medical education. In 1995 just three medical schools offered courses in spirituality and health; today 75% have integrated it into their curricula. Their efforts resulted in a diversity of approaches, organized in very different ways, making it difficult for programs to collaborate and for national organizations to track the evolution of the field. In response to the need for a common conceptual framework, the George Washington University's Institute for Spirituality and Health, with funding from the FISH Foundation, organized a consensus conference to develop competencies in spirituality and health for medical education. This conference was attended by representatives from 7 specially selected medical schools and its work was reviewed and ratified by 7 additional medical schools.

Instructional Methods and Materials: The result of this consensus conference were the National Spirituality and Health Competencies. They consist of six content domains: health care systems, knowledge, patient care, communications, personal and professional development, and compassionate presence. Under each domain are 6-12 behaviors and associated teaching and evaluation methodologies.

Reflective Critique: In the future, the Spirituality and Health Competencies have the potential to provide a foundation for the continuum of medical education and to inform curriculum development and research and serve as a guide for licensure exams and program accreditation. Consensus conference schools have already developed curriculum and research projects using the Competences as a guide. These will measure short-term process outcomes include assessments of the knowledge, skills, and attitudes that we believe that medical students should master to meet the spirituality-related medical needs of their patients. Measuring long-term outcomes is a greater challenge that needs to be addressed.

Short Communication 43: The Role of Student Leadership in a Global Health Curriculum: The Experience of Weill Cornell Medical College

Nina Woolley, Justin Haseltine, Madelon Finkel

Project Purpose/Objectives: To determine whether MD/PhD students receive fewer clinical honors compared to MD students.

Background/Theoretical Framework: Obtaining honors, particularly in the discipline of choice, is perceived to play an important role in garnering competitive residencies. Most medical students transition seamlessly from the preclinical years to the clinical curriculum. By contrast, combined MD/PhD students experience a 3-5 year gap in their clinical training. Some students perceive that this may disadvantage them in obtaining clinical honors.

Methods: We compared the number of total and discipline-specific honors and the preclinical grades received by 19 combined degree students (group 1) and 388 MD candidates (group 2) who graduated during the past 5 years. Results: There were no statistically significant differences between grades for the two groups in the 3 preclinical courses (Human Systems – MD/PhD, 79.26 ±1.07; MD, 78.22 ±.33; Human Development and Health – MD/PhD, 85.58 ±.091; MD,
84.55 ± .25; Mechanisms of Disease – MD/PhD, 78.05 ±1.12; MD, 78.14 ±.36). However, MD/PhD students obtained fewer total honors (1.84 per MD/PhD student; 3.13 per MD student; p < 0.01). There were no differences in discipline specific honors in most cases. The two exceptions were Psychiatry and Family Medicine. MD/PhD students received fewer honors in Psychiatry (2 for MD/PhD vs 126 for MD; p=.044) and Family Medicine (0 for MD/PhD vs 94 for MD; p=.014). MD/PhD students were more likely than MD students to receive no clinical honors (42% of vs 11%, respectively).

Reflection/Conclusions: MD/PhD students received fewer total and discipline specific clinical honors than MD students. It is unclear if this puts these students at a disadvantage when applying for residencies or if their PhD degree compensates for fewer honors. While the difference might reflect the gap in clinical exposure, it might also reflect a difference in career goals of the MD/PhD students.

Short Communication 44: The Use of Computed Tomography (CT) Imaging to Enhance the Educational Experience During First-Year Medical School Anatomy Courses at Howard University College of Medicine

Jackie Alvarez, James H. Baker, Bonnie Davis, Andre Duerinckx, Chijindu Nworgu, James S. Wilson, Darah Wright

Goals and Objectives: To determine the educational value of adding Computed Tomography (CT) Imaging in different phases of the first year anatomy course. Adding CT imaging will enhance the teaching and retention of anatomy, make it more clinically relevant and improve self-assessment skills.

Background/Theoretical Framework: Imaging has become essential in today’s medical practice and students need to know more clinically relevant anatomy especially as shown on three-dimensional (3D) images from CT and Magnetic Resonance Imaging (MRI).

Instructional Methods and Materials: Prior to the start of the anatomy course several cadavers are scanned on a 64-slice CT scanner and are viewed by students on their laptops using a free 3D medical image viewer (http://www.k-pacs.de). In addition, several small group learning (SGL) sessions are created using 3D CT and MRI images from real patients with specific easy to analyze pathologies (e.g., scoliosis, spinal disc destruction, coronary artery disease). Students are asked during the SGL to find the abnormalities and write up a “radiology report.” Completion of questionnaires and evaluations at different stages of this process will be evaluated through quantitative and qualitative assessments using the principles of content analysis to identify key themes that are relevant to the assessment and growth of students.

Reflective Critique: We will determine the effectiveness of this combined imaging/anatomy teaching process. Our approach has several strengths: it provides a low-cost educational tool and addresses at least 3 of the 6 core ACGME competencies: medical knowledge, patient care and communication skills. A limitation is the need for added training of instructors and students in using the viewing software. Future directions are to make these tools available on tablets (like iPads), to add ultrasound images, and to obtain CT scans from more cadavers every year.

References:

Short Communication 45: Innovation to Assess Clinical Reasoning of MS-2s

Lisa Auerbach, Mimi McEvoy, Patrick Herron, William Boswell Burton, Felise B. Milan

Objective: Develop a grading rubric for an observed-structured-clinical-examination (OSCE) post-encounter note to assess clinical reasoning of second-year medical students in a physical diagnosis course

Background: LCME requires medical schools to include ongoing assessment of students’ clinical reasoning (ED-28). Yet, few measures to assess clinical reasoning exist. (1,2)
Materials: 185 students completed two OSCE stations and a post-encounter note in which students listed the three most likely diagnoses plus three supporting history items for each diagnosis. We developed a rubric to assess students' clinical reasoning. Four MDs from varied disciplines separately generated a list of differential diagnoses (DDs) with supporting historical evidence for each case. We devised a grading system assigning points for correct DDs, historical supporting evidence and a global rating of clinical reasoning. Total possible score equaled 30 points per note. We finalized the rubric by consensus. The 4 MDs graded a pilot batch of 50 notes. We edited the rubric based on feedback from graders and a group discussion of scoring strategy. Then, they graded the remaining 320 notes. We assessed interrater reliability by correlating the scores between each pair of raters.

Educational outcomes: Inter-rater reliability among the four scorers ranged from 0.74 – 0.93 for DD, 0.60-0.91 for historical evidence, and 0.49 – 0.56 for global ratings. We plan to compare students’ clinical reasoning scores with their actual clinical performance scores on history, PE and communication skills.

Innovation’s strengths/Areas for improvement: This rubric and grading system hold promise for assessing clinical reasoning on an OSCE, which could be adapted for use with other cases. However, rater training and creation of a rubric for each case entails a significant investment of time and expertise. Further research is needed to explore the predictive value of this grading rubric and the relationship among clinical reasoning, cognitive ability and clinical performance.

References:

Short Communication 46: Translating a US Medical Curriculum Abroad: A Study on Cultural Dissonance in International Education

Ryan Shields, Nicole Shilkofski

Background: There has been ample research regarding the experience of minorities and international students in medical schools around the world, but little research has examined the impact of the recent exportation of medical curricula to other countries. Johns Hopkins University School of Medicine (JHUSOM) recently partnered with Perdana University Graduate School of Medicine (PUGSOM) in Kuala Lumpur, Malaysia and implemented the Genes to Society (GTS) curriculum currently in use at JHUSOM in Baltimore. This study explored the perspectives of the first-year medical students currently at PUGSOM focusing on issues of cultural dissonance in their relationships with professors, adapting to the GTS curriculum, and the teaching of patient-doctor communication in a multi-cultural, multi-lingual society.

Methods: In-depth semi-structured interviews with the first class of first-year students at PUGSOM (n=23) were conducted. All interviews were audio recorded. Recordings were subsequently transcribed, independently coded by two reviewers and analyzed for major themes.

Results: Several major themes were identified and included adjusting to an American pedagogy and adapting to the friendliness and openness of the professors. The most prominent theme was the interactivity expected in the classroom and the transition from a “passive” to an “active” learning environment. Students noted that “[PUGSOM] is a whole new, different culture and now we are adapting to the culture.” Clinical teaching involving open-ended questions, patient-centered interviews, and strong patient-doctor relationships were almost universally accepted by students and deemed appropriate for a Malaysian context. However, many noted that this open communication was often not seen during their clinical experiences in the community due to physician time constraints.

Conclusion: While Malaysian graduate medical students may come from a more passive pedagogical background, they almost uniformly supported an American style curriculum and felt they could confidently apply the lessons and strategies used in clinical teaching when seeing patients in Malaysian clinics.
Short Communication 47: Terminal Care E-Learning for Preclinical Students

Chung Sang Tse, Matthew Ellman

Goals and Objectives: Our goal is to design and implement a curricular module to teach medical students about the dying process, treatment of terminal symptoms, and fundamentals of hospice care.

Background: Although required for accreditation, medical schools struggle to effectively teach students palliative and terminal care: graduating students often feel unprepared to deal with end-of-life issues.1-2 E-learning might be an effective component to begin to teach medical students about terminal care.3

Instructional Methods and Materials: In 2012, we developed an e-learning module entitled "Life, Death, & Medicine: The Dying Process, Terminal Care, and Hospital Care" to teach students interactively through case studies, scripted dialogues, video clips, and multiple choice questions with real-time feedback. The module is accessible via an internet link and can be deployed on the iPad and desktop computers.

To evaluate the effectiveness of this module, a quantitative survey was distributed to 60 second-year medical students, 33 who pilot tested the online module and 27 who did not pilot test prior to a required half-day palliative care/hospice experience. Those who completed the module were more knowledgeable in terminal care issues though their attitudes towards end-of-life care/palliative care were not significantly different in comparison with the 27 who did not complete the module.

Reflective Critique: Strengths of this new e-learning tool include its content, which is supported by the literature and is appropriate for pre-clinical students. The interactive features and flexible accessibility of the module was reported as an asset. Limitations of this pilot assessment include the small sample size and the possible effects of self-selection bias among the participants. We plan a focus group to gather qualitative feedback from students and an evaluation of effectiveness with a larger sample of randomized participants. We believe this educational tool could prove useful for curricula in other medical schools.

References

Short Communication 48: MBSR Improves Measures of Wellness in Medical Students

Mert H. Erogul, Gary Singer, Thomas McIntyre

Purpose: To evaluate the effect of a brief mindfulness based stress reduction (MBSR) course on measures of wellness in a population of first year medical students.

Background: While there is a clear rationale for preventative services and curricular tools to foster wellness and improve stress management for medical students, there are as yet no agreed upon methods to address these competencies. MBSR is a promising intervention to enhance emotional well-being and psychological health.1-3

Methods: Fifty-eight participants were randomized to control or MBSR intervention. All participants were assessed using the perceived stress scale (PSS), the resilience scale (RS) and self-compassion scale (SCS) at three separate time points: baseline, at the conclusion of the study intervention (8 weeks) and at 6 months after the conclusion of the intervention.
**Results:** The treatment group achieved significant increase on SCS scores both at the conclusion of the study (0.58, 95% CI 0.23 to 0.92, p=0.002) and at six months (0.56, 95% CI 0.25 to 0.87, p=0.001). PSS scores achieved significant reduction at the conclusion of the study (3.63, 95% CI 0.37 to 6.89, p=0.03) but not at six months post study (2.91, 95% CI -0.37 to 6.19, p=0.08). The study was not able to demonstrate a difference in RS after the intervention, though RS was significantly correlated with both SCS and PSS.

**Conclusions:** A brief MBSR intervention improves perceived stress and self-compassion in first year medical students in a lasting way and may be a valuable curricular tool to enhance wellness and professional development. It remains to be seen to what extent the observed benefit derives from the cognitive component of classroom learning as opposed to the experiential component of home meditation.

**References:**

**Short Communication 49: The Interprofessional Ambulatory Care Clerkship: A Medical and Pharmacy Student Collaborative Practice Initiative**


**Goals:** To foster understanding of and respect for other professionals; enhance team learning and communication skills; inculcate professionalism; and promote an ethic of safer, better medical care, Cooper Medical School of Rowan University and Philadelphia College of Pharmacy, University of the Sciences created a longitudinal interprofessional education (IPE) experience starting early in training for medical and pharmacy students: an ambulatory clerkship based in the new Camden Community Collaborative Practice, a free clinic for the underserved.

**Background:** The Interprofessional Education Collaborative states the goal of IPE is to prepare students for working together toward better health care\(^1\); the WHO has highlighted the importance of and mechanisms to promote this, but notes that educational efforts are lagging.\(^2\) The literature suggests that educators and healthcare professionals must collaborate to provide authentic learning.\(^3\)

**Methods:** 50 M1s and 25 P1s were assigned to 12 teams (2:1 ratio). Weekly, half of each team is at an away site while half is in the CCCP. Students at away sites sign out patient care to the other half of their team to ensure safe, coordinated care. Under medicine and pharmacy faculty supervision, students perform all practice duties, including scheduling, front desk, rooming, H&Ps, dispensing medications, counseling, and sign-out. No distinction is made between M1 and P1 students. Away sites include community pharmacies, Pediatrics, a retirement community, Male Sexual Health, Women’s Care, HIV Medical Home, Family Practice, and private PCPs. These experiences provide patient exposure and didactics; students prepare reports reflecting on the application of them to their own practice.

**Reflection:** The course has been very well received by students, faculty and patients. Challenges include space restrictions and academic schedule coordination. Future directions include expanding to accommodate a growing student body; following patient outcomes; and measuring students’ preparation for IP practice.

**References:**
Short Communication 50: Integration of an Innovative LGBT Health and Competency Curriculum in Clinical Medical Education

Hilary Maia Grubb, Hilda Hutcherson, Jonathan Amiel, Jane Bogart

Lesbian, gay, bisexual and transgender (LGBT) individuals face documented health disparities, perpetuated in part by limited LGBT-related content in medical education curricula. Medical associations including the Association of American Medical Colleges, the American Medical Association, and the Institute of Medicine acknowledge these curricular deficits and call for LGBT-related curricular content inclusion in undergraduate medical education. In response, in collaboration with faculty I developed an LGBT Health and Competency Curriculum for clinical medical students at Columbia University.

The objectives of the project included conducting a needs assessment, creating and implementing the curriculum, and assessing its impact on students’ attitudes, medical knowledge, and clinical skills with a pre- and post-curriculum survey. The specific learning objectives of the curriculum were 1) Describe aspects of human sexuality, including sexual orientation, gender identity, and sexual and gender expression 2) Describe appropriate terminology related to LGBT populations 3) Identify health disparities and specific health care needs of LGBT populations 4) List strategies for creating a safe and welcoming clinical environment for LGBT patients.

The pilot curriculum was taught in June 2012 to the class of 2014 as part of a required Human Sexuality course during the clinical clerkships. The two-hour module included a syllabus, didactic lecture, and interactive panel of LGBT-identified patients. Preliminary results of the pre-and post-curriculum survey indicate increases in awareness of LGBT health disparities, medical knowledge of LGBT health concerns, and confidence providing sensitive care to LGBT patients.

Strengths include inclusion in the required curriculum for all clinical medical students. Adaptability to myriad educational contexts is another strength, and I am currently adapting the curriculum for the Family Medicine residency. Limitations include limited curricular time, and lack of additional electives for students seeking further education. Future developments include additional time for small group, case-based learning, and opportunities for students to engage in self-reflection.

References

Short Communication 51: Evaluating the Clinical Utility of Diagnostic Support Software which Customizes Tables for Comparing Diseases in the Differential Diagnosis

Fredrik Amell, Brian Bassiri, May Choi, Arjun Iyer, Josh Ross, Nicolas Furlani, Ray Beyda, Paul Sousa

Medical apps are widespread among medical students and more than 21 different diagnostic applications (“apps”) have been described. 1-2 Current apps fail to support what diagnostic educators refer to as the critical balance between conscious analytic and unconscious non-analytic clinical reasoning.3 Non-analytic reasoning quickly suggests possible diseases while analytic reasoning rules reviews and refines the differential. Using encyclopedic reference-oriented apps (i.e. Medscape app, etc.) provide extensive descriptions of specific diseases which risk hyper-focusing the user on one disease at a time thus hindering the conscious analytical comparison of multiple diseases needed to avoid confirmation bias. Apps that build differentials by entering signs and symptoms (i.e. Isabel) are equally limited in their ability to facilitate a thorough comparison.
of multiple diseases. Without a more sophisticated framework to compare pre-test findings, the user may hastily order an over-abundance of tests.

*Book of Pearls* is a novel diagnostic support app which supports both non-analytic and analytic thinking. The clinical student, resident or attending uses non-analytic thinking to rapidly enter three diseases that come to mind after finishing the HPI. The program then creates a customized comparison table which the user can analyze quickly to determine which findings most efficiently distinguish his disease choices, or change pre-test probabilities. Maintaining sufficient breadth for analytical comparison avoids early confirmation bias. Also, the expediency of referencing comparison tables caters to uninterrupted bedside diagnostics. With the help of two programmers, the authors have already created a functional proof-of-concept and will share objective performance measures (compared to Isabel) gathered from a randomized clinical trial with standardized patients and 20 clinical students. Evaluators and standardized patients, blind to student’s program type, will assess diagnostic reasoning as well as the impact of each app on the doctor-patient interaction.

**References**


**Short Communication 52: Establishing Content Validity of a Novel Written Examination to Assess Medical Students on the Surgery Clerkship**

Anna Reinert, Ana Berlin, Aubrie Swan Sein, Roman Nowygrod, Abbey Fingeret

**Introduction:** Objective appraisal of student performance on the Surgery Clerkship has traditionally relied on the National Board of Medical Examiners Surgery Subject (“Shelf”) Examination, which assesses surgical knowledge, but not the nuanced domains of clinical reasoning, communication and professionalism. The Surgery Clerkship Clinical Skills Exam (SCCSE) is a novel written examination developed to assess surgical knowledge, clinical reasoning, communication skills and professionalism of medical students on the Surgery Clerkship. Each clerkship block examination comprises five clinical scenarios from a pool of 20. Our aim is to demonstrate the content and construct validity of the SCCSE as an objective evaluative instrument that assesses student performance in these domains.

**Methods:** Assessment data for 154 students completing the surgery clerkship from January 2012 through December 2012 were collected. Construct validity of the SCCSE exam components, and alignment with other measures of student performance, will be examined using an exploratory factor analysis with the following student exam scores: 1) sub-section scores from the SCCSE within the content areas of anatomy (average of 12% of exam questions), obtaining a history (14%), physical exam (10%), composing a differential diagnosis (6%), radiographic image interpretation (10%), patient management (40%), and communication skills (8%); 2) surgery shelf examination scores, and 3) clinical faculty ratings of student fund of knowledge, clinical reasoning, communication skills, and professionalism.

**Expected Results/ Conclusions:** Our hypotheses are that the intended domains of the SCCSE will emerged from the exploratory factor analysis as “factors” (or unique areas of student competency). This would demonstrate that the SCCSE can objectively assess student performance in these domains. Being able to utilize another source of student assessment data, beyond the shelf exam and faculty ratings of student performance, can help clerkship directors to give domain-specific feedback to students and to more objectively assign students a clerkship grade.
Short Communication 53: Teaching Values and Compassion: An International Charter

Elizabeth A. Rider, Ming-Jung Ho, William Branch Jr., Diana Slade, Jack Pun Kwok Hung

Goals & Objectives: To describe the International Charter for Human Values in Healthcare. To promote use of the Charter to teach humanism, compassion and professionalism.

Background: The human dimensions of healthcare are fundamental to practicing compassionate, ethical, and safe relationship-centered care. Accrediting organizations require teaching of humanistic skills. Attending to these improves health outcomes, quality of care, and patient/clinician satisfaction, yet these dimensions have not yet received the emphasis necessary to make them central to every healthcare encounter.

Design & Results: We established an International Collaborative of healthcare communication experts to identify and promote the core values that should be present in every healthcare interaction, and to translate these values into education, research and practice.

The Collaborative and four participating groups – National Academies of Practice (NAP), International Conference on Communication in Healthcare, Interprofessional Patient-Centered Care Conference, American Academy on Communication in Healthcare Forum – identified values for all healthcare interactions and prioritized top values. The NAP group also prioritized top values for interprofessional interactions.

Through iterative content analysis and consensus, we identified 5 categories of core human values: Capacity for Compassion, Respect for Persons, Commitment to Integrity and Ethical Practice, Commitment to Excellence, and Justice in Healthcare.

Through further consensus and Delphi process, we identified values within each category. We are using the values of the resulting Charter1 to develop methods to teach humanistic care.

Reflective Critique & Future Directions: The International Charter for Human Values in Healthcare is a cooperative effort to restore core human values to healthcare around the world. We have developed an interactive website. Major education partners have joined this international effort. We are developing ways to use the Charter in medical education, including trainee opportunities to identify and discuss their values, enhance professionalism, and others.

Reference:
1. http://charterforhealthcarevalues.org

Short Communication 54: Changing Times: Changing the Way Anatomy is Taught

Harold Moskowitz

During the past decade, there has been increasing controversy over how much anatomy should be part of today’s medical student’s curricula. Many schools have reduced the number of hours dedicated to anatomy education and, additionally, there has been a shortage of qualified anatomists to teach anatomy. In addition, there have been significant questions raised about the value of the long hours spent during dissection and the ability of the student to retain much of this material.

Since everyone agrees that understanding gross anatomy often permits a physician to understand the pathophysiology of a patient’s disease, the question then arises how best we can teach anatomy since the consensus is that lectures don’t work and students forget what they have done in the dissection lab.

At UCHC we have addressed this issue by adding radiologic imaging to our anatomy course. Digital technologies, and new cross sectional techniques, permit us to demonstrate and define anatomy in ways that were never possible, facilitating our student’s ability to learn and hopefully retain this material.

We begin with lectures about the basic principles of radiology that permit a student to understand why and how an image is created on film. Each day we place correlative films in the dissecting laboratory corresponding to the dissection the students are performing. We have created an extensive website that permits the student to review these films and has additional
material that will enhance their appreciation of the gross anatomy. The website has computerized tutorials, often created by students as summer projects that permit a student to review and learn the material at their own pace.

We have attempted to ascertain whether this program has benefitted our students and whether they retain and use gross anatomy as they progress throughout their medical school careers. The results will be demonstrated.

**Short Communication 55: Medical Education Pathway: Developing Educators of the Future**

Celeste Song, Barbara J. Davis, Colleen T. Fogarty, Anne C. Nofziger, Stephen Lurie, Medical Education Pathway Committee

**Objectives:** To understand and characterize the contribution of the University of Rochester School of Medicine’s Medical Education Pathway (MEP) to participating students’ self-identity as an educator. Program development is a secondary objective.

**Background:** In recent years, much attention has been focused on developing tomorrow’s academic medicine workforce. Many US medical schools have specific programs for this purpose. Few programs have reported evaluatory measures to characterize the experience of the medical student as teacher, and the program’s contribution to that process.

**Methods:** We conducted audio-recorded interviews with eight out of the ten MEP students graduating in 2012, using an interview format of seven main questions with additional probes. Each participant’s MEP application included a written narrative, which was also included as data. In addition, four students provided written responses to pre-interview optional prompt questions. Data are being analyzed by the first and second authors, using standard approaches to qualitative analysis, including template style and immersion crystallization.

**Results:** Students report feeling prepared to teach in residency and in their future careers. Specific skills gained during the MEP experience include small group facilitation, feedback, and lecturing, among others. The effect of the MEP on self-confidence levels varied. Students’ perceptions of barriers to an academic career were either unaffected or decreased after participation in the MEP. Some program changes have been made as a result of the interviews.

**Conclusions/Reflection:** Students as teacher programs are an effective way to prepare participants for teaching roles in their future careers. In-depth evaluation of these programs may contribute to curriculum development. Potential limitations of this study include a low number of participants, and having only two data analyzers.

**References:**

**Short Communication 56: Opera and Medical Education**

Joseph Murray

**Background:** Physicians have often been criticized for focusing on disease, science, and technical precision at the expense of getting to know their patients. Humanities have been introduced into medical education with an effort to help physicians-in-training and residents better appreciate non-technical aspects of medical practice: exploration of patients’ emotions and values, rapport-building, patient-centered care. In particular, the humanities can be used to help medical students and residents learn to look for meanings beneath the surface. Narrative, visual arts, and music have all been used to invite deeper
exploration into emotion, values, and meaning 1-3

Methods: Over the past 4 years, Weill Cornell Medical College has offered the opportunity for students to study one opera in-depth and examine its relevance to some aspect of the physician-patient relationship. Students in their first year of medical school were invited to participate. Over the past 4 years, 80 students have participated in this project. Prior to attending an opera, a small group of students attended a pre-opera workshop in which a major theme of the opera was explored. Utilizing the operas Orfeo ed Euridice, Don Giovanni, Lucia di Lammermoor, and La Traviata, as well as the Broadway musical Rent, students examined the themes of grief and mourning, ambivalence, insanity, and falling in love.

Results: In post-workshop surveys, students have favorably cited the opportunity to re-explore elements of the humanities, particularly through the medical lens. Students also favorably commented on the pleasure of exploring aspects of culture outside of the traditional sphere of medical education.

Conclusions: How can opera contribute to medical education? The genre of opera invites listeners and viewers to explore meaning above and beyond the basic text through a study of melody, harmony, orchestration, acting, and staging. Much is communicated beyond words alone. In addition, the stories of many operas lend themselves readily to themes that commonly emerge in the physician-patient relationship.

References:

Short Communication 57: A Short Yoga and Meditation Intervention Improves Residents’ Stress, Burnout, and Maladaptive Coping Skills: A Pilot Study

Robert Edward Graham, Vivek Kesar, Julie Graham

Background: Residency training is widely recognized as a very stressful period. Recent studies have painted a bleak picture of the mental health challenges facing stressed-out medical students and residents. In fact, JAMA stated that the students’ malaise could end up hurting the patients they treat. Residents often feel stressed about situations they can’t control—schedules (rotations), work hours, sleep deprivation, time pressure, excessive workload, burdensome clerical and administrative responsibilities and pages, information overload, and ward teams they are assigned. Our objective was to help medical residents better manage work-related stressors and positively impact employee health.

Methods: A four-week yoga and meditation intervention single-armed pilot study. Ten medical residents participated in bi-weekly 45 minute Hatha yoga and meditation sessions. The sessions included both physical postures and breathing exercises, encouraging the elicitation of the relaxation response. The classes did not require the residents to change their clothing, or even work-up a sweat. Yoga postures and breathing techniques were completed in sitting and standing positions. The efficacy of intervention was assessed by comparing the Perceived Stress Scale (PSS) questionnaire scores at baseline, after two weeks, and finally after completing four weeks. Results were analyzed using the SPSS version 16. Paired T test was applied for analysis.

Results: The mean PSS score at baseline and end of study did not differ significantly. However, sub scale analysis revealed significant reduction (p= .009) in the question, “How often have you been angered because of things that were outside of your control?”

Conclusion: Despite a small sample size and short duration of study we found significant reduction in residents’ stress when “things that were outside of their control.” The results indicate yoga and meditation may be a promising intervention to help residents cope with stress; however, future research is needed in order to assess and improve their overall wellness.
Short Communication 58: The Chief’s Seminar: Motivating Residents to Master Clinical Reasoning

Vanya Grover, Christopher Dittus, Georgia Panagopoulos, Kenar Jhaveri

Goals and Objectives: Postgraduate medical education is primarily lecture-based learning, which has been unchanged for decades. The need for physicians to become active, independent learners has modified undergraduate medical education (1). This has not been adequately adapted in the postgraduate medical education setting. To accommodate these changes, we propose a reproducible, interactive problem-based teaching curriculum led by chief residents.

Background: Problem-based learning is a well-described method of interactive learning. It has been found to promote retention of knowledge, improve problem-solving skills, and strengthen student motivation.1-3

Methods and Materials: The curriculum is divided into twelve modules (topics) and each module is taught over the course of one month, in one-hour weekly sessions. The topics are based on chief complaints (e.g. “dyspnea,” not “pneumonia”). These are then divided into three weekly subtopics (e.g., pulmonary, cardiac and hematologic causes of dyspnea).

To engage and motivate residents, the first week of each module begins with a topic-based crossword puzzle competition. In the following three weeks, the residents are divided into small groups to review four differentials in each sub-topic. Specifically, we review the history and physical, diagnostic work up, triage and management of each differential. This method engages the resident and allows them to arrive at a diagnosis through structured clinical reasoning.

Reflective Critique: Strengths of our curriculum include an improvement of retention of information. We evaluated our curriculum via pre- and post-course five-item quizzes. The results reveal a statistically significant increase in five-item quiz scores for three out of our first four seminars. Limitations include the participation of only interns due to the large size of our residency program. Moving forward, we are collecting intern feedback on the sessions and adapting the subsequent modules to improve resident education.

References:

Short Communication 59: Oculoplastics Clinical Pathologic Correlation Conference: An innovative and Collaborative Model for Interdisciplinary Education

Maxwell Elia, Michele Johnson, Flora Levin, Javier Servat, John Sinard, Ze Zhang

To refine a model for integrated patient-focused, interdisciplinary conferences to enhance learning and education between subspecialist trainees. To implement and validate this model.

The interdisciplinary conference is a valued form of patient-centered, case-based learning. Subspecialty trainees are often called upon to present cases from “soup to nuts” including the clinical, radiological, surgical and pathologic features. Inclusion of subspecialty trainees from various disciplines can enhance learning and provide an opportunity to teach fellow trainees.

Literature review on the values of defining roles in the multidisciplinary conference setting and recent experience with an interdisciplinary conference in the neurosciences formed the basis for this endeavor. We apply a new model to an oculoplastics clinical conference where ophthalmology, neuroradiology and pathology come together to present and learn.

Faculty sponsors from ophthalmology, radiology and pathology mentor trainees in case selection, discussion and review. The PowerPoint format includes clinical presentation and ophthalmologic exam, questions to be asked of attendees about clinical
features, imaging and differential diagnosis. Imaging includes the patient images, questions for attendees and companion cases depicting differential diagnosis. Surgical description precedes pathology specimens, histology and companion cases. A review of the entity is presented with attending comments as appropriate. Our intervention was to design and standardize a teaching format to enhance the learning opportunity for all participating trainees. Subspecialty trainees become collaborators and stakeholders in the activity, enhancing communication, learning and satisfaction.

This model has resulted in improved quality and integration of imaging with the clinical and pathologic presentations. The addition of questions within the format facilitates development of conference materials as self-assessment tools for learning and board review. A medical student (ZZ) has been instrumental in the development of a uniform format for this purpose. We plan to develop metrics for validation, quality assessment and continued improvement.

References


Short Communication 60: Formation of a New Rheumatology Academy as a Model for Expansion into an Inter-Institutional Multi-Disciplinary Academy

Jessica R. Berman, Juliet Aizer, Anne Bass, William Cats-Baril, Edward Parrish, Laura Robbins, Jane Salmon, Stephen Paget, Peggy Crow

Medical educators may be excellent clinicians, superb investigators or first-rate surgeons, but having a medical degree alone does not always translate into being an effective teacher. In order to foster excellence in teaching, Academies of Medical Educators have been developed at 36 US academic medical schools.

The Hospital for Special Surgery’s (HSS) Education Academy came about following an education retreat in May 2011, after which a consensus statement regarding the goals and priorities of a proposed Academy was then formulated based on data obtained, namely to: create a stimulating academic environment that enhances the quality of teaching, define a clear and effective structure for education programs, promote teaching excellence at all levels, elevate the status of medical educators in the division, and create funding for innovative education ideas.

Soon after, the Academy’s Board of Directors Advisory Committee was formed, made up of nationally known education faculty who were invited to participate in overseeing new education developments and serve as grant reviewers for the newly formed HSS Academy Innovative Grants Funding Program. Through the donations of generous supporters the first cycle of funding this year provided resources for 3 new faculty curricular innovations.

With the support of the Academy, recent innovative education projects at HSS include the NYC- Rheumatology Objective Standardized Clinical Exam and the collaborative NYH-HSS Arthrocentesis Simulation Training on Cadavers. New feedback initiatives have been introduced to the HSS clinics and a new Ethics Course and Epidemiology Journal Club begun.

The recently formed Education Research Working Group, attended by people from 5 institutions across the city in 5 different disciplines officially marks the Academy’s expansion into an inter-institutional and multi-disciplinary cohort of committed and enthusiastic educators and researchers with endless possibilities for sharing ideas, collaborating and helping each other to refine our already successful programs.
Short Communication 61: Lecture Halls in the 21st Century: Examining the Use of Technology in the Classroom

Jonathan Hansen, Matthew Bartek, Susan Billings-Gagliardi, Melissa Fischer, Boyd F. Richards

Background: Medical education faces the difficult decision of how to best utilize technology. A spectrum of classroom technology use exists within medical education. Medical schools are basing decisions on external perceptions, personal preference or anecdotal evidence. Despite this heterogeneity, there is a lack of research that addresses how medical students use technology in the lecture hall. There is a need for evidence-based decisions regarding technology in medical education.

Objectives: This study examines: 1) In a second year medical school lecture, what proportion of students are engaged in activities which enhance versus distract from accomplishing classroom learning objectives? and 2) What lecture characteristics are associated with how the student or educator use technology and how can it be best optimized?

Methods: Trained observers will collect data from second year medical students at Columbia University and the University of Massachusetts in January and February. Observations will use a standardized, published, medical educational observation tool (STROBE). The use of electronic devices will be recorded as enhancing or distracting from learning objectives at three specific time points during each lecture. Multiple lecture characteristics will also be recorded simultaneously. Additionally, student interviews regarding technology use will also be performed.

Results: We will present observed frequencies of enhancing versus distracting use of technology. Correlations between these frequencies and lecture characteristics will be identified to determine what factors shape student's technology behavior during lecture. Qualitative interview data has already been collected.

Conclusion: This study will explore medical student's use of technology in a quantitative manner. Inferring that a student's screen is representative of a student's thoughts requires appropriate interpretation of study results. Finally, this study will shed light on important contemporary questions regarding medical education's use of technology and inform future directions of how to best utilize technology to enhance student learning.

References

Short Communication 62: Unprofessional Medical Students - Can We Remediate?

Deborah J. Ziring, Suely Grossemann, Amanda Esposito, Deborah S. Danoff, Steven Rosenzweig, Kouresch Jan, Dennis Novack

Purpose and Objectives: To address the lack of information in the published literature on remediation programs for unprofessional medical students, the authors surveyed all LCME accredited medical schools in the United States and Canada. Specific objectives were:

1. Determine the current policies and procedures for monitoring of medical student professionalism
2. Identify the roles of individuals responsible for dealing with medical students identified as unprofessional
3. Gather qualitative and quantitative data on examples of unprofessional medical students
4. Inventory methods for remediating unprofessional medical students
Background: The need to specifically teach and evaluate medical professionalism has received increasing attention in the past decade with the 2009 LCME standard MS 31A specifically addressing this subject. This standard requires medical education programs to promote development of professionalism attributes, assess these attributes and remediate deficiencies identified. Schools have been implementing professionalism programs; however, there has been limited attention to remediation. The Perspective in December 2012 Academic Medicine by Papadakis et al highlights this concern.

Methods: All US and Canadian LCME accredited schools were surveyed by email and telephone with a structured interview questionnaire containing both open-ended and closed questions. Data was analysed using descriptive statistics for quantitative data and content analysis for qualitative data.

Results: Complete data was obtained for 85 of 154 eligible schools (55% response rate). Preliminary analysis shows variability in the oversight of professionalism remediation with central attention in the preclinical years and dispersed attention at the clinical level. The most commonly identified unprofessional behaviors were tardiness, unexcused absences and cheating. Corrective actions ranged from written assignments to dismissal (for illegal activities).

Reflections and Conclusions: Remediation for unprofessional medical students is an important issue. This study provides data as a foundation for the needed discussion of the current state of professionalism remediation and development of best practices.

References:
3. Papadakis MA, Hodgson CS, Teherani A, Kohatsu ND. Unprofessional Behavior in Medical School Is Associated with Subsequent Disciplinary Action by a State Medical Board. Academic Medicine 2004 Mar; 79(3); 244-249.

Short Communication 63: Membranes, Ions, and Signals: A Faculty-Initiated Integrated Module for First-Year UGME

Daniel Gardner, Olaf Sparre Andersen, Lonny Levin

The rapid pace of basic and translational findings presents the challenge of positioning UGME students to use new and emerging tools of 21st-century practice. Moreover, first-year students include many non-science majors with varying prior exposure to neuroscience, mathematics and physics. To provide a common substrate for competency development in this diverse cohort, an introductory Molecules to Cells course was designed in 1996 by D.G., O.S.A., and colleagues. Now Molecules, Genes, and Cells (MGC), it spans proteins, lipids, genetics, biochemistry, cell biology, and biophysics.

We now report design, implementation, and three years of experience delivering a faculty-initiated integrated Membranes, Ions, and Signals (MIS) module within MGC incorporating:

- plasma membrane and compartments
- structure/function of membrane channels, transporters and receptors
- neuronal electrophysiology
- signals and information: synaptic, cellular, cytoplasmic, and nuclear

MIS offers optimal sequence, schedule, and presentation formats to: 1) aid understanding of this essential and conceptually difficult material, and 2) integrate topics and relate them to contemporary findings and translational promise. Staffing is interdepartmental, via Physiology and Biophysics, Pharmacology, Biochemistry, and Cardiology. MD-PhD students participate as journal club instructors.
Multimedia enhance impact, student understanding, and continuing retention of content. MGC students are given iPads as portable, annotatable delivery devices; these and dedicated Web sites provide full curricular material:

- Slides for all lectures
- Outlines or transcripts
- Video lectures with navigable slide sets for review
- Journal club papers
- Problem sets

A computer lab on signals, channels, and structures utilizes both in-class workstations and iPads.

Conventional evaluations confirm student mastery. Student evaluation of MIS content, integration, and multimedia is highly positive with valuable suggestions for further planned refinement.

This senior-investigator team-B-initiated model readily implements innovations in UGME, complementing traditional formal curricular processes.

---

Short Communication 64: The Weill Cornell Community Clinic: Service Learning in the Context of a Patient-Centered Medical Home Framework

Jiahui Lin, Megan Christine Riddle, Jonathan B. Steinman, Josh Salvi, Margaret M. McGlynn, Christina Harris, Carla Boutin-Foster

**Goals and Objectives:** Despite the growing importance of the patient-centered medical home (PCMH) for healthcare delivery, medical students receive limited exposure to this practice model. Here we describe the development and implementation of the Weill Cornell Community Clinic (WCCC), a student-run free clinic that provides medical students with early exposure to the PCMH model.

**Background/Theoretical Framework:** The PCMH model promises to provide healthcare that is more accessible, effective, efficient, and safe, while simultaneously bending the cost curve. Components of the PCMH include a personal physician, physician-directed medical practice, a whole-person orientation, integrated care, quality and safety assurance, and enhanced access for patients. Integrating the PCMH into medical curricula allows students to establish long-term relationships with patients, learn to work in interprofessional teams, learn methods of quality assurance and patient safety, and develop proficiency in the use of electronic health records (EHR).

**Instructional Methods and Materials:** The WCCC has incorporated tenets of the PCMH model into its practice. Taking on the role of the physician, student session coordinators direct the clinic team while clinical directors oversee patient care throughout the year. Integrated care involves providing in-house mental health and women's health nights, and referrals to specialty clinics at reduced cost. Medical students and social health workers perform psychosocial screenings to assess mental health and eligibility for government assistance programs. The WCCC utilizes healthcare maintenance lists, EHR-managed dashboards, and nightly checklists, in addition to tracking healthcare provider hand-washing for quality and safety assurance. Multiple modes of communication and prescription reimbursement increase patient access.

**Reflective Critique:** The PCMH model can be effectively implemented within the limitations of a low-budget student-run clinic. The adoption of this approach by student-run clinics nationwide could provide a substantial opportunity to improve medical education and better prepare future physicians to practice within this new model of healthcare delivery.
Short Communication 65: Off to the Right Start: A Model for Developing Collaboration with Nurses Early in Medical School

Lee Rosen, Suzanne Murdock, Colleen Moran

Objectives and Background: At the University of Vermont College of Medicine, we have developed a model for inculcating in our first-year medical students understanding of and respect for nurses and nursing.

Effective teamwork among physicians and nurses appears to be an essential feature of good health care – improving patient outcomes and decreasing errors and cost. Nevertheless, institutional separation between medical students and nurses (and nursing students) is the rule rather than the exception. Communication between nurses and physicians remains problematic in many settings, resulting in in and poor coordination. Nurse shadowing in the first year of medical school has been found to improve attitudes and knowledge among medical students. We extended and reinforced this curricular intervention – supplementing nurse-shadowing with small-group dialogue between medical students and nursing students.

Method: All UVM’s first-year medical students participated in a mandatory, one-on-one shadowing experience with inpatient nurses at our clinical affiliate. Students processed this experience in small groups, which included senior nursing students from UVM’s College of Nursing. In addition to debriefing their shadowing experience, medical students and nursing students engaged in dialogue about their training experiences, and nursing students were encouraged to offer advice from their clinical training. Medical students wrote open-ended reflections on these experiences. To measure the impact, students’ reflections were subjected to content analysis.

Results: Reflection content categories were developed and tested for reliability. Analyses of students’ reflections indicated a vast majority (96%) indicating a positive response to these experiences. Themes that reliably emerged included: improved understanding of nurses intimate knowledge of patients (100%); identification of the importance of interprofessional communication (98%); feelings of humility (18%); feeling re-energized about medical school (12%).

Reflection: We have developed an innovative, effective model for introducing medical students to their future collaborators. Replication, expansion, and further evaluation of this curriculum are warranted.

References:

Short Communication 66: Medicine of the 4th and 5th Dimension

Michael D. Lockshin, Gregory McDermott, Lester Zambrana, Alana Belfield Levine

Background/Objectives: Medical students learn about acute illness but rarely encounter concepts specific to managing chronic, non-lethal, intermittent, disabling illness. Literature on teaching these principles is scant.¹⁻³ Thus, we designed and piloted a novel curriculum on chronic illness to address this gap.

Methods: Seven seminars were created focusing on one or more of the following themes: time scales (making decisions for immediate, short-term, and long-term needs); communication (patient priorities, hearing the unsaid, seeing the unseen, physician arrogance); living with disability; managing co-morbidity; decision-making when the evidence is incomplete or the patient disagrees; working with other medical personnel; attending to externalities (family, insurers, society); maintaining an identity other than that of a person with a chronic illness. Two first-year and one fourth-year students, one rheumatology fellow, one parent-patient advocate, one parent, and nine patients participated. Patients had lupus, scleroderma, Sjögren’s with and without cryoglobulinemia, Wegener’s, kidney transplant, and undefined autoimmune illnesses. Patients – females aged 17-60
were articulate and well-informed about their illnesses.

Student essays about the course revealed a value of learning from rather than about patients; ability to distinguish between “staying healthy” and “getting well”; recognition that patients are not defined by their disease; that fear of future pain can be worse than current pain; humble and arrogant physicians have different effects on patients; empathy lectures are no substitute for hearing a patient’s words and observing body language; not all problems have right answers; external influences affect patients’ decisions. Students wanted more didactics on how to speak to patients when knowledge is uncertain, on how to manage stalled progress (keeping up patients’ hope).

Reflections: This pilot program identified important student needs about learning about chronic illness. With a larger program (more students, more time per year, more years in medical school, broader patient base) these needs may be met.

References

Short Communication 67: Funding Medical Student Health Equity Initiatives: A Student-Led Approach

Justin Haseltine, Anna Mckenney, Daniel Garcia, Yoanna Pumpalova

Objective: Conference participants will be able to apply strategies for funding students’ health equity initiatives by exploring a student-run program at Weill Cornell Medical College (WCMC).

Background: Medical student interest in global health has increased significantly in recent years, though only 24% of medical schools offer structured programs.¹ Medical student initiatives address domestic as well as global issues,² many of which may be funded through traditional funding mechanisms. However, more nontraditional projects may have obstacles, particularly at their initiation. In keeping with this, financial support and administrative guidance are significant areas of need to enable medical students to pursue health equity opportunities.³

Materials and Methods: In response to student interest in 2010, the WCMC student government established in its budget an independent, student-led committee to disburse funding to novel student projects aimed at improving health and social equity domestically and internationally. In addition to financial support, the Health Equity Committee (HEC) has evolved to expand the scope of student projects and activism by providing guidance for additional mentorship, partnerships, and funding opportunities. The HEC aims to enable projects that do not necessarily fit into standard funding paradigms, but have the potential to grow into sustainable efforts.

Applications are accepted semiannually and reviewed at rolling intervals. Five student reviewers provide feedback and clarify questions about project specifics before making a funding decision by majority vote. A faculty and administrative advisor are available for support.

Reflective Critique: As a student-run initiative, the HEC is closely grounded to the student perspective and needs for flexibility and quick response to concerns. As with many medical student efforts, challenges include a yearly turnover in student leadership, and limited funding as available per year. In the future, the HEC hopes to implement both short- and long-term outcomes assessment, and procure increased funding.

References:
Short Communication 68: Isolating the Impact of Audience Response Systems on Learning

Tyler Mains, Joseph Cofrancesco, Stephen Milner, Nina Shah, Harry Goldberg

Purpose/Objectives: The authors conducted a randomized controlled trial to isolate the impact of Audience Response Systems (ARS) on learning.

Background: The current literature on ARS includes contradictory results. One potential reason is the multiple confounding factors inherent in most medical education research, such as individual lecture effectiveness, learners’ multiple exposures to the material, and learners’ motivation to study the content independent of the teaching methodology used. Understanding ARS’ effects on learning therefore necessitates a rigorous, controlled study design.

Methods: First-year medical students at Johns Hopkins University volunteered to enter this study (n=92), and were randomly assigned to one of two groups. Group A watched a previously recorded lecture on severe burn, a topic outside of the first-year curriculum. Group B watched an identical lecture except three ARS questions were imbedded throughout the lecture. Students took a survey and quiz immediately after the lecture and a second quiz two weeks later.

Results: Adding ARS questions during the lecture increased students’ immediate quiz scores by an average of 1.34 out of 10 (13.4%, p<0.001) and their delayed quiz scores by an average of 1.02 (10.2%, p=0.005). The rate of information loss during the two weeks did not significantly differ between the groups. Group A’s scores decreased by a mean of 0.512 out of 10 (5.12%) while Group B’s scores decreased by a mean of 0.684 (6.84%), p=0.60.

Reflection/Conclusions: By using a previously recorded lecture on a topic outside of the first-year medical curriculum, the authors were able to isolate the impact of adding ARS to a lecture. Limitations include the use of a single site, coverage of a single topic, and the small number of quiz questions. Overall, ARS increased learner knowledge and comprehension, both immediately following a lecture and two weeks later, but did not slow the rate of forgetting.

Short Communication 69: The Student-Run Clinic as a Unique Setting for Medical Student Experiential Projects in Quality Improvement

Noa Simchoni, Yasmin S. Meah, Radeyah Hack, Nicholas Meo, Andrew Chow, David C. Thomas

Purpose of the Project and Objectives: 1) Test the student run clinic (SRC) as a venue for Quality Improvement (QI) initiatives. 2) Teach medical students QI in a hands-on program. 3) Determine the effectiveness of SRC based QI training.

Background/Theoretical Framework: The Association of American Medical Colleges recommends QI and patient safety training during medical school, yet formal curriculum has not been widely adopted.1 Most graduating medical students believe that they lack sufficient instruction in these areas.2

Methods: Eighteen medical students at Mount Sinai School of Medicine (MSSM) volunteered to participate in an experiential QI program, the Quality Improvement Council (QIC), which operated within MSSM’s SRC. The QIC learned the DMAIC (Define, Measure, Assess, Improve, and Control) framework of QI through lectures and workshops; student teams then assessed and impacted various aspects of clinic operations. Monthly meetings led by a student moderator and overseen by faculty were conducted throughout the 10-month course, providing a continuous venue for support and feedback.

Results (or Expected Results): Nine students completed anonymous surveys and voluntarily participated in a focus group. Surveys showed statistically significant (p < 0.05) improvement in knowledge and application of each DMAIC domain. Focus group responses emphasized enhanced understanding of QI design and implementation (39%), uniqueness of the
educational experience (10%), value of sustained feedback (6%), and tangible impact of projects on clinic operations and patient care (17%). The QIC was effective in teaching concrete QI skills while providing practice in teamwork and creative problem solving.

Reflection (including limitations) and Conclusions: SRCs are uniquely suited for QI training and can teach QI through an unparalleled constructivist approach to undergraduate medical trainees.

References:
2. Levitt DS, Hauer KE, Poncelet A, Mookherjee S. An innovative quality improvement curriculum for third year medical students Med Educ Online 2012: 17 Published online 2012 May

Short Communication 70: Patient Safety Module for A Doctoring Course

Elliot Schottland, Iris Granek, Catherine Messina

Goals/Objectives: (1) To expose first year medical students to patient safety issues. (2) To increase the student's awareness of the current initiatives in hospitals and outpatient clinics that are aimed to mitigate risk and improve safety for patients.

Background: It is important for medical students to be exposed to patient safety hazards early in their medical career so they can identify pitfalls, avert incidents, and understand their de facto leadership responsibility as stewards of a culture of safety. Increasing awareness of the initiatives presently in action may facilitate better integration into the medical culture during their clinical activities and prepare them for practicing safe medicine.

Methods: Students will visit patients in a hospital or outpatient setting and perform a medical history interview with an emphasis on patient safety focused questions. They will also observe their surrounding with attention to systems in place that encourage safety and note their findings in an 18-question Likert-type survey. Students will also participate in a role-play simulation that reinforces the relevance of feedback in healthcare communication. The class will then convene and watch a video testimonial from a parent of a child who died from a medical error. The findings from the survey will be presented and the students will share anecdotes from their experiences. The students will also complete an assessment of this patient safety curriculum.

Reflective Critique: A clinical observation session, simulation activity, and testimonial offer the students an introduction into safety issues facing patients. Strengths include a diversity of experiential learning opportunities in a clinical and simulation setting. Limitations include the small amount of patients to be interviewed and learned from. The survey and debrief session is designed have the class learn from each other’s experiences. Future directions include modifying the module based on feedback.

References:

Short Communication 71: Sharing the Burden: How to Streamline Compliance Programming

Priya Sikka, Shashi Anand

Purpose: To streamline student compliance programming at the institutional level for students and administrators.
**Background:** Medical students have to clear many regulatory compliance hurdles that are designed to protect them from health risks, inform them of regulatory policies and clear them for learning on the wards. At Mount Sinai School of Medicine, our systems for informing students of compliance requirements and tracking their completion were not adequately streamlined or formalized. Many students were not completing their requirements in time resulting in delays in starting their clinical requirements, affiliate administrator frustration, and school concern that we were not able to assure timely compliance with hospital, state and federal regulations.

**Method:** In 2011, a needs assessment was conducted with stakeholders from departments that require compliance regulations. Once a comprehensive list of requirements by class was compiled, it became clear that a multipronged approach from the Offices of Student Affairs and Curricular Affairs was needed. In order to meet the requirements for which we do not have medical center resources at our disposal, we trained staff in both offices to mask fit students, and trained students to administer PPDs under the oversight of Student Health. We developed a timeline for delivery of onsite programming to coincide with mandatory events, thereby capturing the students that we would otherwise have spent valuable time following up with. We developed instructional checklists to communicate requirements to be completed online. A Compliance Coordinator is in place to follow up with non-compliant students and to send documentation to affiliate sites. Our Compliance Database allows us to track student compliance and send automated reminders.

**Reflections and Conclusions:** Sharing the effort involved in compliance programming has eased the burden on administrators and students. Lessons learned from our approach can help other schools achieve success in this important area.

---

**Short Communication 72: Launching Tufts University School of Medicine Student-As-Teacher (SAT) Required Program**

Maria Alejandra Blanco, Ann Maderer, Scott Epstein

**Background**
The LCME and ACGME have reaffirmed teaching as a necessary skill for medical trainees. Research shows that training in teaching improves trainees' knowledge and skills. Although some medical schools offer formal SAT programs, only a few require training in basic teaching skills.

**Goals and Objectives**
The program goal is to expose all students to basic principles of teaching and learning at different stages in their four-year medical school career. Upon completion, students will have achieved twenty-eight learning objectives that are grouped in four competency domains: 1) Adult and Practice-Based Learning; 2) Learning Environment; 3) Instructional Design and Performance; 4) Learner's Assessment and Evaluation.

**Educational Methods**
The 20-hour program was launched in October 2012 with the class of 2016 and involves: (1) completion of four online SAT modules at specific points throughout medical school; (2) participation in a SAT field experience of the student’s choice at any time in medical school; (3) completion of a program evaluation in the fourth year. The assessment approach includes: post-module quizzes; field teaching experience report; and formative feedback on student’s teaching from faculty, peers and learners. Resources are available at the school’s intramural website. All materials were designed and pilot-tested with students from previous classes before full implementation.

**Reflective Critique**
Students who pilot-tested the material endorsed the program, and provided constructive feedback for final improvement. As of November, 38 out of 200 students completed the first online module (due in Spring 2013). Although it is anticipated that the vast majority of students will do their field experience in fourth year, three students already self-designed and integrated their field teaching experience into a community service-learning project. We will continue to monitor the program implementation, and refine as needed based on each class experience. The modules are being adapted for our resident-as-teacher program.

**References**

**Short Communication 73: Resident Attitudes Towards Teaching Medical Students in the Ambulatory Care Setting**

Lisa Lapman, Harini Kumar, Jennifer Purcell, Ellen Tattelman

The purpose of this project is to improve the attitudes of residents towards teaching medical students in an ambulatory setting by providing a workshop to strengthen teaching skills. Senior residents teach interns and medical students both in clinic and on the wards. A needs assessment at two medical centers revealed an overall positive attitude towards teaching, but cited two barriers as significant sources of frustration: balancing patient care with teaching, and lacking knowledge of medical student objectives. Studies have shown improvement in resident attitudes towards teaching after participation in a workshop designed to help with teaching techniques. In general, research has shown an improvement in “resident self-assessed teaching behaviors and teaching confidence,” after participation in such courses. This workshop focuses specifically on attitudes towards ambulatory care teaching.

A workshop providing various tools for teaching medical students in the ambulatory setting was presented to Family Medicine residents at two institutions. Sections of the workshop include a review of medical student clerkship objectives, time management, agenda setting, giving feedback, and evaluation. Pre- and post-workshop surveys as well as a 3-month post workshop survey will measure changes in attitude using four criteria. During this 3-month timeframe, half of the participants will be asked to complete a worksheet designed to increase salience of workshop lessons. Finally, two focus groups of residents (one at each institution) will provide feedback on their resultant teaching experiences. Results will be presented on change in attitude of residents towards teaching medical students in clinic. The effect of the worksheet administered during resident teaching sessions will also be presented. Can reinforcing the principles of didactic sessions with follow-up assignments improve attitudes towards teaching? Is it a valuable assignment?

**References**


**Short Communication 74: The Integration of Social Media into Public Health Education: Lessons Learned**

Lisa Gualtieri

**Introduction:** The objective of this research was to assess the benefits, drawbacks, and best practices of using social media as part of public health courses both to enhance education and teach students skills. Few studies to date have evaluated the effectiveness of social media use in public health or medical education.

**Methods:** Social media, primarily Twitter, was incorporated into three courses in the Department of Public Health and Community Medicine (PHCM) at Tufts University School of Medicine (TUSM). There were 31 graduate students enrolled in the 3 courses; they were from TUSM PHCM programs, Emerson College MA in Health Communication program, and non-
matriculated students engaged in professional development. A pre-course survey assessed social media knowledge and skills. Changes in knowledge and skills, as well as student perceptions of social media in class, were assessed post-course. Results: The 31 respondents all appreciated the opportunity to learn about professional use of social media in contrast to the more common personal use and overall found the use beneficial. Students reported that Twitter’s value extended outside of class in discussions of class concepts and sharing of materials. The biggest complaint (29%) was the difficulty of monitoring Twitter conversations during class while also paying close attention to the lecturer.

Conclusions: Public health and medical school graduates are increasingly expected to be competent with social media in their careers. To achieve this, they should learn about it as students through professional development or incorporation into courses. The benefit of the latter is that they attain direct experience with it. While this study involved a relatively small number of students, survey results indicate that social media use was beneficial. Areas of further study are the incorporation of social media into medical courses and the development of faculty training in social media integration into courses.

Short Communication 75: Comparison of Google vs. Evidence-Based Summary Resources in Answering Clinical Questions: A Randomized Controlled Study

Sarang Kim, Helaine Noveck, James Galt, Lauren Hogshire, Laura Willett, Kerry O'Rourke

Objectives: To assess interns’ use of information resources and compare speed and accuracy of Google versus evidence-based summary resources.

Background: Evidence-based summary resources (EBSR) are considered the highest quality of resource in answering clinical questions¹, but many healthcare professionals commonly use non-medical search engines (such as Google)².

Methods: All medicine interns (N=48) participated in a 2-week EBM course that included a 60-minute interactive session using EBSR. Afterwards, a multiple-choice test of 10 clinical vignettes was administered in a computer lab. Interns were randomly assigned to answer questions 1-5 using Google (Group G) or their choice of an EBSR (Group E), then crossed over for questions 6-10 (Group G becomes Group E). If an answer was not immediately found using the assigned resource, interns could utilize any resource. A timer was activated allotting a maximum of 4 minutes per question. Students documented time spent finding the answer and resource where it was found. Mean scores and times spent were compared between the groups.

Results: Group G used a wider variety of resources compared to Group E. Group G accessed commercial medical portals (26% of answers), hospital websites (13%), Wikipedia (12%), Pubmed (9%). Group E most frequently found answers in EBSR (93%) and e-books (4%). Mean time to correct response was 141 seconds (SD=60.4) for Group G vs 137 seconds (SD=61.4) for Group E, p=0.59. Mean scores (minimum 0, maximum 5) were similar between the groups (2.5 for Group G vs 2.8 for Group E for Q1-5 and 3.3 vs 3.3 for Q6-10, p=0.4).

Reflection and Conclusions: Google searches led to a wider variety of non-peer reviewed or critically appraised resources. EBSR took similar search effort but did not improve scores on clinical vignettes. While larger studies are needed to define clear superiority of one resource over another, EBM training should emphasize critically assessing information wherever it resides.

References:
Short Communication 76: A Time Motion Study on Residents Early in Training: Are They Observed, Do They Receive Quality Feedback and Does Time of Shift Matter?

Kathryn Tully, Jennifer Mendillo Keller, Benjamin Carl Blatt, Larrie W. Greenberg

Goal: To maximize learning opportunities across the medical trainee continuum using residents as standardized patients (SP) in a first-year medical student (FYMS) communications course.

Objectives:
• Teach interview/communication skills to FYMS
• Develop teaching and feedback skills of residents
• Create opportunities for faculty evaluation of students and residents’ interviewing skills and teaching competency.
• Heighten authenticity of SP pedagogy

Background/Theoretical Framework: The use of SPs in medical education is well-described.(1,2) SPs have been used for both formative and summative purposes and are generally unidirectional in their teaching and assessment goals.

Methods: We have developed a SP module in which pediatric residents are standardized to play the roles of parents in scenarios created to teach pediatric interviewing skills to FYMS. The module consists of two scenarios where the resident portrays an anxious parent:

1. Of a neonate undergoing tests to rule out sepsis.
2. Of a toddler with a cold, and demands antibiotics.

The learning group consists of 15 students, 1 resident, and 1 faculty facilitator.

Reflective Critique: This novel use of SPs creates a symbiotic learning relationship between the FYMS, resident and faculty facilitator. In addition to learning communication skills, the student is afforded a more realistic encounter than the actor played SPs because of the resident’s own background professional training experiences. The residents burnish their teaching skills by demonstrating elements of effective communication with distressed families, and by giving feedback to students. The role-play may influence the residents’ future interactions with families by enabling them to “step into the patient’s shoes” and be more empathetic. Faculty facilitators are uniquely positioned to sharpen their observation skills and effectively deliver competency-based formative and summative feedback to the FYMS and residents; we plan to utilize this innovative model in other contexts such as surgery, internal medicine, and psychiatry.

Short Communication 77: Residents as Standardized Patients: A 360 Degree Educational Model

Usha Krishnan, Anne Armstrong-Coben, Rita M. Charon, Urmia Anand Desai, Andrew Mutnick, Prantik Saha, Carly Slater

Goal: To maximize learning opportunities across the medical trainee continuum using residents as standardized patients (SP) in a first-year medical student (FYMS) communications course.

Objectives:
• Teach interview/communication skills to FYMS
• Develop teaching and feedback skills of residents
• Create opportunities for faculty evaluation of students and residents’ interviewing skills and teaching competency.
• Heighten authenticity of SP pedagogy

Background/Theoretical Framework: The use of SPs in medical education is well-described.(1,2) SPs have been used for both formative and summative purposes and are generally unidirectional in their teaching and assessment goals.
**Instructional Methods:** We have developed a SP module in which pediatric residents are standardized to play the roles of parents in scenarios created to teach pediatric interviewing skills to FYMS. The module consists of two scenarios where the resident portrays an anxious parent:
1. Of a neonate undergoing tests to rule out sepsis.
2. Of a toddler with a cold, and demands antibiotics.
The learning group consists of 15 students, 1 resident, and 1 faculty facilitator.

**Reflective Critique:** This novel use of SPs creates a symbiotic learning relationship between the FYMS, resident and faculty facilitator. In addition to learning communication skills, the student is afforded a more realistic encounter than the actor played SPs because of the resident’s own background professional training experiences. The residents burnish their teaching skills by demonstrating elements of effective communication with distressed families, and by giving feedback to students. The role play may influence the residents’ future interactions with families by enabling them to “step into the patient’s shoes” and be more empathetic. Faculty facilitators are uniquely positioned to sharpen their observation skills and effectively deliver competency-based formative and summative feedback to the FYMS and residents; we plan to utilize this innovative model in other contexts such as surgery, internal medicine, and psychiatry.

---

**Short Communication 78: Challenges and Successes Implementing Mobile Technology In Small Group Teaching**

Jason Korenkiewicz, Carol Capello, Philippe C. Ortizane

**Goals and Objectives:** To share the experiences of Weill Cornell Medical College (WCMC) — both its challenges and successes – in implementing iPads into small group instructional settings.

**Background:** Literature reflects the extent to which mobile technology is being implemented more quickly in professional education. WCMC was one of the first US medical schools to deploy iPads to students in biomedical science courses. We believe early adoption and comfort with iPads and mobile technology is a key component of our innovative medical education program. However, while use in lecture and other traditional pedagogical sessions was an immediate success, the utility of mobile devices in small group teaching sessions continues to be a work in progress.

**Methods:** To assess the value of these devices in small groups for research, collaboration, communication, and other relevant skills, WCMC is conducting an ongoing survey of first- and second-year students, as well as faculty facilitators in PBL sessions. Each group is asked an identical short set of questions about how the devices impacted the small group dynamic. This session will share these outcomes, explore some of the cultural reasons for them at WCMC, and discuss ways to use iPads to bridge the divide between faculty and student perception in hopes of creating a more collaborative learning environment.

**Results and Reflection:** Early responses illustrate a dramatic divide between student and faculty perceptions of the current role and future potential of iPads in a PBL setting. The use of these devices in other small group settings (e.g., anatomy; skills groups; clinical bedside teaching) need to also be explored. Focus groups of both faculty and students are also being planned.

**Reference:**

---

**Short Communication 79: Revamping Anatomy Education: Student-Authored Dissection Manual Significantly Improves Learning and Academic Performance**

Dustin Tetzl, Justin Neira, Jose Ramirez, Lily Grossmann, Paulette Bernd

In an effort to improve the first-year medical students’ anatomy lab experience, we as second-year students created our own custom dissection manual. Working with the course director, we tailored this dissector to Columbia University’s anatomy
course with marked advantages over commercial dissectors.

Many factors make our dissector unique: step-by-step photographs of a cadaver dissection and supplementing diagrams, review checklists, concise instructions, dissection tips, and information only pertinent to structure identification. The dissector’s efficacy was evaluated by comparison of student surveys, faculty assessments, and exam statistics from the 2010 and 2011 classes who used the commercial dissector or the custom dissector, respectively.

Comparison of surveys from 2010 and 2011 showed a significant increase in satisfaction with the new dissector, increased learning ease, more efficient use of lab time, and decreased frustration. Faculty reported an overall “higher dissection quality” and “less dependence on faculty” in the lab. Exam means increased by at least one standard deviation (N = 236, p < 0.0001). For the 2012 class, the dissection manual was formatted for iBook, and each group was provided with an iPad for use during lab. This electronic version includes full-zoom HD images, end-of-chapter reviews, quick-definition of terms, and navigational simplicity. Thus far the current students have voiced overwhelming approval of the iPad version, and have scored higher on the first two exams than students in 2010 and 2011. Data collection and analysis is ongoing, and students continue to participate in improving future editions.

Due to its unique student-developed nature, this project has closely addressed students’ needs and has proven itself highly effective at Columbia University. The advent of this dissector represents a significant advance in anatomy education. Overall, this student-led model can serve as a template for other schools looking to customize, modernize, and improve the effectiveness of their anatomy curriculum.

**Short Communication 80: MedEd: Student-Faculty Education Partnership Model**

Chung Sang Tse, Irina Shklyar, Janet Palmer Hafler, Michael Peluso, Jake Wang

There are currently limited opportunities to train medical educators.\(^1\) While the ACGME\(^2\) and LCME\(^3\) both recommend that residents be prepared for and demonstrate competence in their role as teachers, it is not clear when they, as well as junior and senior faculty, can find the time and training to develop their skills as medical educators.

The Yale Medical Education Interest Group (MedEd) is a model for collaboration between medical students, residents, and faculty. It is led by a steering committee and faculty advisor with co-sponsorship from the new Teaching and Learning Center. In the development of MedEd, a stakeholder analysis at Yale revealed a desire for student involvement across all years of medical school, strong faculty presence and involvement, and a platform for creating educational projects between students and faculty.

MedEd developed and integrated new curricular innovations: a one-hour Giving Feedback Workshop and a two-week Medical Education Elective. Our group hosted networking events: annual student-faculty roundtable dinners, clinician-educator panels, and an “Ideas Open House” that fostered development of new educational projects. MedEd created hardcopy resources: a Mentorship Database profiling 32 educators, and an Opportunities Database cataloging 20 teaching opportunities for students at Yale. MedEd encourages scholarship through funding for conference attendance (e.g., NEGEA). The group has recruited 60 faculty members and 130 students. This has contributed to a cultural shift at our institution that places a greater focus on developing teaching skills among our students and defines educational contributions for a career path.

Our limitations include a single funding source and annual student leadership turnover. In the future, we aim to expand resident and basic science faculty involvement. We hope to provide a model for other institutions that wish to encourage participation in medical education at the earliest stage of training.

**References:**


Short Communication 81: Utilizing an Online Tool to Connect Medical Students to their Faculty Advisors

Jillian Aristegui, Shashi Anand, Peter M. Gliatto

Purpose: To discuss how implementing software helped facilitate Mount Sinai School of Medicine’s (MSSM) advising processes and accessibility.

Background: Structured advising programs with increased advisor contact improve medical student satisfaction within the learning environment and feelings of well-being. Connecting students to their faculty advisors and tracking these interactions are important to the success of such programs. We hypothesized that an on-line, centralized platform for scheduling meetings and documenting interactions would help facilitate our advising processes and accessibility.

Methods: We adapted and rebranded college retention software to the medical school environment. We introduced “My Access and Resource Center” (MARC) to each class in January 2012. Faculty advisors were given relationships to their student cohorts via MARC; they were then trained on how to integrate their calendars into the system, to title each meeting using a drop down menu (general, academic, personal and career advising) and to record outcomes of each meeting. The usage of the system was evaluated after this semester by tracking number of appointments created, and tallying meeting titles selected by faculty advisors.

Results: Six faculty advisors and 671 MD and MD/PhD’s have access to MARC. Throughout the first semester of use, 300 students (45%) created one or more advising meetings for one of the following reasons: first year check-in, second year check-in, third year check-in, MSPE advising, match advising, general advising, or career advising. Additionally, faculty advisors wrote 484 notes on approximately 49% of students. Of these, 41.7% were titled general advising, 29.7% MSPE advising, 16.7% academic advising, 9% career advising, and 2.7% personal advising.

Conclusion: An on-line tool that facilitates scheduling and documentation of interactions between students and faculty advisors was successfully implemented at MSSM. Future directions include continuing to track interactions and assessing students’ and advisors’ opinions about the system.

Short Communication 82: Ascensus: A Student-Driven Medical Humanities Initiative

Daniel Shalev, Elan L. Guterman, Jonathan P. Huggins, Peter N. Barish, Susan C. Ball, Veronica M. Lo Faso, Randi R. Diamond

Goals: Our goal was to create and launch a medical student-driven arts and humanities journal to serve as a centralized resource for medical students.

Background: The medical humanities are increasingly recognized as a vital component of training professional, ethical, and empathetic physicians. Given that WCMC, in New York City, is five hours away from its arts and science faculty at its home university in Ithaca, our students have unique opportunities to take ownership of institutional humanities endeavors; this also imposes challenges.

Instructional Methods and Materials: To address the need for more formalized access to the humanities, four medical students and three faculty created the journal Ascensus. The pilot edition showcases 43 pieces (paintings, drawings, photos, essays, poems, etc.) by 34 medical students and included a number of curricular reflections. The journal was launched at an event celebrating the humanities at WCMC, attended by numerous faculty and students, which resulted in 15 new student publication staff and the launching of a formal humanities-in-medicine student interest group.
Reflective Critique: In keeping with the broader mission of Ascensus, several key goals have been achieved: identifying faculty mentors for medical students interested in the arts and humanities, securing and conveying the medical humanities opportunities in the medical college and the hospital to students and faculty, and providing an opportunity to share achievements within the humanities and arts. Over the next year, we plan to increase the journal’s institutional presence and to include work from faculty and house staff affiliated with the medical college. We hope that this endeavor can provide an example of a student-driven initiative in the medical humanities for other institutions that do not have access to the humanistic scholarship and opportunities associated with formal graduate and undergraduate programs in the medical humanities.

References

Short Communication 83: Visual Arts in Medicine: Beyond Observation
Rachel Dubroff, Carol Capello

Goals: As part of a novel humanities pilot offered as an elective in 2012-2013 in parallel with the third-year Medicine Clerkship at Weill Cornell Medical College, we designed a 90-minute visual-arts based session to encourage students to consider the importance of accurate observation; to stimulate creative, critical thinking; and to encourage self-awareness and reflection in the process of observation.

Background: Throughout the country, medical schools are recognizing the vital role humanities may play in their curricula, including promoting the cultivation of analytical skills and improving medical professionalism.¹ The visual arts have been widely utilized, primarily with the goal of improving observation skills, but also to explore cultural models of illness and to encourage creativity.²,³

Methods: In a small-group setting, either classroom or museum, students are shown artworks and challenged with exercises meant to provoke further critical thinking and self-discovery in the observational process. The class begins with a simple exercise of “What do you see?” and progresses: students describe their initial emotional reactions to an artwork and consider the impetus for those reactions; using observations, they consider the artist's motivations for making an artwork; etc. With the guidance of a faculty leader, students build on each other's observations and thoughts, thus exercising their observational skills and enabling them to reflect further on their own biases and the role of emotion in perception.

Reflection: Strengths include the focus on observational and critical thinking skills in parallel with students’ initial clinical experiences, and its reproducibility and scalability, given its requirement of basic resources and minimal faculty training. Limitations include the question of whether one session will have a long-term impact and whether the general student population will be open to this non-traditional method. Future possibilities include implementing a longer course for students and developing similar visual-arts based courses for residents.

References:
1. Doukas DJ, McCoulough LB, Wear S. Perspective: Medical Education in Medical Ethics and Humanities as the Foundation for Developing Medical Professionalism. Acad Med 2012;87:334-341.
2. Dolev JC, Friedlaender LK, Braverman IM. Use of fine art to enhance visual diagnostic skills. JAMA 2001 Sep 5;286(9):1020-21.
Short Communication 84: Bridging the Gap Between Basic Science and Clinical Domains: The Longitudinal Experience Advancing Patient Partnerships Program (LEAP)

Veronica LoFaso, Sonica Bhatia, Ernie Esquivel, Thanakorn Jirasevijinda, Susan Kane, Keith Lascalea, Michael D. Lockshin, Jessica Rubin, Carol Capello

Background/Objectives: The Flexner II report charged medical educators to re-examine the traditional medical education paradigm that created a schism between the basic science and clinical years. The Longitudinal Educational Experience Advancing Patient Partnerships (LEAP) program, an innovation at Weill Cornell Medical College, responds to this call by bridging this gap throughout medical school with longitudinal patient partnerships, in order to foster students' professional identity, increase understanding of complexities of the healthcare system, practice teamwork, and pursue humanistic care.

Methods: Forty students enrolled in the 2012-2013 pilot program. Students (one first- and one second-year) are partnered with two chronically ill patients and expected to make monthly contact by telephone, home visits, or in clinical settings. Students meet in monthly 120-minute seminars with a faculty preceptor. One student team chooses one of 15 faculty identified psychosocial topics as it relates to their patients and leads the group discussion. The first-year focuses on the psychosocial topic and the second-year on the biomedical issues.

Students keep an online log of patient contacts and telephone encounters. They complete a “One-Minute Paper” after monthly seminars to capture lessons learned, challenges encountered, and next steps committed. Mixed methodology evaluations include: completing a validated instrument measuring level of empathy, shared-decision making, and understanding of the healthcare system; analysis of student logs for emerging themes; and focus groups. Patient evaluation is also underway.

Reflection: Preliminary analysis shows enthusiastic student engagement, empathic responses to illness and psychosocial issues, and identification of systems-based themes. Third- and fourth-year students will continue to follow their patients and act as mentors and teachers to underclassmen. Student and patient feedback will be used to guide implementation of LEAP for all students in the coming years. Given the inherent logistical complexity on the program a designated coordinator is recommended.

References:
1. Flexner, Abraham (1910), Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching

Short Communication 85: Core Entrustable Professional Activities (EPAs) for Entering Residency: Spring Meeting Project Update

Robert Englander

Goals and Objectives:
1) Educate students about patient barriers to accessing needed services through an experiential learning process; 2) Design a program in which students develop systems-level solutions to problems of healthcare access; 3) Create a mobile-app which educates clinical providers about specialty appointment requirements and costs at the point-of-care.

Background:
The East Harlem Health Outreach Partnership (EHHOP) is Mount Sinai's student-run primary care clinic (SRC) for uninsured adults. The population carries a high-burden of diseases that frequently require specialty care. Obtaining referrals for uninsured patients is cumbersome; specialties have variable requirements and costs, and long wait-times. Much of this information is not easily available at the point-of-care, making it difficult for providers to factor in access-to-care burdens when referring patients for specialty care.
Instructional Methods and Materials:
In 2012, EHHOP trained 7 preclinical medical students as Referrals Managers (RMs) to develop systems-level interventions to help patients access specialty services. RMs collaborated with clinical administrators to determine average wait-times, appointment hours, prerequisite medical tests, costs of referrals, and documentation needed at appointments. To gather information on real-time barriers, RMs accompanied patients to most specialty appointments. RMs used this data to develop specialty-specific protocols and create a mobile-phone application that providers can access when making referrals.

Reflection:
The mobile application enables providers to educate patients on referral procedures and address access-to-care issues when making referrals; it promotes more educated decisions about whether a specialty referral is necessary or feasible. Through continuous updating of the mobile phone application, preclinical students learn to navigate healthcare systems and operate as advocates for vulnerable patients. Challenges include encouraging providers to use the application and keeping the application up-to-date. Preliminary data suggests that referral completion rates and reduced wait-times have improved since the development of this application.

Short Communication 86: Creation of a Mobile App to Teach and Facilitate Systems Navigation in a Student-Run Free Clinic

Ammar Siddiqui, Yasmin S. Meah, Chloe Ciccariello, Thomas McBride, Alexa Gips, Noa Simchoni, Omayra Rolan, David C. Thomas, Mark Kurzrok, Jamie Pak

Goals and Objectives: 1) Educate students about patient barriers to accessing needed services through an experiential learning process; 2) Design a program in which students develop systems-level solutions to problems of healthcare access; 3) Create a mobile app which educates clinical providers about specialty appointment requirements and costs at the point-of-care.

Background: The East Harlem Health Outreach Partnership (EHHOP) is Mount Sinai’s student-run primary care clinic (SRC) for uninsured adults. The population carries a high-burden of diseases that frequently require specialty care. Obtaining referrals for uninsured patients is cumbersome; specialties have variable requirements and costs, and long wait-times. Much of this information is not easily available at the point-of-care, making it difficult for providers to factor in access-to-care burdens when referring patients for specialty care.

Instructional Methods and Materials: In 2012, EHHOP trained 7 preclinical medical students as Referrals Managers (RMs) to develop systems-level interventions to help patients access specialty services. RMs collaborated with clinical administrators to determine average wait-times, appointment hours, prerequisite medical tests, costs of referrals, and documentation needed at appointments. To gather information on real-time barriers, RMs accompanied patients to most specialty appointments. RMs used this data to develop specialty-specific protocols and create a mobile-phone application that providers can access when making referrals.

Reflection: The mobile application enables providers to educate patients on referral procedures and address access-to-care issues when making referrals; it promotes more educated decisions about whether a specialty referral is necessary or feasible. Through continuous updating of the mobile phone application, preclinical students learn to navigate healthcare systems and operate as advocates for vulnerable patients. Challenges include encouraging providers to use the application and keeping the application up-to-date. Preliminary data suggests that referral completion rates and reduced wait-times have improved since the development of this application.
Short Communication 87: The First 9 Weeks of Medical School: An EMT Curriculum Promotes the Achievement of Early Milestones Toward Competency in Clinical Skills

William Rennie, Thomas Kwiatkowski, Judith Brenner, Alice Fornari

**Goal:** To provide medical students with a meaningful, early clinical immersion, in which basic science supports the learning and practice of core clinical skills.

**Objectives:**
1. Develop useable skills that promote early, meaningful participation in patient care.
2. Provide a professional and ethical framework for development and deliberate practice of clinical skills.
3. Promote recognition of professional development through achievement of early clinical skills milestones.
4. Establish scientific knowledge as the basis for initial and continued clinical skills development.

**Background/Theoretical Framework:** Recent reform in medical education has called for “early clinical immersion” of students. But how early? What kind of experience and with what goals? How can a clinical experience be “meaningful” to students who have few, if any, specific clinical skills?

**Instructional Methods and Materials:** We expanded the content of the NY State EMT curriculum to include the essential elements of science, professionalism and clinical skills as integrated principles, transferrable to all clinical practice learning environments. Basic EMT skills were augmented by preceptor-guided weekly workshops to learn and practice the Hofstra Core History and Physical Exam, including bedside ultrasound. Additional communications skills and foundational elements of professionalism and ethics were included. Performance of multiple clinical skills occurred on ambulance tours. Assessments included essay, laboratory exams, skills demonstrations, SP encounters and simulation.

**Reflective Critique:** The EMT curriculum is easily expandable to suit medical students in both science content and clinical skills development. Adequate resources are essential to success. Students successfully learned basic science, the professional context of clinical skills and achieved early demonstrable milestones toward competencies in clinical skills within the first 9 weeks of medical school. We plan to continue refinement of this program.

**References:**

Short Communication 88: Electronic Medical Records and Medical Student Education: Challenges and Opportunities for Educators

Latha Chandran, Cate Nicholas, Laurie Caines, Rebecca Kosowicz, Lynn Y. Kosowicz

**Goals/Objectives:**
1. Articulate challenges and opportunities that transition to electronic medical records (EMR) offers in medical education.
2. Review literature on use of EMR in undergraduate medical education.
3. Describe curricular innovations on use of EMR from two medical schools.

**Background:** Educators have used student medical record documentation to teach and assess skills in written communication and clinical reasoning. Widespread use of EMR across Academic Health Centers challenges educators to refocus our teaching and assessment of these skills. Concerns reported include the effect that EMR features such as templates, drop-down menus, and decision support may have on acquisition of skills such as recognition of key elements of history and physical, diagnosis and management of clinical problems, and appropriate documentation. Preceptors need to find new approaches to providing feedback regarding student electronic documentation. A study of information retrieval from an EMR documented that students overlooked key elements of the medical history which was ascribed to inexpert clinical
reasoning resulting in poorly focused searches for information in the record. Medical educators must consider the impact of EMRs in areas of clinical reasoning, documentation, patient centeredness, and learner feedback.

**Methods:** This presentation will consist of a brief review of highlights from current literature regarding use of EMR in undergraduate medical education. Two presenters will report on curricular innovations involving use of EMR in their medical schools.

**Reflective Critique:** It is clear that curriculum focusing on use of EMR in undergraduate medical education is needed and that educators need to work collaboratively to achieve this goal. Barriers to implementation may include lack of funding and technical support for development of EMR for classroom use. Additional challenges include a lack of knowledge and guidelines regarding best methods for teaching medical students and educators how to optimally use EMR for patient care and educational purposes.

**References:**
**Poster 1: Leadership and Management: A Crucible Experience**

Mitchell Tsai, Amy Odefey, Michael McQuiggan, Johann Patlak, William Jeffries

**Abstract:** From Leape’s Unmet Needs, we know that the medical culture and education system has fallen short in terms of teaching professionalism and leadership skills. Fifty years ago, our understanding of medicine was significantly simpler and less nuanced than it is now and a single physician could be up-to-date on all of the available, pertinent medical knowledge and provide essentially all the necessary medical treatments. Consequently, attributes such as autonomy, independence and self-sufficiency were prized, with physician’s viewing themselves as cowboys who single handedly cure illness. Today, however, the American health care system needs to create individuals who have the ability to lead teams, create change and inspire current and future physicians, nurses, ancillary services, and patients. At the University of Vermont College of Medicine, we have created a reading month for categorical interns that builds a “crucible” experience for medical students. The readings were selected to help the medical students to build mental frameworks on management and leadership; to focus on pertinent issues involving patient safety, organizational cultures, and high-reliability organizations; and to enable them to critically evaluate professionalism in the workplace. The changing landscape of health care reform and finance will alter the perception and role of future physicians. It is clear that medical schools and residencies need to broaden the scope of medical school curriculum and residency programs and move beyond individual clinical achievement. Medical schools need to provide opportunities for students to broaden the scope of their educational training. Future physicians must be prepared to restore the “craft” to medicine; to innovate new models of health care delivery, to collaborate within and outside the clinical setting; and to understand that physicians have a communal responsibility to create a health care system that is sustainable, equitable and socially just.

**Poster 2: Not Just Another Anesthesiology Clerkship**

Mitchell Tsai, Vincent Miller, Mario Serafini, Brendan Kelley

**Introduction:** Until spring of 2011, our institution’s surgery clerkship offered an elective in anesthesiology that was self-structured and accessible to a small fraction of students. We developed an innovative curriculum to address the need for all medical students to gain experience in perioperative medicine and acute care.

The goal of this curriculum is to help students develop acute care skills that are useful in any medical discipline. These skills include but are not limited to the following: airway management and respiratory support; invasive and non-invasive monitoring; cardiovascular support and resuscitation; and communication and ethical issues related to acute care.

We hypothesized that exposure to the curriculum would improve students’ familiarity with perioperative and acute care concepts, regardless of their field of interest.

**Curriculum Design/Overall Structure**
- Mornings include rotating groups in simulation and clinical integration
- Afternoons include lectures and problem based learning discussions
- Complementary practical and didactic sessions

**Learning Objectives/Procedural Skills**
Airway management and peripheral IV access skills were introduced in the simulation laboratory followed by hands-on experience with patients in the perioperative area.
**Clinical Integration:** We were able to introduce concepts in the perioperative setting that were reviewed during the lectures and simulation. This included a focused preoperative evaluation, airway management skills, vascular access, blood gas analysis, EKG monitoring, invasive and non-invasive monitoring.

**Outcome:** Pre- and post-curriculum surveys were distributed to the 117 students that participated in the course. Thirty-seven students responded to both parts of the survey, who reported an increase in comfort with course content that was statistically significant in all but one area. Teamwork in healthcare was an area in which students reported having the same level of comfort before and after the course. The results show a perceived improvement in students’ familiarity with concepts of perioperative medicine and acute care.

**Supporting Document (Results)**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Signed Rank</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airway Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am comfortable assessing a patient's airway.</td>
<td>37</td>
<td>2.3</td>
<td>0.7</td>
<td>1.0</td>
<td>4.0</td>
<td>3.0</td>
<td>0.0001</td>
</tr>
<tr>
<td>I am comfortable performing mask ventilation.</td>
<td>37</td>
<td>2.5</td>
<td>0.9</td>
<td>1.0</td>
<td>4.0</td>
<td>3.5</td>
<td>0.0001</td>
</tr>
<tr>
<td>I know the steps to take when mask-ventilation becomes difficult.</td>
<td>36</td>
<td>1.8</td>
<td>0.7</td>
<td>1.0</td>
<td>3.0</td>
<td>3.1</td>
<td>0.0001</td>
</tr>
<tr>
<td><strong>Perioperative Evaluation and Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am comfortable performing a pre-operative evaluation of a surgical patient.</td>
<td>37</td>
<td>2.1</td>
<td>0.8</td>
<td>1.0</td>
<td>4.0</td>
<td>2.8</td>
<td>0.0001</td>
</tr>
<tr>
<td>I am comfortable assessing a patient with acute post-operative pain.</td>
<td>37</td>
<td>2.0</td>
<td>0.8</td>
<td>1.0</td>
<td>4.0</td>
<td>2.9</td>
<td>0.0001</td>
</tr>
<tr>
<td>I am comfortable establishing IV access.</td>
<td>37</td>
<td>1.8</td>
<td>0.9</td>
<td>1.0</td>
<td>4.0</td>
<td>3.0</td>
<td>0.0001</td>
</tr>
<tr>
<td>I am comfortable assessing a patient's airway.</td>
<td>37</td>
<td>2.1</td>
<td>0.7</td>
<td>1.0</td>
<td>4.0</td>
<td>2.7</td>
<td>0.0001</td>
</tr>
</tbody>
</table>
patient with chronic pain.

I am comfortable evaluating chronic opioid use.

<table>
<thead>
<tr>
<th></th>
<th>37.2</th>
<th>0.8</th>
<th>1.0</th>
<th>4.0</th>
<th>2.8</th>
<th>0.6</th>
<th>2.0</th>
<th>4.0</th>
<th>0.0001</th>
</tr>
</thead>
</table>

Intraoperative Setting

I am comfortable in an operating room environment.

<table>
<thead>
<tr>
<th></th>
<th>37.2</th>
<th>0.8</th>
<th>1.0</th>
<th>4.0</th>
<th>3.5</th>
<th>0.5</th>
<th>3.0</th>
<th>4.0</th>
<th>0.0001</th>
</tr>
</thead>
</table>

I am comfortable working as a member of a healthcare team.

<table>
<thead>
<tr>
<th></th>
<th>37.3</th>
<th>0.6</th>
<th>1.0</th>
<th>4.0</th>
<th>3.6</th>
<th>0.5</th>
<th>3.0</th>
<th>4.0</th>
<th>0.0918</th>
</tr>
</thead>
</table>

---

**Poster 3: Faculty Development OSTE Workshop on Teaching Professionalism**

Wei-Hsin Lu, Elza Mylona, Susan Lane, William Wertheim, Perrilynn Baldelli, Peter C. Williams

**Goals/Objectives:** Objective Structured Teaching Exercises (OSTEs) were used to train faculty on how to teach professionalism and medical ethics to students in clinical settings. Performance checklist assessment tools were created for each OSTE case including general and scenario-specific skill and action items.

**Theoretical Framework:** The OSTE format has been found to be an effective training tool in that faculty can practice their teaching skills under realistic scenarios and receive immediate feedback. OSTEs are appealing because they avoid the barriers of limited time and happenstance that occur in real clinical settings. Faculty have an opportunity to point out and address the professional and ethical aspects of clinical practice to learners in a standardized and safe environment.

**Instructional Methods:** Half-day workshops that included 8 OSTE cases were offered to the Ambulatory Care, Medicine, and Family Medicine clerkship faculty. The cases were developed based on an extensive literature review and a student needs assessment identifying significant “teachable moment” scenarios of professional and ethical dilemmas commonly encountered in medical student’s clinical training. Trained standardized students (SSs) role-played the scenarios at different stations, and depending on the scenario, the faculty participant was asked to provide the SS instructions/guidance. All scenarios were videotaped and observed by a senior faculty member watching on a monitor outside the room. Each scenario took 10-minutes with another 5 minutes for feedback from the faculty observer and SS. A debriefing session was conducted with the faculty participants afterwards where they were able to review key teaching points and reflect on the experience.

**Reflective Critique:** Faculty participants (n=20) comments were positive—reporting that the scenarios were reflective of the issues they actually encounter while teaching medical students and that the information and skills they learned will likely have an impact on the way they teach in the future. Additional information will be presented at the meeting.

**References**

**Poster 4: Cesarean Sections: The Humanities in Medicine**

Kate Wallis

**Objectives:** Analyzing the history of medical phenomena allows us to contextualize current trends and represents an opportunity to incorporate the humanities into medical education and practice.

**Background:** Cesarean sections now account for nearly one-third of all deliveries in the US, which represents a rapid increase in Cesarean deliveries over the past century. Studying the history of this procedure allows us to understand the scientific, cultural, and legal ramifications of this increase, with an eye toward examining current practice standards.

**Methods:** Standard methods of historical analysis, including review of primary and secondary sources such as magazine, newspaper, and journal articles, and published speeches.

**Results:** Analyzing the historical basis for the current Cesarean section rate led this author on an exploration into historical primary sources, as well as into related bioethical, legal, and scientific literature. The increasing reliance on the C-section reflects multiple trends throughout history, including the acceptance of male physicians as birth attendants, of the use of anesthesia in childbirth, and later of the “No indicated risk” and elective Cesarean sections. Recognizing the role of the increasing medicalization of pregnancy and labor, of the scientific advancements contributing to improving surgical and antiseptic techniques, and of changes in the cultural norms surrounding childbirth helps us to understand the increasing C-section rate.

**Conclusions:** The incorporation of the humanities into medicine helps us to contextualize, understand, and evaluate current practices. Students and practitioners can focus on particular procedures or trends to gain an understanding of their origins. Examining the historical basis for the Cesarean section is one example of this historical analysis, and is valuable for students and physicians working within the fields of obstetrics and gynecology, pediatrics, surgery, and anesthesia. Appropriate educational emphasis, the availability of mentors, and publication opportunities can help to nurture study of medical history by students and practitioners.

**References:**

**Poster 5: Addressing Cultural Competency in Resident Education in Ophthalmology**

William Flanary, Susan M. Pepin

**Purpose:** Residency programs are required by the ACGME to include relevant issues of cultural diversity and ethics (“cultural competency”) in the curriculum. Although the majority of literature addressing the value of cultural competency education is targeted toward primary care specialties, studies have shown that cultural competency education would benefit residency training in the surgical fields as well. In this study, we explore the motivation for inclusion of cultural competency specific education into ophthalmology residency curriculum as well as the current state of cultural competency education in ophthalmology residency.

**Methods:** Ophthalmology residency program directors were invited to complete an anonymous online survey to examine the extent that cultural competency specific curriculum is included in resident education. The program directors were also asked which established strategies for implementation of cultural competency specific curriculum would be most effective to incorporate into current residency curriculum.
**Results:** Most survey respondents (72%) consider cultural competency to be an important part of ophthalmology residency education. Thirty percent of program directors acknowledged that cultural competency is not directly addressed in the curriculum with the majority of program directors indicating that cultural competency is addressed through impromptu faculty discussion following patient interaction (64%). Most respondents indicated that patient interaction with faculty discussion (61%) and independent literature review (38%) would be the most helpful strategies for teaching cultural competency. Thirty-nine percent of program directors thought cultural competency should primarily be addressed in medical school.

**Conclusion:** Although the majority of residency program directors in ophthalmology consider cultural diversity an important aspect of resident training, few believe that current curriculum should be altered to incorporate established teaching methods for cultural competency education. Further research needs to address how to facilitate adequate training strategies to allow cultural competency training in ophthalmology residency programs to meet ACGME requirements and the needs of patient care.

---

**Poster 6: Initial Evaluation of a Longitudinal Evidence-Based Medicine Curriculum for Pediatric Residents**

Rachel Boykan, Maribeth Chitkara, Kevin Cahill, Catherine Messina

**Purpose:** To evaluate year one of a new EBM curriculum designed to improve basic EBM skills (e.g., question formation, search strategies and critical appraisal) and to facilitate practical application of these skills.

**Background:** Traditionally, residents learn EBM in the context of journal club. Recent work suggests that teaching EBM in an integrated format may improve learning and usage. In 7/2010, we initiated a 3-year curriculum with a redeveloped series on basic skills in the first year (question formation, searching, critical appraisal), and introduced a Critically Appraised Topic (CAT) presentation in place of journal club (second year). In year three, senior residents precept year-one sessions and CAT presentations. We currently present data on the first two cohorts completing the first year of the curriculum.

**Methods:** All pediatric residents were eligible for participation. Prior to and at completion of the first year, each participant completed an EBM review quiz containing 13 matching, 5 true/false and 4 short-answer questions. For Cohort 1, results were compared to a control group of residents who had not participated in the curriculum.

**Results:** Cohort 1: The participant group (n=9) scored higher overall (p= 0.15) compared to controls (n=8). Participant scores were significantly higher than control scores on the short-answer questions (3.8 vs. 3.2, p=0.03). Cohort 2: Participant scores (n=12) showed improvement from 10.4 (pre-) to 13.3 (post-), p=0.01. Mean matching questions scores showed significant improvement from 6.9 to 9.1, p=0.02. The true/false and short answer question scores improved from 3.8 to 4.5, p=0.09.

**Reflections/Conclusions:** Data from a second cohort of residents completing the curriculum's first year show improvement similar to that seen in the pilot and first cohort, reinforcing our prior conclusions that teaching EBM in an integrated and longitudinal fashion may improve knowledge and clinical application. Further data collection will continue to inform this curriculum's success.

**References**

2. Kersten et al, Evidence-Based Medicine in Pediatric Residency Programs: Where Are We Now , Ambulatory Pediatrics 2005; 5:302 – 305
Poster 7: Rethink Journal Club: Year Two of an EBM Curriculum for Pediatric Residents

Rachel Boykan, Maribeth Chitkara, Kevin Cahill, Catherine Messina

Purpose: Year two evaluation of a new EBM curriculum designed to improve basic EBM skills (e.g., question formation, search strategies and critical appraisal) and facilitate practical application of these skills.

Background: EBM is traditionally taught in the context of journal club. Research suggests that teaching EBM in an integrated format may improve practical application. In 7/2010, we initiated a 3-year curriculum with a redeveloped series on critical appraisal (year one) and use of a Critically Appraised Topic (CAT) presentation in place of journal club (year two). We present data from year two. Residents chose a clinical question, conducted a literature search, and identified 4-5 relevant articles (guided by EBM faculty and a medical librarian). Each presented an appraisal of the literature, formulated a clinical bottom line, made recommendations for practice and prepared a summary abstract for publication in an online CAT bank.

Methods: CAT session attendees evaluated presentations with a survey (rating scale: 1(strongly agree) to 5(strongly disagree)). Presenters completed a self-reflection to assess confidence with EBM principles. Faculty attitudes were surveyed before and after the implementation of the CAT format (rating scale 1 [never] to 5 [all the time]).

Results: Six sessions were evaluated by 12-23 attendees each. Attendees (n=91) all agreed/strongly agreed that CATs were well presented and relevant (mean score=1.43, SD 0.12-0.28). Comments included: "very organized;" "informative." Presenters felt sessions were worthwhile and their practice of medicine would change as a result (mean score=2, SD 0.6-1.6). Faculty felt residents selected more relevant articles (3.5 v. 4.3, p=0.01), and were better able to critically appraise the literature (3.3 vs. 4.,p=0.02).

Reflections/Conclusions: Results from the first cohort completing Year Two of this curriculum reinforce improvement seen in the prior cohort completing Year One (presented separately), suggesting that teaching EBM in an integrated fashion may improve its clinical use. Further evaluation continues.

2. Kersten et al, Evidence-Based Medicine in Pediatric Residency Programs: Where Are We Now, Ambulatory Pediatrics 2005; 5:302 – 305

Poster 8: The Relationship between Faculty Ratings and Trainee Performance Ratings in Procedural and Non-procedural Residency Programs

Jennifer Lapin

Educational research suggests that student ratings of faculty are positively correlated to course grades, even when ratings are assigned before final grades are received. This study examines the relationship between trainee ratings of clinical faculty and performance ratings of trainees by faculty. Data from the medicine residency program were used for this analysis, and then the methods were repeated with data from the anesthesia residency program. Trainee performance data collected during the 2011-2012 academic year were matched with faculty evaluation data collected during the same period. In medicine there were 560 pairs of ratings and in anesthesia there were 708. In both fields, the faculty evaluation form is 10 questions on a five-point Likert scale, where each question addresses a different area of clinical teaching effectiveness. In medicine, the trainee evaluation form consists of 19 nine-point rating scale assessing different trainee competencies; in anesthesia the trainee evaluation form consists of 21 five-point Likert scale items. For all scales higher scores are better; item scores were averaged for an overall score. In medicine, the average faculty rating for the sample was 4.69 (sd=.50, range 2.11-5.00). The average trainee performance rating was 6.80 (sd=1.58, range 1.00-8.33). An initial analysis revealed no relationship between faculty and trainee ratings.(r = .024). However, an analysis of trainees who received an average rating of 4 or lower (n=56) suggests a statistically significant relationship between trainee ratings of lower performing faculty and faculty ratings of lower
performing trainees ($r = .266, p = .048$). Interestingly, the anesthesia residency results indicate a statistically significant relationship between average trainee performance rating and average faculty rating ($r = .207, p = .000$), but when lower performing trainees were analyzed separately ($n=97$), the result was not statistically significant ($r = .073, p = .474$). These results suggest a difference between relationship of trainees and faculty ratings in non-procedural programs versus procedural training programs.

**Poster 9: The File is Somewhere: Long-Term Storage, Preservation, and Access to Institutionally Generated Knowledge**

Jessica Kilham, Jennifer Miglus

Today’s digital world gives all students a wealth of information, but putting scattered pieces together to create insight and new knowledge is increasingly difficult. To make sense of the information chaos, students need an understanding of how information is stored and managed in order to make meaningful contributions to their field. The documented record of research is greater than the final publication or lab notebook, but also includes teaching slides, student projects, collaborative research, genetic sequencing and everything in between.

Recognizing that scholarly information has rapidly become lost in isolated silos, our library has created a team to raise awareness of the complexities and challenges of long-term information storage, preservation, and access to institutionally generated knowledge.

Our initial project was to assess the current state of data management (including knowledge management, file interoperability, etc) at a large academic medical center. Faculty and researchers affiliated with 77 research projects received an IRB-approved online data assessment survey. This instrument consisted of 28 questions addressing project information, data characteristics, data uses, and the need for support for research data management. A total of 59 surveys were completed; the survey was open from August to October 2012. Future projects include more focused interviews with faculty and potentially adding information storage and retrieval skills to the curriculum.

The survey has raised institutional awareness of the need for a robust infrastructure to support long term storage and access to institutionally generated information. Clinically, a facility with systems for information storage and retrieval is increasingly vital to medical students as they face a world of electronic health records with their challenges of security and interoperability. Limitations of this project include a small return rate (~7%), financial constraints to the creation of an information storage infrastructure, and an already full curriculum.

**Poster 10: Stop Searching and Start Finding: Implementing a Discovery Tool**

Jessica Kilham, Sheryl Bai

Libraries have recognized that Google-like single search interfaces are needed to optimize searching and increase use of institutionally subscribed resources. Realizing that our collections were in silos, our library implemented a discovery tool (branded OneSearch). The discovery tool is based on a centralized index that allows users to integrate searching multiple resources and accessing information seamlessly.

OneSearch allows users to search across the library’s collections simultaneously—meaning that patrons can search for books, media, journals, and articles from resources like PubMed or Web of Science and institutional repositories in one search rather than running a literature search in multiple resources. Search results link directly to full text resources (if available) to streamline the information retrieval process. Results can be refined using facets similarly to commercial sites. Personalized accounts make it possible for results in your discipline to rank higher in the results list in a process known as scholarly ranking. Implementing this discovery tool took four months. It included the creation of an interdepartmental team and intensive training in how to customize the system. Configuration consisted of customizing normalization rules for harvesting data and for appropriate search and display, building pipes to include local resources, and developing system enhancements to meet institutional interests and needs.
OneSearch was initially met with resistance from library staff but it has been well received by patrons. Because the system has a Google-like familiarity, little to no training is required on the single search box. This has resulted in a steady increase of OneSearch use and noted patron satisfaction with the centralized search experience. OneSearch remains in perpetual beta and usability testing is scheduled in the near future. Ongoing upgrades and improvements will be made.

Poster 11: Educating Emergency Medicine Residents about Emergency Department Identification and Management of Agitated Delirium in Older Adults

Tony Rosen, Scott Connors, Alexis Halpern, Michael E. Stern, Sunday Clark, Mark S. Lachs, Neal E. Flomenbaum

Objectives: Agitated delirium occurs frequently in older patients in the emergency department (ED) and has serious consequences. Despite this, delirium is frequently missed by emergency providers, and, when recognized, appropriate assessment and management is challenging. Our research goal is to assess the value of educating emergency medicine (EM) residents about diagnosis and management of geriatric delirium.

Methods: We developed an evidence-based educational intervention to improve recognition and management of geriatric agitated delirium in the ED and implemented it at a large, urban, university-based EM residency. The intervention consisted of a 15-minute standardized didactic session highlighting recognition of agitated delirium in older adults and strategies for effective management. It included a mnemonic to remind residents to evaluate for commonly missed contributing causes: A-B-C-D-E-F (A=analgesia, B=bladder / urinary retention, C=constipation, D=dehydration, E=environment, F=(ph)armacy / medications). Written surveys were administered before and after the intervention to assess baseline knowledge, attitudes, and practices as well as the presentation’s impact.

Results: 45 (100%) EM resident physicians participated. Prior to the intervention, 76% reported discomfort managing delirium and 96% reported they would benefit from additional geriatrics training. After the intervention, 87% reported more comfort with the differential diagnosis of delirium, 84% reported more comfort with delirium management, and 93% reported more comfort with the appropriate medication management in geriatric delirium. Initially, 4% of residents reported frequently evaluating patients for at least 6 of the 7 commonly missed delirium causes emphasized in the intervention. After the intervention, 84% reported intention to routinely evaluate for these factors. 87% believed that the A-B-C-D-E-F mnemonic would help them remember commonly-missed contributing causes.

Conclusions: Increased training on ED management of geriatric delirium is clearly needed. This educational intervention has increased EM resident awareness of this common, complex, life-threatening syndrome and has given residents the confidence to evaluate for and treat it.

Poster 12: Calling the Shots – Improving Resident Ability to Address Parental Vaccine Concerns

Susan Walker, Robyn Blair

Background: Parental concerns regarding vaccine safety have led to a national trend in vaccine refusal, resulting in an increase in incidence of vaccine preventable disease. Patients rely on their healthcare provider for accurate information regarding vaccines; therefore, providers need vaccine knowledge and the ability to discuss vaccine concerns with parents. This report describes the implementation and evaluation of an educational workshop designed to improve pediatric residents’ knowledge about vaccines as well as their ability and comfort with discussing vaccine concerns with parents.

Design/methods: Pediatric residents participated in a three-hour workshop consisting of didactics, video observation, literature review and discussion, and role play regarding general vaccine knowledge and parental vaccine concerns. A nonrandomized, pre-test/post-test study was performed to evaluate the effectiveness of this workshop on residents’ vaccine knowledge and their ability to discuss vaccine concerns with standardized parents. Residents were assessed on their vaccine knowledge with a multiple-choice exam. They were assessed on their vaccine discussion skills with a performance checklist scored by faculty who observed videotaped interactions between residents and standardized parents.
**Results:** Participants achieved 70% on the pre-test standardized patient checklist and 83% on the post-test. 75% of participants reported that participation in the workshop resulted in a better or much better understanding of parental vaccine concerns. All workshop participants reported better or much better skills and comfort level in having vaccine discussions with parents.

**Conclusion:** Participation in an educational workshop designed to teach vaccine communication skills results in an improved understanding of parental vaccine concerns as well as improved comfort level and skill in discussing those concerns with parents. This improvement in skill and comfort may result in increased vaccination rates among patients in their care.

**Poster 13: Designing a Fellowship Curriculum: The First Step, A Needs Assessment**

Ellen Edens Brian Fuehrlein

**Purpose/Objective:** To characterize the current curriculum throughout the 140 ACGME-accredited Addiction Psychiatry and Pain Medicine training sites that trainees receive in chronic pain or addiction, respectively.

**Background:** Despite the fact that chronic pain and addiction commonly co-occur and frequently complicate the management of the other, it is unclear whether and how curricula are designed and implemented in these subspecialties to address the comorbid conditions. ACGME core competencies in both subspecialties mention the co-occurring condition only cursorily. Neither, however, requires specific training in the other.

**Methods:** A novel 10-question Likert and open-ended descriptive survey was designed and distributed anonymously through Survey Monkey to all 140 fellowship directors of identified ACGME-accredited Pain Medicine and Addiction Psychiatry training programs. The survey instrument included quantitative and qualitative questions focused on curricular content such as clinical, didactics, and research opportunities as well as institutional resources. Potential barriers to curricular implementation were also probed. A qualitative analysis was used for the free-text responses. Descriptive statistics was applied to the Likert questions.

**Expected Results:** Preliminary data suggests the majority of training programs in Addiction Psychiatry and Pain Medicine provide limited curricular content in the assessment and management of the comorbid condition. Institutions with both Pain and Addiction ACGME-accredited programs are more likely to have such educational opportunities.

**Conclusions:** Understanding how to design curricula that address core content not prescribed by the ACGME could be expanded and generalized to other content areas.

**References:**

**Poster 14: An Epidemiology Curriculum for Rheumatology Trainees**

Juliet Aizer, Lisa Mandl

**Goals and Objectives:**
1. To improve critical appraisal self-efficacy, skill, and behaviors of rheumatology trainees through dialogue and peer consultation
2. To improve epidemiology/biostatistics knowledge through experiential learning
3. To develop instruments capturing changes in trainees` critical appraisal attitudes, skills, behaviors, epidemiology/biostatistics knowledge, and curricular experience
Framework: Our curriculum is based in Andragogy. Participants have common clinical responsibilities and career goals. Article review sessions apply Experiential Learning. Research presentations with peer consultation apply Action Learning. We conceptualize critical appraisal self-efficacy and skill development through dialogue, reflection and action within Critical Theory.

Methods: Facilitators developed learning objectives with trainee input. Trainees (n=12) completed baseline questionnaires on experience, career goals, critical appraisal attitudes, skills, and behaviors, and epidemiology/biostatistics knowledge. Twice monthly, participants review clinically relevant, methodologically important articles. Participants and facilitators then critique each article through dialogue. Participants identify knowledge gaps, reflect on experiences, perform analyses, address challenges, consider implications, and formulate learning points. Summaries are distributed.

Monthly, participants present personal research projects highlighting ongoing challenges. Solutions are developed through peer consultation. Reflection follows.

Mid-year and year-end interviews and questionnaires examine trainees’ perspectives on curriculum format/content, critical appraisal attitudes, skills, and behaviors, and epidemiology/biostatistics knowledge.

Anticipated Results: After one year, participants will report increased critical appraisal self-efficacy and more thorough reading habits. Participants will demonstrate greater critical appraisal skill and knowledge of epidemiology/biostatistics. Participants will express comfort with the curriculum format, positive personal impact, and worthwhile time expenditure.

Conclusions: Use of dialogue, experiential and action learning techniques with rheumatology trainees is anticipated to be associated with improved attitudes, knowledge, skills, and behaviors. Study limitations include small sample, lack of concurrent control group, and potential impact of external factors. Further validation of the assessment instruments will require additional study. This curriculum could be implemented in other rheumatology programs, and adapted for other specialties.

Poster 15: Shift-to-Shift Handoffs: What Training Do Our Interns Receive During Medical School?

Katherine Berg, Lee Ann Riesenberg, Ariellle Schaeffer, Justin Davis, Dale Berg

Background: There has been an increasing focus on handoffs and the role ineffective handoffs play in patient safety. In 2001, the Institute of Medicine (IOM) reported that inadequate handoffs are “where safety often fails first.” According to the Joint Commission 2012, “an estimated 80 percent of serious medical errors involve miscommunication between caregivers when patients are transferred or handed-off.”

Methods: In 2012, the authors surveyed incoming interns (n=154) regarding the number of hours of training received during medical school in conducting a shift-to-shift handoff, including formal didactic sessions, simulation and students experience conducting handoffs.

Results: Seventy-two percent of incoming interns received training on how to conduct shift-to-shift handoffs, 45% of those received an hour or less dedicated to this training. Thus, overall 71% students received 1 hour or less (n=70) or no training at all (n=40), on how to conduct shift-to-shift handoffs. Of those who received training, 12% included simulation. A majority of students (62%) received training from a resident instead of faculty. When asked if they had ever conducted a student-to-student handoff, 71% had conducted 3 or less handoffs (48% never conducted one, 23% conducted between 1-3 handoffs). Additionally, 75% of students never had a faculty observe them conducting a handoff. Seventy-five percent of students reported that their medical school did not have a standardized template for conducting hand-offs and 35% of students had seen a patient safety issue result from an inadequate handoff.

Discussion: These results highlight the curricular deficit that exists in training medical school learners how to conduct a handoff to their colleagues. Most incoming interns rarely, if ever performed a handoff and if they had, few received feedback from faculty. These results indicate the need for novel curriculum interventions for teaching handoffs in medical school.
**Poster 16: *A Curriculum Designed for Millennials Using Simulation Training and Collaborative Learning***

Moyna H. Ng, Nicole Lapinel, Hsiang-chi Meng

**Goals and Objectives:**
To help interns develop critical thinking skills central to the training in Internal Medicine via simulation-based learning.

**Background:** Millennials have been described as collaborative, team-oriented and technologically savvy. They expect medical education to consist of technically proficient learning activities that make efficient use of their time. The simulation program at Lenox Hill Hospital includes a new curriculum tailored to collaborative learning. Interns are instructed in the approach to the sick patient, the physical exam and scenarios involving basic organ dysfunction.

**Instructional Methods:**
Three topics have been explored: Dyspnea, Chest Pain and Abdominal Pain. Each topic is covered in two SimMan sessions—an educational session followed by an evaluation session during the interns’ two-week ambulatory rotations. Instead of hearing a lecture, interns are expected to come prepared to participate. A Pre-SimMan survey and short quiz are given at the start of the Educational session. Interns are assigned into groups of six to seven. The instructors teach triage; focused history and physical exam; work up; differential diagnoses and management. In the Evaluation session, interns are divided into groups of two to three. Clinical scenarios are presented to each group who then synthesizes and applies their medical knowledge to generate a diagnosis and treatment plan. At the end of the Evaluation session, interns complete a Post-SimMan survey and short quiz.

**Reflective Critique:** Results to date show a positive trend towards improvement in confidence in management of each clinical situation and ability to teach their colleagues. Interns have also reported high satisfaction with this new interactive curriculum. A second round of Evaluation sessions will start in January 2013.

Learning by doing – this is how millennials learn best. Hands-on simulation and collaborative learning help interns hone their ability to synthesize, apply, reason and interpret; ultimately translating into improved patient care and safety.

**References:**
1. B.A. Boateng: Should Generational Characteristics Be Considered In Instructional Methods? The Instructional Preferences Of Millennials And Its Implications For Medical Education. *The Internet Journal of Medical Education.* 2011 Volume 2 Number 1. DOI: 10.5580/26e7

**Poster 17: Improving Resident Documentation, Coding and Billing with a Practical Tutorial***

Moyna H. Ng

**Goals and Objectives:** To improve resident documentation, coding and billing with a practical tutorial.

**Background:** While Internal Medicine residents undergo rigorous clinical training, they rarely participate in any structured learning in inpatient medical coding, billing and adequate supporting documentation. Since these skills are essential once they become practicing physicians, an innovative tutorial was developed and incorporated into the Medical Consultation rotation targeted at the PGY-3 trainees.

**Instructional Methods and Materials:** During a two week rotation on Medical Consultation, a PGY-3 resident works with an academic hospitalist and they are charged with coding and billing each patient encounter on mock billing cards. The tutorial is divided into four phases. Phase One – the resident codes and bills each patient visit without any aide. Phase Two – the resident is given a reading packet consisting of two articles on coding and billing, a hospitalist progress note template, a
hospital pocket pamphlet on coding and billing and a one page reference guide published by CMS. Phase Three – the resident meets with the academic hospitalist to review each mock billing card and the corresponding documentation for appropriate coding and level of service billing. Phase Four – a billing report card is generated at the end of the rotation. A pre- and post-rotation survey based on a Likert scale assessing the resident’s knowledge, confidence and ability to teach documentation, coding and billing is given at the beginning and end of the rotation, respectively.

Reflective Critique: Results to date reveal a statistically significant trend towards improvement in knowledge, confidence and ability to teach the fundamentals of medical coding and billing with proper documentation. Residents are highly satisfied with this short and effective tutorial. It also incorporates the Systems Based Practice competency to teach residents to work effectively in various health care delivery settings.

References


Poster 18: Development of a Visual Diagnosis Curriculum for Emergency Medicine Students and Residents
Anand Nataraj, Rishi Madhok, Jeremy Sperling

Objectives: The Journal Club component of courses at Weill Cornell Medical College acquaints students with contemporary research concepts and techniques complementary to other learning modalities. Challenges include promoting student interest and participation and maintaining consistency of the experience among journal club groups. In “Brain and Mind”, a second year course, we have made several innovative changes to address these challenges.

Background: Journal club has been an integral part of medical education for over a century (Linzer, 1987) and is an effective platform for training students in critical appraisal of the research underpinnings of evidence-based medicine (Edwards et al., 2001).

Methods and Materials: Peer tutors are comprised of senior Neuroscience graduate students, MD-PhD students, and post-doctoral fellows. Papers deal with “Supporting Cells,” a topic not covered directly in other parts of the course. Papers are short and have a clear message. They are accompanied by “News and Views” highlighting clinical relevance.

Student guides, written by the tutors, include 1) “Clinical Significance,” which highlights a case vignette; 2) “Background Review,” which defines terms that may be unfamiliar to the students; 3) “Summary of Experimental Procedures,” which explains methodologies; 4) “References,” which provide relevant text citations and further reading.

Tutor guides provided only to the tutors include 1) “What the students have already been taught”; 2) “Paper summary”; 3) “Points for Discussion”; and 4) “Take-home messages.”

Tutors meet prior to journal club sessions to discuss articles and prepare questions for periodic course quizzes.

Reflections: Journal Club experience in Brain and Mind is rated highly by students in objective Likert scale evaluations. In the future, we will use student focus groups to refine the experience.

References
**Poster 19: Medical Students for Haiti, Inc. (MS4H): North American Medical Students Building Healthcare Provider Capacity in Haiti through Bidirectional Educational Engagement with Haitian Medical Students**

Christian A. Péan, Keithara Davis, Kei Satoh, Ernest Barthelemy, Joy Reidenberg, Benjamin Bristow, Géneviève Poitevien, Ernest Benjamin

**Background:** MS4H's mission promotes utilizing medical education to increase the pool of Haitian healthcare providers who can work effectively in Haiti. At Université Quisqueya (UniQ) Medical School in Port-au-Prince, Haiti, less than a quarter of medical students pass their initial anatomy courses. UniQ faculty believe the low pass rates are due to a poorly resourced curriculum and competing priorities for students. MS4H and UniQ pursued an elective summer anatomy program at UniQ that combined peer teaching by North American medical students and academic twinning models.

**Methods:** Six North American students at various levels of medical training executed the summer program with support from faculty at UniQ and The Mount Sinai School of Medicine. Student instructors delivered two hours of lecture and small group discussions in French daily over four weeks to an audience of 30-60 Haitian medical students. The modular curriculum emphasized “problem areas” identified by UniQ faculty.

In 2013, this peer teaching model will be expanded to include three separate programs aimed at improving medical education in anatomy, biochemistry, and first responder care. These projects will also allow Haitian medical students to teach the North American students in material relevant to Haitian culture and the burden of disease in urban and rural Haiti.

**Results/Conclusions:** Previous valuations suggest language barriers between the North American and Haitian students. Evaluations also suggest Haitian medical student desire to teach North American medical students and be engaged in curriculum development. The program was well received by Haitian students and MS4H has been invited to continue the program in 2013. We propose this model as a sustainable, reproducible and mutually beneficial collaboration between cohorts of medical students in a global health context. Moving forward, formal data collection activities should be undertaken to determine improvements in educational outcomes and cultural competency for both cohorts of students.

**Poster 20: Social Capital: Research, Leadership and Faculty Diversity**

Bernice B. Rumala, Melanie A. Steele, Carol Leslie Brown, Carla Boutin-Foster

Social capital theory states that resources, both actual and prospective, are inherently linked to networks. Therefore, a basic tenet of social capital theory is that “relationships matter.” In the academic research realm, social capital, such as strong mentorship relationships and collaborative research networks, are critical elements for developing an individual’s capacity for a strong academic medicine career. However, racial and underrepresented minorities (URMs) are often bereft of basic social capital because they lack proper mentorships and/or are not part of “inner” circles of biomedical research. Therefore, academic institutions which share a common vision of diversity in biomedical research must leverage resources and form strategic partnerships in order to build their own capacity and social capital to support initiatives that provide mentoring, networks, information, knowledge, and opportunities for advancement. Using a social capital theoretical framework, this paper describes the development, implementation, and evaluation of achieving Successful and Productive Academic Research Careers (SPARC), a novel initiative undertaken by three urban biomedical centers to build individual capacity for academic medicine careers. SPARC is a tri-institutional partnership between an academic medical center (Weill Cornell Medical College), a translational research center (The Rockefeller University Center for Clinical and Translational Science), and a cancer center (Memorial Sloan-Kettering Cancer Center). The mission of SPARC was to create an infrastructure to increase capacity for leadership, research career development, and progression in the academic faculty pipeline of URM trainees and faculty who are in different stages of their science career paths by facilitating mentoring, networking, and career development opportunities. A second objective was to leverage resources and build partnerships that could sustain future initiatives. This paper focuses on lessons learned from the SPARC senior initiative targeting junior investigators, senior investigators, clinicians and senior administrators.
**Poster 21: Knowledge of Translational Science Earlier in the Pipeline**

Salihah Dick, Nicole Ramsey, Bernice B. Rumala, Melanie A. Steele, Elizabeth A. Wilson-Anstey, Carla Boutin-Foster

**Introduction:** Profound disparities exist in the representation of underrepresented minorities (URM) and women in the STEM disciplines and health professions. Achieving Successful and Productive Academic Research Careers (SPARC) is a partnership between an academic medical center, a research university, and a cancer center that aims to address these disparities. The SPARC Junior Initiative targeting middle school through post baccalaureate students, teachers and parents, has a specific focus on increasing knowledge about translational science, health disparities, and leadership development.

**Methods:** An 18-item survey was created to assess the SPARC initiative’s impact on social capital constructs. The survey was distributed to a convenience sample of 93 students, as well as parents and teachers who participated in the SPARC initiative. The survey addressed the social capital indicators of mentoring, networking, knowledge, and information.

**Results:** There was a 67% survey completion rate (n = 63). Respondents represented the broad range of individuals who attended the SPARC conference and this was the first time most of them (80.7%) had attended a translational science workshop. Over 90% of the participants thought that this outreach increased their knowledge about translational science, increased their interest in science. More than half of the respondents agreed that they are likely to pursue a career in translational science as a result of the initiative.

**Conclusion:** SPARC has reached over 300 participants from URM backgrounds. We have developed an infrastructure to increase capacity for research career development of URM trainees and faculty who are in different stages of their science career paths by facilitating networking opportunities. The results suggest that the SPARC initiative is effective in building social capital and will be a useful model to replicate and expand upon to continue building diversity in the pipeline.

**Poster 22: *“Bolus" and "Drip” Quality Improvement Curricula for Internal Medicine Residents**

Amanda Carmel, Jennifer I. Lee, Laura Fanucchi, Lia Suzanne Logio

**Goals and Objectives:** To design an effective quality improvement (QI) curriculum for residents to learn and apply the fundamentals of QI.

**Background/Theoretical Framework:** Learning about quality improvement (QI) is an essential part of residency training and is highlighted in the Accreditation Council for Graduate Medical Education core competencies. Incorporating QI education into training programs is a challenge due to limited time and resources. For our Internal Medicine residents, we designed two different curriculum models to meet this challenge: an intensive 2-week course (“bolus”) for senior residents, and a 6-month longitudinal curriculum (“drip”) for juniors.

**Instructional Methods and Materials:** Each curriculum consisted of half-day sessions for didactics and workshops focusing on metrics, data analysis, and other QI tools. Both groups of learners developed QI projects using the Plan-Do-Study-Act (PDSA) model for improvement that were evaluated by key stakeholders, peers and faculty. Familiarity with QI was measured using the validated Quality Improvement Knowledge Assessment Test (QIKAT) before and after each course. Reflective Critique: Residents were able to successfully learn and apply QI fundamentals following both “bolus” and “drip” approaches. The post-curricula QIKAT scores improved from baseline and were similar for both groups (13.5 and 12 respectively out of a total 15 points). Both experiences were rated highly (mean score of 4.1 on a Likert scale 1-5). By demonstrating flexibility in course design, we provided two successful options for other institutions to implement an effective QI curriculum despite time limitations. In the future, we plan to expand our resident QI training to include projects in both the inpatient and outpatient areas, providing variability in their junior and senior years. These plans include QI education for faculty development to increase availability of mentors who feel qualified to lead and teach residents in this expanding field of QI.
Poster 23: Creating a Diverse Residency through Medical Student Recruitment

Johanna Martinez, Christina Harris, Susana Morales, Cathy Jalali

Goals and Objectives: The Center for Multicultural and Minority Health (CMMH) and the Minority Housestaff Committee at the Weill Cornell Department of Medicine collaborate to promote representation of underrepresented minorities (URM) in the internal medicine physician workforce and in our institution.

Background/Theoretical Framework: African Americans and Latinos have long been underrepresented in the physician workforce; comprising 9% of the physician workforce in 2008 (compared with 25% of the US population).1,2 Underrepresented minorities are also poorly represented in academic medicine. In 1998, as part of efforts to address these disparities, we created a multi-faceted program. Our program uses the theoretical framework that other professions have used for minority recruitment. This framework includes 4 main components - mentoring, social cohesion and peer support, role modeling, and curriculum redesign.3

Instructional Methods and Materials: MCCH and MHC partake in several yearly events. Activities include an annual Minority Recruitment Open House, moderated by internal medicine residents. Workshops with faculty and residents provide URM medical students with information and skills regarding residency application, ERAS, and academic medicine. Mock interviews are offered. This event also allows open access to the program's leadership.

Reflective Critique, to include strengths, limitations, future-directions: This event among others has enhanced minority applications to and minority representation in our residency program. These percentages match and in certain years, exceed national averages. Our current intern class is 25% URM. Over half of the interns attended the Open House. Qualitative focus group comments stated that this event “confirmed their decision” to rank Cornell as a residency or made those who had “not previously considered Cornell” to subsequently do so. We are limited in being able to clearly link this resident diversity to the CMMH efforts. In the future we plan to incorporate a more robust evaluation process.

Poster 24: Electronic Curriculum Vitae Creation Wizard

Andrea DiMattia, Jay Fortin, Mary Roman

Electronic Curriculum Vitae Creation Wizard

The Commonwealth Medical College, TCMC, in Scranton, PA has developed a web-based application software called “Faculty Database.” This application provides a set of data collection modules feeding into a single-source reporting repository. The electronic Curriculum Vitae (CV) creation wizard is a module of the Faculty Database that supports the automated standardization and generation of curriculum vitas for promotion & tenure as well as tracking faculty’s accomplishments. The poster will outline areas of the creation wizard focusing on the 68 different data collection points into a relational database, the streamlined process of promotion & tenure, electronic file management, role management, and integrated comprehensive reporting. The system provides a quantitative metric of time spent on various activities within the College’s mission and documentation of essential faculty information. Essential information can be de-identified for departmental analysis and reports can be individualized as needed with real time access. This poster will enable other institutions to reflect upon their methodology of data collection and provide an example of a single-source data reporting repository, resulting in comprehensive reports that provide essential information.

References:
Note: citations were pulled from PDF resources attached to submission by AAMC Staff

1. Mallon WT, Jones RF. How Do Medical Schools Use Measurement Systems to Track Faculty Activity and Productivity in Teaching? Academic Medicine, Vol. 77, No. 2. Feb 2002 115-123
Poster 25: Patient-Focused Interdisciplinary Pedagogy for Radiology: Teaching House Staff How to Teach

Michele Johnson

- To design and implement an integrated patient focused, interdisciplinary pedagogy for medical education in order to teach house staff how to teach.
- To design a model to enhance learning and collaboration among trainees in the interdisciplinary conference environment.
- To implement and validate this model.

The interdisciplinary conference is often utilized for patient-centered, case-based learning; it is challenging to create a positive educational experience across disciplines. When radiology trainees provide brief film interpretation services within a medical or surgical conference primarily designed to enhance learning of the clinicians, the learning environment may be suboptimal for the radiologist trainee. A needs assessment for a new model consisted of observation and participation in a neurosurgical morbidity and mortality conference and a literature review of interdisciplinary learning. We found that when the radiologist was poorly invested in the activity, the quality of presentation and learning was uneven. Our challenge is the creation of a model for interdisciplinary education to enhance learning between subspecialist trainees.

Our intervention was to design a teaching format to standardize the radiologic presentation within the existing neurosurgical conference, defining a role for the radiologist trainee in the preparation of a formal presentation of pertinent patient imaging in conjunction with the clinical trainee and the radiology attending. Clinical and radiologic trainees become collaborators and stakeholders in the development of an effective multidisciplinary patient focused teaching conference, enhancing communication, learning and satisfaction.

Strengths of this collaborative interdisciplinary format include improved quality and integration of imaging with the clinical and pathologic presentations. We have a new collaborative Clinical Pathologic Correlation conference with contributions from Neurology, Neuroradiology, Neurosurgery and Pathology. The format may not translate into all interdisciplinary conferences. A limitation and future direction is the need to develop metrics for validation, quality assessment and improvement.

References

Poster 26: Gateways to the Laboratory Program – One MD-PhD Program’s Idea to Increase the Pipeline

Ruth Gotian, Jamella Raymore, Shauna-Kay Rhooms, Olaf Sparre Andersen

Abstract: Background and Objectives: In 2011, only 12% of MD-PhD students nationwide were students of diversity. Among the 2009-2011 incoming classes, only ~10% were underrepresented minorities (URM). To increase the pipeline of underrepresented minority (URM) and disadvantaged/disabled undergraduates pursuing MD-PhD training, the Weill Cornell/Rockefeller/Sloan-Kettering Tri-Institutional MD-PhD Program initiated the Gateways to the Laboratory (Gateways), a summer program for underrepresented minority and disadvantaged/disabled college students contemplating MD-PhD training. Gateways students spend most of their time doing laboratory research and also are educated about the challenges of applying to and completing MD-PhD Programs. At its inception in 1993, Gateways was the only one of its kind run by an MD-PhD Program.

Method: A key element in the evaluation of MD-PhD applicants is the quality of their research experience and perceived commitment to a research career. Gateways focuses on strengthening the pipeline by accepting only college freshmen or sophomores. During a rigorous 10-week program, students have independent research projects, participate in journal clubs and career-related workshops, and learn the importance of scientific communication via their oral, written and poster...
presentations. Students' families are invited to the “graduation.” Students are also mentored by MD-PhD students, who organize workshops in laboratory and clinical skills and journal club and serve as academic and social advisors in a “Big Brother/Big Sister” initiative.

**Reflections:** To be ready for the physician-scientist career, students must begin doing research and defining mentors early in their academic career. With 96% of the Gateways alumni pursuing health-related careers, of which one-quarter are have received or are pursuing either PhD or MD-PhD degrees, a percentage that is steadily increasing, the Gateways Program has seen incredible success. To solve the paucity of underrepresented physician-scientists, the pipeline must start earlier with critical focus on transition points.

**References:**
1. [https://www.aamc.org/students/download/121086/data/mdphd_isitrightforme.pdf](https://www.aamc.org/students/download/121086/data/mdphd_isitrightforme.pdf)
2. [https://www.aamc.org/data/facts/enrollmentgraduate/](https://www.aamc.org/data/facts/enrollmentgraduate/)

**Poster 27:** Innovating MD/PhD (Medical Scientist Training Program - MSTP) Recruitment: Incorporating and Aligning Values and Competencies to Get the Most Bang for Your Interview Process Buck!

Linda Cimon, Michael Frohman, Carron Kaufman, Stephen Vitkun

**Objectives:** The purpose of the Clinical Skills Center tour for MD/PhD-MSTP candidates is to provide a meaningful, memorable introduction to education and research opportunities at Stony Brook Medicine. These sessions are designed to reflect the institution’s mission to educate medical specialists and researchers in the biomedical and clinical sciences to be well prepared to advance the frontiers of research, clinical practice and education.

**Background:** Recruiting the best and the brightest is the ongoing, challenging charge of MD/PhD-MSTP program directors. Candidates and program directors alike seek ways to best utilize the limited time frame of interview day to determine if a mutual “right fit” exists between the two. Aligning with our mission, the sessions provide a snapshot of diverse education and research opportunities that mirror real-life clinical practice to help students become thoughtful, well-rounded physician-scientists.

**Methods:** The session format seamlessly flows from introductions and statements of research interests to discussions of additional research venues such as healthcare professions education with simulation, learning styles, human factors, and simulation device creation. Candidates are immersed in an interactive simulation education opportunity in which they learn and practice a clinical skill like starting an intravenous line.

**Results:** The interactivity nature of these tours has elicited extremely positive feedback and outcomes. Candidates consistently cite this active participation allows them to feel like a doctor before they get to medical school. Several candidates report the interactivity of this tour “was the highlight of the visit”, “left a very positive impression”, “differenitated this interview from all others”, and most importantly, “it was one of the aspects of the entire visit that stayed in my mind after I left – I not only enjoyed it but thought about it while making my decision.”

**Reflective Critique:** Based on overwhelmingly positive feedback, the duration of these sessions has increased from one-half to one hour.

**Conclusions:** Future sessions will be scheduled for one and one-half hours; a second increase in allotted time based on feedback! A video tour will be developed and included on the medical school’s website.
**Poster 28: *Involvement of Current Medical Students in the Medical School Admissions Process***

Charlayne McStay, Richard Zeff

**Purpose:**
- To assess the degree of current medical student involvement in medical school admissions at U.S. medical schools.
- To evaluate perceptions regarding current student involvement and identify barriers to participation.

**Background:** There is growing evidence that current medical student input is beneficial to the admissions process. Current students are uniquely situated to assess applicants having recently been through the process(1). Prior surveys have found current medical students make an important contribution to the process(2). In addition, there has been a trend toward their greater involvement. As of 2000, 74% of committees have students holding positions(3). Despite evidence that current medical students can have a positive impact and be effectively integrated into the admissions process, there is no current data regarding this practice.

**Methods:** Admissions officers at U.S. medical schools affiliated with the AAMC will be surveyed via an on-line questionnaire. Participation is voluntary and anonymous. Data analysis will be performed in January 2013. Statistical analysis will be performed with Statistical Package for Social Scientists (SPSS) software using descriptive statistics methods. This project was found not meet criteria for human subjects research and does not require further University of Connecticut Institutional Review Board involvement.

**Expected Results:** I anticipate a response rate of about 70% similar to past studies on admissions committee demographics. Based on previous trends, I hypothesize that there is a growing use of current medical students in the admissions process. I anticipate that a majority of admissions officers view involvement of current medical students in the process as positive.

**Conclusions:** As data has not been run at this time, I am unable to draw final conclusions. Final data will be run in January 2013. Limitations to this study are the inconsistent ability to contact admissions officers directly and self-selection of survey participants from the original sample.

**References:**

**Poster 29: A Publication Is an Expected Outcome of Medical Student Research**

Karen Zier, Robert Fallar, Erica Friedman

Medical students are encouraged to participate in research in order to increase their critical thinking skills, promote principles of lifelong learning, and build a foundation for future careers as physician investigators. Students may perceive other benefits, such as learning how to present an abstract or publish a paper, as well as increasing their chances of securing a residency position in an academic medical center. In this study, we investigated program directors’ perceptions of the value of medical student research, in particular the perception of any additional benefit conferred by taking a year to do research, as well as publishing original research.

A questionnaire was used to determine how important program directors regarded research to the education of a physician and how a publication influenced their thinking. The questionnaire was distributed via email to 241 directors of residency programs within Mount Sinai’s consortium, along with those from programs in which Mount Sinai Medical School graduates matched. Respondents were asked to answer 17 questions on their background, training, research experience, and views on the importance of research.
The results revealed 94% percent considered a research experience essential or valuable for the education of a physician. Seventy-seven percent felt that a research experience was essential or valuable in a residency candidate. Sixty percent believed that a year of full-time research that resulted in a publication was valuable, while only 32% percent felt that the experience would be valuable if no publication resulted. When evaluating a residency candidate, 71% felt being a first author on an abstract strongly improved or improved an applicant's qualifications.

The results demonstrated that while a year of research experience is valued by program directors, the majority felt the experience was more valuable if the student published.

**Poster 30: Engaging Clinical Faculty via Electronic Communications**

Chris Carroll, Andrea DiMattia, JoAnn Babish

The Commonwealth Medical College in Scranton, PA, has created new electronic tools to educate, inform, and engage all community-based physicians as leaders in the delivery of medical education to our growing student population. Our communications team provides high-quality, concise, and accurate materials to support our mission of advancing the knowledge of medical students via clinical faculty.

In our effort to align values and competencies, our quarterly, four-page newsletter, eCHECK-UP, encompasses topics that include updates from regional deans, student affairs happenings, current research efforts, faculty development, and Continuing Medical Education, as well as recognition of physician accomplishments. Our quarterly, one-page brief, EDUCATE, includes concise, bulleted information to inform faculty on topics such as teaching tips and cultural competencies, and includes links for further reading material. We provide handbooks for first-time Continuity Mentors and Preceptors. All materials are archived in several locations on our Portal.

This poster will describe the varied electronic materials created to meet our objective to support the continuum of medical education at TCMC and improve the efficiency of our clinical faculty as teachers. Barriers of cost and time have given way to the electronic delivery of enhanced communications that are designed and produced in-house and presented in a professional manner with brief content in a highly visual format. The materials validate our mission and solidify the engagement and purpose of all clinical faculty associated with TCMC.

**Supporting Documents:**

Criteria 17 from Accreditation Council for Continuing Medical Education:
http://www.accme.org/education-and-support/video/faq/how-do-providers-use-non-educational-or-adjunctive-strategies

How do providers use non-educational or adjunctive strategies to creatively enhance change beyond CME activities?

The literature shows that educationalists, educational systems, education itself, can change what people know and what people want to do. Education enables people to do something differently. When those individuals are predisposed to learn, the likelihood of them learning and changing their practice is much higher.

The literature also shows that reminders as an adjunct to learning, changes and maintains the change in practice. ACCME recognized that when it was revising its Accreditation Criteria and put in C17 as a requirement, as an expectation that providers would be thinking about this and putting into systems that weren’t entirely educational, that weren’t another lecture, that weren’t necessarily a handout with the same material, but something that was different.

And the most obvious is a mailing after that reminds people or asks them: Have you changed your practice? Are you doing what it is that you promised to do? The other kind of thing is a web-based or computer-based reminder, where an icon pops up and says: It’s time for you to renew your information or use that which you were taught.

And ACCME believes that the creativity and innovation of the accredited provider needs to come to play here and to find many, many ways to reinforce what it is that you’ve taught and to remind people about what it is that they need to do in practice.

Keywords: non-educational strategies, patient feedback, reminders
**Poster 31: Teaching Falls Risk Assessment to Internal Medicine and Family Medicine Residents**

Lloyd Roberts

**Objectives:** 1) IM and FM inpatient residents will be able to identify elderly patients at high risk for falls; 2) Residents will feel confident in their ability to perform a falls risk assessment on high risk geriatric patients; 3) Residents will be able to develop an inpatient management plan for those high risk patients. Background: On the inpatient internal medicine and family medicine services, there currently exists a deficit in teaching geriatric medicine core competencies, including “systems-based care” and “performance-based learning and improvement”. Teaching falls risk assessment and management aligns with these core competencies. As a pilot, we tried incorporating several established falls education curriculae for use during work rounds, but our attendings lacked the time to both teach and evaluate the housestaff. Consequently we decided to offer the course and resident evaluation on-line. There is little published on-line curriculae and housestaff evaluation on falls, so we decided to develop our own. Curriculum: Resident will complete an on-line case study before and after intervention. Instructional materials include: 1) falls assessment narrated lecture; 2) falls checklist; 3) Morse falls risk assessment; 4) websites for falls prevention; 5) articles. Outcome measurement: Resident performance on case study before and after intervention. Strengths: 1) Flexible scheduling, since entire course and evaluations are on-line; 2) Standardization of falls risk education material among residents; 3) Curriculum employs multiple media. Limitations: 1) No means to assess that resident has gone through all of the materials, rather than just "logging on"; 2) Cannot control for additional resident falls education apart from rounds, which could affect validity; 3) Study cannot measure resident clinical performance, such as administering patient functional assessments. Future directions: 1) Publish on geriatrics on-line portals, such as POGOe, GeriU, MedEdPORTAL, for benefit of other resident training programs; 2) Develop similar on-line curriculae and self-evaluations for other geriatric hazards of hospitalization.

**References:**

**Poster 32: Developing a Required Scholarly Project Program for Senior Medical Students**


**Objectives:** In this project, we design and implement a required mentored Scholarly Project Program (SPP) for senior medical students. We hypothesize that a program that devotes curricular time for scholarship, provides mentoring by faculty and promotes Boyer’s broad scope of scholarship (1) will enhance critical thinking skills, creativity, dedication to life-long learning, satisfaction with their medical education and interest in careers in academic medicine. In this work-in-progress poster, we describe the planning and implementation phases of the project.

**Background:** P&S began to implement the new Columbia Curriculum in 2009. The SPP is a hallmark of the new curriculum, which seeks to enrich learner experience in academic innovation. The SPP was developed using a modification of Kotter’s 8-step change model (2).

**Methods:** The SPP links learners with faculty to explore an area of medical practice or research. We offer six tracks of study: basic science, clinical research, global health, medical education, narrative and social medicine, and population health.
Learners propose their projects for approval and obtain regulatory review and then have four months of protected time to collect and analyze data and to write a capstone manuscript. All learners are required to complete a scholarly project, though those who complete a second academic degree or research year during medical school may apply that experience to fulfill the requirement.

Reflection: In these early stages, we focused on feasibility. We have found that all students were able to identify projects and mentors. Students balance their interests, available opportunities and their aspirations in selecting their projects. Approximately half of our students select projects in clinical research with the remainder distributed among the other five tracks. Senior students have found that their projects are major topics of discussion in residency interviews. We are in the process of program evaluation using Kirkpatrick’s four level evaluation model.

Poster 33: *A Novel Video-Based Examination for the Objective Evaluation of Patient Assessment Skills in the Psychiatry Clerkship: A Study of Reliability and Comparative Validity*

Lee Adam Robinson, Janis Cutler, Kelli Harding, Boyd F. Richards, Aubrie Swan Sein

Background: The NBME Psychiatry subject exam is used nationally to assess medical students’ fund of knowledge at the end of the psychiatric clerkship1; objective methods to evaluate patient assessment skills are less available2. Our psychiatry clerkship uses a novel video-based examination (VE) in which students view a videotaped faculty member interview of a psychiatric inpatient, and complete a write-up synthesizing the patient history, mental status examination, and formulation/plan. Write-ups are scored using a rubric created by faculty consensus.

Method: Assessment data for 211 students were collected: subsections scores from the VE, as well as post-clerkship NBME exam scores, clinical supervisor ratings, and preclinical psychiatric course exam scores (including a similar VE). Reliability of the VE subsections was measured using Cronbach’s alpha. Construct validity was examined using an exploratory factor analysis and then a principal component analysis.

Results: Cronbach’s alpha reliability scores for the VE subsections ranged from 0.63 to 0.73. Four factors emerged from the validity analysis, which we labeled: 1) Fund of knowledge (assessed by preclinical and NBME exams); 2) Preceptor impression (assessed by preceptor ratings); 3) History/mental status assessment (assessed by both VEs), and 4) Plan/differential formation (assessed by clinical VE).

Conclusion: The development of clinical assessment skills for psychiatric illness should be a prioritized and objectively tested endpoint of the psychiatric clerkship. Our findings suggest that our video-based examination may uniquely and objectively assess components of medical student competency in patient assessment, and may be a valuable supplement to clinical supervisors’ subjective ratings of students.

References:

Poster 34: Anatomical Knowledge Retention prior to Surgical Rotations

Samantha Ahle, Juliet Lee, Jill Krapf, Ellen Goldman, Rosalyn Jurjus

Purpose: The goal of this assessment is to identify areas of strength and weakness in surgical anatomy knowledge in medical students entering the surgical rotations.

Background/Theoretical Framework: Important surgical anatomy, such as vascular and neural anatomy, is taught early in medical school training. The literature shows that many physicians, especially surgical specialists, feel anatomical education
of medical students is significantly inadequate [1, 2]. This is of great concern for students entering their surgery rotation. Quantitative data concerning this anatomical knowledge deficit is lacking [3].

Methods: One Hundred consenting third-year medical students at a large, urban medical school completed a 20-25-question evaluation prepared by anatomy faculty to assess surgically relevant anatomical knowledge. Questions were sorted and scored by anatomic subjects, including inguinal canal, vasculature, abdomen, breast, peripheral nervous system, fascia, vertebral landmarks and cross sectional anatomy.

Results: Over 92% of students were able to identify cross sections of structures on computed tomography scan. Students preformed similarly well discussing breast anatomy with 99% of students answering questions correctly. 75% of students were able to answer questions about fascia correctly, 60% of students were able to answer questions about the abdomen correctly and 57% of students were able to answer questions about vertebral landmarks correctly. Retention of vasculature, inguinal and peripheral neural anatomy was poor, with only 44%, 44% and 32% of students answering respective questions correctly.

Conclusion: Knowledge of surgical anatomy is varied for medical students entering clerkships in general surgery and surgical subspecialties. The data collected will be utilized to create interactive learning modules using principles of active learning and instructional design, aimed at improving clinically-relevant anatomical knowledge. These modules will be available to students prior to their inpatient surgical rotations with the goal of closing their anatomical knowledge gap, thus making them more successful on their surgical rotations.

References:
2. Staskiewicz, G.J., et al., What do clinicians think of the anatomical knowledge of medical students? Results of a survey. Folia

Poster 35: Improving OB/GYN Anatomy Knowledge: A Clinical Approach

Anila Sinha, Jill Krapf, Ellen Goldman, Charles Macri, Meredith Dobbs, Kirsten Brown, Gisela Butera, Rosalyn Jurjus

Goals and Objectives: The goal of this study is to design, implement, and evaluate a new mode of teaching clinically relevant anatomical information through interactive modules on the OB/GYN clerkship.

Background/Theoretical Framework: Deficits in retention of anatomy knowledge from the pre-clinical years to clinical application on the wards have been well documented in the medical education literature [1,2]. Preliminary data from our research of third-year medical students entering the OB/GYN clerkship reveal weaknesses in knowledge of lymphatic, vascular anatomy, neuroanatomy, and embryology.

Instructional Methods: Two types of modules will be designed and their effectiveness evaluated:

1. We are utilizing Camtasia, software that incorporates imported media and interactive content while recording on-screen activity, to create adult learning-based e-modules. These modules highlight clinically relevant anatomical topics applicable and specific to the experience and needs of medical students on the OB/GYN clerkship. The e-modules include an assessment of baseline knowledge, an interactive learning session, and post-activity evaluations of knowledge and effectiveness.
2. We will employ hands-on, interactive sessions in an anatomy laboratory setting, applying principles of adult learning and instructional design.
3. These include model building and practicing clinical techniques.
Reflective Critique: This innovative technique in medical education builds on our unpublished study data, which indicates a need to close the anatomical knowledge gap found in medical students entering the clerkship. Limitations of this study include a design solely based on data gathered at a single institution. Upon completion, we hope to implement a multi-institutional trial of the teaching modules, with the ultimate goal of improving clinically relevant anatomical knowledge.

References:

Poster 36: Evaluation and Assessment in a New Longitudinal Integrated Clerkship: Preliminary Results

Susan M. Perlis, Zachary Vaskalis, Maurice Clifton

Purpose: All third year students at our new medical college participate in a Longitudinal Integrated Clerkship (LIC). This is delivered at three regional campuses covering 16 counties of Pennsylvania. 62 students from the class of 2013 began their LIC in June 2011 and completed in June 2012. There are many challenges for this model of medical education including assuring comparability over geographically dispersed sites, forging relationships with a largely volunteer clinical faculty, and finding appropriate clinical experiences for all students. This poster will focus on the results from the charter class of 2013.

Background/Theoretical Framework: We wanted to formulate a comprehensive assessment/evaluation plan that emphasized work that has been developed at other LICs nationally. We were guided by the work of Krupat et. al.

Methods: Our Assessment plan includes the following: Six and Twelve Month Evaluations of Students and Preceptors; Patient Types and Procedure Logs; NBME Subject Examinations; OSCEs, Jefferson Empathy Scale (JSPE – S); Jefferys (2010 Transcultural Self-Efficacy Tool – Multidisciplinary Healthcare Provider Version (TSET-MHP); and the Patient-Practitioner Orientation Scale (PPOS) (Krupat, et. al., 2009).

Results: Students and preceptors are satisfied with the curriculum, students are making adequate progress compared to their peers in traditional and LIC clerkships.

Reflections and Conclusions: Results are limited to the first cohort of students progressing through this curriculum at our new medical school. Pre- Post-Testing data indicates that students maintained empathy based upon the Jefferson Scale, there was no significant difference in the PPOS subscales, and the Cognitive and Practical Subscales in the Transcultural Self-Efficacy Tool had significant improvements.


Poster 37: Differences in Clinical Honors Between MD/PhD Students and MD Students at UConn

Brian Benson, Thiruchandurai Rajan, Richard Feinn, Barbara Kream, Carol Coke Pilbeam

Project Purpose/Objectives: To determine whether MD/PhD students receive fewer clinical honors compared to MD students.

Background/Theoretical Framework: Obtaining honors, particularly in the discipline of choice, is perceived to play an important role in garnering competitive residencies. Most medical students transition seamlessly from the preclinical years to
the clinical curriculum. By contrast, combined MD/PhD students experience a 3-5 year gap in their clinical training. Some students perceive that this may disadvantage them in obtaining clinical honors.

**Methods:** We compared the number of total and discipline-specific honors and the preclinical grades received by 19 combined degree students (group 1) and 388 MD candidates (group 2) who graduated during the past 5 years.

**Results:** There were no statistically significant differences between grades for the two groups in the 3 preclinical courses (Human Systems – MD/PhD, 79.26 ±1.07; MD, 78.22 ±.33; Human Development and Health – MD/PhD, 85.58 ±.091; MD, 84.55 ±.25; Mechanisms of Disease – MD/PhD, 78.05 ±1.12; MD, 78.14 ±.36). However, MD/PhD students obtained fewer total honors (1.84 per MD/PhD student; 3.13 per MD student; p < 0.01). There were no differences in discipline specific honors in most cases. The two exceptions were Psychiatry and Family Medicine. MD/PhD students received fewer honors in Psychiatry (2 for MD/PhD vs 126 for MD; p=.044) and Family Medicine (0 for MD/PhD vs 94 for MD; p=.014). MD/PhD students were more likely than MD students to receive no clinical honors (42% of vs 11%, respectively).

**Reflection/Conclusions:** MD/PhD students received fewer total and discipline specific clinical honors than MD students. It is unclear if this puts these students at a disadvantage when applying for residencies or if their PhD degree compensates for fewer honors. While the difference might reflect the gap in clinical exposure, it might also reflect a difference in career goals of the MD/PhD students.

---

**Poster 38: Quality Improvement Education in Student-Run Free Clinics**

Neel Butala, Peter Ellis

**Purpose:** To introduce student-run free clinics as an avenue for quality improvement education by evaluating impact of a student-led quality improvement intervention

**Background:** Student-run free clinics represent a unique venue for educating medical students about the principles and practice of primary care and quality improvement. In 2009, students in our free clinic evaluated the quality of our preventive care and subsequently designed a multi-faceted quality improvement intervention.

**Objective:** To examine the change in the rate of preventive care services provided in one student-run free clinic after a student-led quality improvement intervention.

**Design:** Cross sectional chart review.

**Participants:** Pre-intervention: 114 randomly selected patients with at least one visit between October 26, 2008 and October 25, 2009. Post-intervention: 101 randomly selected patients with at least one visit between January 1, 2011 and December 31, 2011.

**Main Measures:** Preventive screening guidelines for diabetes, dyslipidemia, HIV, and cervical cancer as outlined by the U.S. Preventive Services Task Force and the American Diabetes Association.

**Key Results:** In 2011, 60.4% of charts examined had receipt of an HIV test documented, which was significantly higher than the 42.1% of charts examined in 2009 (p=0.007). In 2011, 90.0% of eligible patients had received a fasting blood glucose test, which was significantly higher than the 63.3% of eligible patients in 2009 (p=0.035). Of the eligible patients, 77.8% had received a fasting lipid panel in 2011, which was higher than the 59.6% in 2009, but this was only significant at the 10% level (p=0.079). Finally, pap smear rates in 2011 (59.4%) were higher than pap smear rates in 2009 (54.6%), but these were not statistically significant (p=0.661).

**Reflection/Conclusion:** This student-run free clinic provided guideline-recommended preventive services at increased rates after a quality improvement intervention. This student-led model for teaching and practicing quality improvement can lead to clinically important quality gains.
Poster 39: Extended Follow Up of an Information Literacy Curriculum for Medical Students using Apps and Optimized Mobile Websites

Sarang Kim, Helaine Noveck, James Galt, Lauren Hogshire, Laura Willett, Kerry O'Rourke

**Goal and objectives:** To teach use of evidence-based summary resources to third year medical students using apps and mobile optimized web sites and assess utilization of information resources.

**Background/Theoretical framework:** Evidence-based summary resources (EBSR) are considered to be the highest quality of resource in answering clinical questions\(^1\), but many healthcare professionals commonly use non-medical search engines (such as Google)\(^2\). Apps and mobile optimized web sites improve access to EBSR\(^3\), and may enhance the teaching of information literacy.

**Instructional Method and Materials:** We conducted a 90-minute workshop on efficient use of EBSR for 120 medical students at the beginning of their third year. Students were asked to bring their Smartphone and were provided instruction prior to the session on downloading EBSR apps. At the workshop, students were first introduced to 5 EBSR’s, then instructed to navigate through the resources on their own with their Smartphones to answer clinical questions provided. Posttest administered at the end of the year assessed students’ self-reported utilization of information resources.

**Reflective Critique:** Eighty-nine students completed the pretest and 110 completed the year-end posttest. On pretest, students reported Google (88% of students) and textbooks (67%) as the most commonly used resources. A majority of students were unfamiliar with the resources discussed during the session. On the year-end posttest, the resources most commonly accessed during clerkships were EBSR (40% students reporting use), Google (26%), and Wikipedia (6%). Hands-on learning utilizing students’ mobile devices is an efficient means of teaching information literacy. Instructing students to download the apps prior to the session ensured access to the resources during the session and in their clerkships, and increased use of EBSR in clinical care.

**References:**


Poster 40: An Intensive Medical Education Elective for Senior Medical Students

Jamie Gainor, Paul George, Marina MacNamara, Nilay K. Patel, Julie S. Taylor

**Goals and Objectives:** To develop an elective course providing senior medical students with a comprehensive experience in medical education, thus better preparing them to teach during residency and beyond.

**Background:** Medical students identify resident physicians as important teachers in both the clinical and classroom settings, but residents are frequently underprepared to assume the role of medical educator. Few medical schools offer formal training in medical education, and existing undergraduate medical education electives are often characterized by short duration, emphasis on didactic sessions, limited teaching responsibilities, and lack of exposure to key responsibilities of medical educators including curriculum design and student evaluation.

**Design:** Twelve senior medical students participated in an inaugural, four-week medical education elective. The first week emphasized didactic sessions in education theory and skills. The final three weeks consisted of an experiential component during which participants served as core instructors in a Clinical Skills Clerkship, a three-week course intended to transition rising third-year students to clinical clerkships. Senior students gained substantive experience in developing curriculum,
facilitating small group sessions, teaching clinical skills, mentoring, providing feedback, and grading an Objective Structured Clinical Examination (OSCE). Junior students and medical education faculty evaluated senior students.

**Reflective Critique:** This elective is unique among related courses at other schools as it provides students with a degree of comprehensiveness and autonomy in medical education-related experiences not previously described in the literature. Evaluation data indicate that senior students demonstrated a high degree of competence in various teaching skills at the completion of the course. Informal feedback from the first cohort of senior student participants was also positive. Future directions include the further development of a formal evaluation processes for the elective and longitudinal assessment of the impact of this course on participants’ teaching experiences during residency and on their eventual career choices.

**References:**

**Poster 41: Bridging the Gap: Integrating Basic Sciences and Clinical Medicine through Student-Generated Digital Lectures**

Jeffrey M. Stern, Elizabeth Anne Nofi Berg, Karen Clark, Jason DiNardi, Jennifer Lyn Koestler, Jessica Merriam, Sally Schwab, Paul M. Wallach

**Goals and Objectives:** Describe an online educational resource that maximizes student efficiency and bridges the gap between the basic science and clinical years
- Demonstrate technology utilized to create this learning tool
- Guide other educators to create a similar resource

**Background/Theoretical Framework:** The challenge of teaching an ever-increasing body of basic medical science knowledge to students while optimizing retention of information throughout the clinical years has been well-described and studied (Brownfield et al, 2008; Spencer et al, 2008)\(^1,2\). In May 2012, Prober and Heath\(^3\) discussed the necessity of maximizing students’ time through “stickier” lessons that are “memorable” and “boost engagement.” We approached this challenge by enlisting senior medical students to create digital lectures centered on patient scenarios that integrate basic science and clinical concepts. The lectures are viewed online by students with the goal of building a foundation of knowledge that can be refined through discussion in the classroom and clinical settings.

**Instructional Methods and Materials:** A group of fourth year medical students created 10-12 minute digital PowerPoint lectures with voiceover using Camtasia recording software. The lectures focus on the third year curriculum, but also serve as clinical correlates for the basic sciences. Videos were tagged with keywords based on MeSH search criteria to create a unique video lecture catalog that would encourage students to link concepts across lectures in our digital library.

**Reflection:** It is our hope that video lectures will provide medical students with a strong foundation of knowledge to be expanded upon by educators in small group discussions during time that would previously have been dedicated to live lecture delivery. A next step is to study the impact of this resource on medical students by creating a prospective case-control study comparing academic performance among students with and without access to this educational resource.

1. **References**
**Poster 42: Peer-Led Reflective Practice Rounds**

Mert H. Erogul

**Goals and Objectives:** Reflective practice rounds are an opportunity for students to talk about the experiential aspects of medicine and to confront the hidden curriculum in the setting of a supportive group led by a peer mentor.

**Background/Theoretical Framework:** The introduction to clinical medicine in the third year is the culmination of years of study and preparation and yet the realities of medical practice are frequently a revelation for students. The third year is when student idealism confronts the often sobering reality that working with patients holds unexpected challenges, that hospital medicine presents unique stresses and that residents and faculty may not necessarily model idealistic attitudes and behaviors. As a consequence there is a risk that students will yield to the implicit or hidden curriculum and adopt a philosophy of detachment, self-preservation, distrust and cynicism.

**Instructional Methods and Materials:** Reflective practice rounds are run as one hour small group meetings of third year medical students led by a fourth year student facilitator and a resident or faculty mentor. Student facilitators are trained with the aid of a case-based primer that addresses topics brought up frequently during rounds. These topics include: the conflicting goals of hospital medicine, patients who act in bad faith, student / nurse relations, performing procedures prior to attaining mastery, feelings of unworthiness, emotional numbness / encountering suffering, collegial relations between services in the hospital. Moral development can be guided by identifying these challenges and others posed by the students, confronting them directly, and by suggesting more wholesome narratives with which to think about them.

**Reflection:** The presence of fourth year student mentors helps engage the third years and at the same time elevates the mentors themselves. The topics in the primer are being continually refined and the effectiveness of the rounds is being assessed with surveys.

**Poster 43: Exploring Patient Perspectives through Music**

Lindsay Marie Gibbon, Jenna Devare, Terrance Peng, Dory Hottensen, Randi R. Diamond

**Goals and Objectives:** The Monthly Mini-Concert Series aims to provide Weill Cornell medical students with an opportunity to interact with patients on a humanistic level and gain a better understanding of patient perspectives. The program offers a meaningful forum for Music and Medicine Initiative (MMI) students to share their music, while also providing comfort and enjoyment to NewYork-Presbyterian Hospital (NYPH) patients and their families.

**Background:** Educational experiences in the humanities provide students with a novel means to understand the experience of illness, and to reflect on their own communication skills and practices.1 Music has been invoked as an ideal vehicle for humanism training in medicine 2, and is also widely used to enhance patient well-being.3

**Methods and Materials:** MMI student volunteers organize monthly concerts in the patient lounge on an NYPH inpatient unit with guidance from the Palliative Care Consultation Service, the Liz Claiborne Center for Humanism in Medicine, and unit staff. Prior to each event, students personally invite patients and family members to attend, and assist in transporting patients to the lounge. Audience size generally ranges from 5-10. During the concert, 4 to 8 student volunteers perform diverse and interactive instrumental and vocal pieces, and mingle with attendees after performing.

**Reflection:** In satisfaction surveys distributed after each concert, patients and families report a sense of normalization, pleasure, and diversion from their sick and caregiver roles respectively, while students report increased comfort in interacting with patients and families, and increased understanding of the needs and perspectives of hospitalized patients. Program limitations include difficulty with student schedules, continuity of student leadership, and availability of appropriate space. The program has recently been expanded to include a Music at the Bedside service that allows patients to request individualized bedside musical visits. Other future additions may include post-performance student reflection groups.

Exploring Patient Perspectives through Music
References:


Poster 44: Assessing Cognitive Clinical Skills of Medical Students on the Surgery Clerkship: A Novel Examination Design

Anna Reinert, Ana Berlin, Aubrie Swan Sein, Roman Nowygrod, Abbey Fingeret

Introduction: The Surgery Clerkship Clinical Skills Exam (SCCSE) is a novel written examination developed to assess student knowledge and know-how in the field of surgery. Unlike the National Board of Medical Examiners Surgery Subject (“Shelf”) Examination, which primarily assesses Medical knowledge, the SCCSE seeks to address additional ACGME competencies of Patient care, Interpersonal and communication skills, and Professionalism.

Instructional Methods: The SCCSE is a written, case-based, clinical simulation exam that bears mild resemblance to a patient management problem or key feature exam format. There are 5 cases per exam version, drawn from a case bank with content representing the general surgery domains of vascular, endocrine, breast, trauma, gastrointestinal and hepatopancreatobiliary surgery. The SCCSE is administered by computer, and consists entirely of free-response questions. Questions ask students to make care decisions as though they were the physician responsible for the intake and management of a patient, addressing topics of history and physical exam, diagnostic workup, surgical and post-operative management. Case questions proceed linearly, with additional information about the case provided as the student proceeds to successive sections. Implementation of this exam began in October 2010, with the exam being administered alongside the NBME Surgery “Shelf” Exam for the purpose of end-of-clerkship assessment. The case bank continues to be developed by faculty and residents, and includes 20 cases at present.

Discussion: According to initial evaluations of the exam, strengths include its professional realism, and evaluation of know-how in addition to knowledge. This format of assessment may influence students to direct their studying in a way highly relevant to their future responsibilities as a physician. The major limitation of this exam is case-specificity, which restricts the reliability of assessment. We are working with other departments at our institution to adapt this exam format for their clinical clerkships.

Poster 45: Teaching Future Medical Educators: An Immersive Education Elective for Fourth Year Medical Students

John Szarek, Ryan Sugarman, Susan M. Perlis

Goals and Objectives: Some faculty who teach medical students have had limited training in the art and practice of teaching. We developed a 4-week elective for fourth year medical students to introduce them to educational pedagogy.

Background and theoretical framework: Since many medical students will have teaching responsibilities during their residency and beyond, instruction in principles of adult learning and their application to the classroom should occur before students graduate. Our elective begins to address this need by providing medical students with a custom-designed, guided and immersive experience.

Instructional methods and materials: In this elective, students are required to participate in various activities of medical school courses. These have included large group interactive sessions, small group facilitation, facilitation of simulation exercises, and examination preparation in addition to attending curriculum meetings and other typical faculty activities. The student works with a faculty mentor(s) who has proven skills in teaching and a comprehensive breadth of knowledge of small and large group instruction. The student and mentor meet regularly to discuss the pedagogical aspects behind each of the activities. Additionally, the student meets with the course director and other individuals other than faculty who are important to
the success of the course. In addition to maintaining a log of their activities, students must submit a short paper using their experiences as examples and connecting those to educational theory.

**Reflective Critique:** A strength of this elective is its contribution to the development of medical educators. Additionally, the faculty members involved have found the mentor experience to be rewarding. A limitation is the few students who chose the elective but this may change as more students have a positive experience. Future research will involve acquiring information regarding students’ performance as teachers in their residencies.

**Poster 46: The Gateway Project: Script Concordance in a Clerkship**

Nagaraj Gabbur, Susan Bliss, Amy Lynn Boardman

**Introduction:** Objective appraisal of student performance on the Surgery Clerkship has traditionally relied on the National Board of Medical Examiners Surgery Subject (“Shelf”) Examination, which assesses surgical knowledge, but not the nuanced domains of clinical reasoning, communication and professionalism. The Surgery Clerkship Clinical Skills Exam (SCCSE) is a novel written examination developed to assess surgical knowledge, clinical reasoning, communication skills and professionalism of medical students on the Surgery Clerkship. Each clerkship block examination comprises five clinical scenarios from a pool of 20. Our aim is to demonstrate the content and construct validity of the SCCSE as an objective evaluative instrument that assesses student performance in these domains.

**Methods:** Assessment data for 154 students completing the surgery clerkship from January 2012 through December 2012 were collected. Construct validity of the SCCSE exam components, and alignment with other measures of student performance, will be examined using an exploratory factor analysis with the following student exam scores: 1) sub-section scores from the SCCSE within the content areas of anatomy (average of 12% of exam questions), obtaining a history (14%), physical exam (10%), composing a differential diagnosis (6%), radiographic image interpretation (10%), patient management (40%), and communication skills (8%); 2) surgery shelf examination scores, and 3) clinical faculty ratings of student fund of knowledge, clinical reasoning, communication skills, and professionalism.

**Expected Results/ Conclusions:** Our hypotheses are that the intended domains of the SCCSE will emerge from the exploratory factor analysis as “factors” (or unique areas of student competency). This would demonstrate that the SCCSE can objectively assess student performance in these domains. Being able to utilize another source of student assessment data, beyond the shelf exam and faculty ratings of student performance, can help clerkship directors to give domain-specific feedback to students and to more objectively assign students a clerkship grade.

**Poster 47: Getting to Milestone One**

Nagaraj Gabbur, Susan Amin, Gainosuke Sugiyama

**Background/Theoretical Framework:** Concurrent with development of Milestones by ACGME, some authorities believe students should start residency with Milestone One accomplished. There have been ‘Boot Camps’ during medical school or the PGY-1 year in July. These efforts have been mainly limited to general surgical skills.

**Objective:** To create and evaluate a two week holistic elective teaching medical and surgical knowledge and skills necessary for specialties with surgery as an integral part.

**Methods:** Eleven senior students participated. Initially they self-assessed surgical/medical knowledge and skills. Baseline pre-tests were administered daily about fluids and electrolytes, pain, oliguria, post-op hypotension, post-op fever, and mental status changes. Lectures followed pertaining to the topic. Surgical skills were then assessed followed by a post-test. A final test of all questions from previous days was also administered. A Linear mixed model analyzed the improvement between pre-tests and post-tests. A paired t-test compared results of all combined pre tests with the final.
Results: 74 pre-tests (mean 60.4% correct, SD 14.9) and 75 post-tests (mean 89.4% correct, SD 10.2) were completed. Improvement in post tests was statistically significant (p<0.001). The percentage of correct answers was 28.9% (95% CI of 25.6-32.3) higher in the post test. The improvement range was 0-70% (p<0.001). The percentage of correct answers in the final was 26.6% (95% CI of 22.3-30.8, p<0.001) higher than all the pre-tests combined. Nine students completed the final (mean 89.1% correct, SD 5.1). Pre- and post- questionnaire comparison demonstrated at least half of students were more comfortable in surgical skills and knowledge and overall they were positively affected.

Reflection and Conclusions: A pre-residency boot camp can immediately and significantly improve a medical student’s knowledge and self-confidence. Follow-up needs to be done to assess the length of this effect and to compare the performance to other interns at the beginning of residency.

References:
1. Daniel J. Schumacher, personal communication

Poster 48: How Does a Student-Run Clinic Impact Medical Student Ability to Care for Patients with Chronic Illness?

Nandini Palaniappa, Matthew A. Spinelli, Linda Wang, Yasmin S. Meah, David C. Thomas

Traditional medical school curricula rarely allow the opportunity to follow patients longitudinally or care for patients with chronic illness. Given the largely inpatient setting of most clerkships, students receive limited exposure to chronic illness management and seldom engage in systems-based care in ambulatory or primary care practices. Student Run Clinics (SRCs) are a novel setting through which students may gain exposure to the care of patients with chronic illness.1 For five years, the SRC at Mount Sinai School of Medicine, the East Harlem Health Outreach Partnership (EHHOP), has implemented a chronic care program. This track allows senior medical students to experience the role of primary care provider for complex patients who benefit from dedicated provision of care. Students execute long-term care plans, engage in systems-based navigation of care and interact with interdisciplinary partners. However, there is need for further study of the impact of chronic care programs on student ability to care for patients with chronic illness. This study will compare Chronic Care Track student experiences with those of other students in 1) knowledge about managing patients with chronic illness, 2) ability to practice cost-conscious care, 3) engagement in interdisciplinary teamwork, 4) exposure to mentors and impact on career choice. We will conduct analyses of responses to an anonymous online survey and focus groups, comparing Chronic Care participants to non-participants. We anticipate that current exposure to chronic illness management and systems-based care through traditional medical school curricula is minimal as compared to the training through the Chronic Care Program. We hypothesize that chronic care curricula within EHHOP fills a void in longitudinal care education, and positively impacts student exposure to systems-based practice and chronic illness management, and may impact career choices.

References

Poster 49: The Educational Value of a Home-Hospice Visit

Lisa Strano-Paul, Susan Lane

Introduction: The purpose of this study is to assess medical students’ perceptions of their introductory hospice care experience.

Methods: 133 third year medical students participated in a hospice visit. The students visit patients’ homes with a nurse. The students completed an evaluation questionnaire before and after this experience. The students were asked about their
understanding of the psychological and physical needs of the dying patient and their likelihood of referring a dying patient to hospice.

Results: 95 (85%) of students completed the pre-visit survey and 110 (98%) completed the post-visit survey. In the pre-hospice survey, 88% of students reported caring for a terminally ill patient in a clinical setting and 66% of students reported that they were likely or very likely to refer a patient to hospice. Most students found that the hospice visit improved their understanding of the psychological and physical needs of the dying patient (56% and 59%, respectively). 32% of students reported that they would be more likely to refer a patient to hospice after their visit, there was no difference in the likelihood of referring in 62% of students and 6% were less likely to refer after the hospice visit.

Conclusions: Most students report a favorable impression of hospice in the pre-visit survey. Post visit, the students' likelihood of referring a patient to hospice was increased or unchanged in the majority of students. Most students reported having previously cared for terminally ill patients and had a high likelihood of referring a patient to hospice before the visit. The overall positive impression and familiarity with hospice care prior to their experience may have mitigated an increase in reported post visit referral. The hospice visit did result in an improved understanding of practical aspects of hospice care such as the physical and psychological needs of the dying patient.

Poster 50: Exploring Medical Student Decisions about Lecture

Anmol Gupta, Norma Susswein Saks

Purpose and Objectives: To identify factors involved in medical students' decisions to attend live lectures, to learn about student use of recorded lectures, and if the use of recorded lectures affects live lecture attendance.

Background/Theoretical Framework: Observational and research evidence suggest that students make deliberate decisions about lecture attendance based on anticipated effect on their learning. Identifying the factors involved in this decision-making process has been less clear. The use of recorded lectures and their effect on lecture attendance also remains to be clarified.

Methods: M1 (N=118) and M2 (N=95) medical students at Robert Wood Johnson Medical School completed a survey about their live lecture attendance and use of recorded lectures, and rated factors involved in decisions to attend or not attend live lectures. Responses were analyzed overall and by class year and gender.

Results: M1 students attended a higher percentage of live lectures than M2 students (75% vs 50%, p<0.001). Both classes used a similar percentage of recorded lectures (48% vs 55%, p=0.21). Females and males differed significantly in attending live lectures (71% vs 55%, p=0.001), and using recorded lectures (43% vs 59%, p=0.002). The quality of the lecturer was the key determinant in attendance decisions, but lecture content and availability of other learning materials were also considered important. More M1 students used lecture recordings to supplement their learning, while more M2 students used recordings to replace live lectures. 53% of all students reported a likely increase in lecture attendance if recorded lectures were not available.

Reflection and Conclusions: Despite limitations (one school, one academic year, and self-reported rather than observed behaviors), results confirm that lectures, both live and recorded, continue to be important learning resources for students. Curricular decisions about reducing lecture time should be made considering course content and commitment to improving lecture quality through faculty development.

References
Poster 51: Assessing the Impact of an Interpreter’s Training Program on Student Interpreters’ Performance in a Student-Run Clinic

Nydia Ekasumara, Jennifer E. L. Diaz, Nikhil Ryan Menon, Annie J. Kim, Rainier Patrick Soriano, David C. Thomas, Yasmin S. Meah

The East Harlem Health Outreach Partnership Spanish Interpreter Program (ESIP) coordinates medical and graduate students who wish to serve as interpreters in the East Harlem Health Outreach Partnership (EHHOP), Mount Sinai School of Medicine’s student-run attending-directed free clinic. The program had previously required Spanish fluency but not formal training in interpretation. To improve quality of care at EHHOP, a training course was introduced to teach the art of interpreting to bilingual students interested in interpreting for the clinic.

To assess the impact of the course, an anonymous 5-point Likert scale survey was administered to ESIP students (n=21) before and after the four 1.5 hour sessions. The survey was designed to assess the student’s comfort with interpreting, understanding of the medical interpreter’s role, and familiarity with cultural variation in Spanish terminology. As expected, students’ comfort levels and understanding of their role significantly increased after the course, from 4 to 4.5 (p<0.05) and 3.5 to 4.5 (p<0.005), respectively. The change for cultural terminology of 3.4 to 4 did not reach statistical significance (p=0.06). Short surveys will be administered to patients, clinicians, and interpreters following clinical encounters. To determine the relevance of the post-course self-assessment survey results to clinical encounters, the aggregate scores from the post-course surveys will be compared to the aggregate scores from clinician and patient surveys. To determine the accuracy of the interpreter’s self-assessment, the correlation between interpreter and patient or clinician in-clinic assessments will be determined.

This study offers insight into the effectiveness of formal training in preparing student volunteers to serve as interpreters, particularly in the setting of a student-run clinic. Our program for training students to serve as qualified interpreters can potentially serve as a model for other student-run clinics facing similar language barriers.

Poster 52: A Brief Pre-Clerkship Language Intervention Improves Medical Students’ Spanish Communication Skills

Nydia Ekasumara, Nikhil Ryan Menon, Annie J. Kim, Edward J. Poliandro, Rainier Patrick Soriano

Barriers to communication, particularly language differences, are some of the largest deterrents to effective healthcare delivery. Because Mount Sinai Medical Center and its affiliate institutions serve a large Hispanic population, such language barriers must be overcome. Providing medical students with a means to gain Spanish proficiency not only permits superior delivery of healthcare, but also enhances their educational experience.

In 2007, Medicina en Espanol, a student-led organization at Mount Sinai School of Medicine, developed Immersion, a five-hour intensive Spanish course for those entering their clerkships. The present study assesses the students’ comfort when conducting medical interviews before, immediately after, and six months following the course. Their facility in this skill in both English and Spanish was assessed.

The 12-item survey was administered to program participants (N=42) at the three timepoints. The survey consisted of medical interviewing domains on a 5-point Likert scale. Matched pairs analyses were used to compare comfort levels before and after the course. There was a significant increase in students’ comfort when eliciting various components of the medical and social history, offering counseling, obtaining informed consent, and building a rapport with patients in Spanish (p<0.0001). Students’ perception of mutual understanding between themselves and patients during Spanish-speaking encounters was significantly increased (p<0.0001). Immersion’s impact six months following the course is currently being assessed. Preliminary observations show stabilization of students’ average comfort levels in the medical interviewing domain measures mentioned above (p<0.01).

A brief medical Spanish intervention prior to clerkships provides students with language proficiency that improves their comfort in conducting medical interviews in Spanish. There appears to be retention of this enhanced facility during their clinical years.
Improving language and communication skills during medical school serves as preparation for future physicians to be better able to improve healthcare outcomes and decrease disparities.

**Poster 53: Delirium in Older Adults: Emergency Department Provider Knowledge, Attitudes, and Practice**

Scott Connors, Tony Rosen, Alexis Halpern, Michael E. Stern, Sunday Clark, Mark S. Lachs

**Background:** Delirium occurs frequently in older patients in the emergency department (ED) and may have serious consequences. Despite this, delirium is frequently missed by ED providers, and, even when recognized, appropriate assessment and management is challenging. The purpose of this research was to examine current knowledge, attitudes, and practice of ED providers regarding geriatric delirium.

**Methods:** We surveyed ED providers including attending physicians, resident physicians, nurse practitioners (NPs), physician assistants (PAs), and nurses at a large, urban, university-based medical center. We used comprehensive written questionnaires designed using items from previously validated instruments and questions created specifically for this study. The questionnaire was piloted and modified for the clinical role of each provider type.

**Results:** 161 ED providers participated, including 20 attending physicians, 45 residents, 5 NPs, 15 PAs, and 76 nurses. Taken together, 56% of ED providers reported being uncomfortable managing delirium. 91% reported they would benefit from additional training in geriatrics, and 28% reported their training had not adequately prepared them to care for geriatric patients. Few ED providers reported routinely assessing for many of the more common contributing causes of delirium in the elderly including: dehydration (92%), polypharmacy (66%), urine retention (59%), pain control (55%), missed medications (49%), environment (43%), and constipation (35%). Despite the existence of clinical guidelines that discourage their use, 45% of providers responded most commonly using benzodiazepines to treat geriatric agitation.

**Conclusions:** Increased training on ED care of geriatric delirium is needed. ED providers do not routinely screen for many common contributing causes of delirium and inappropriately use benzodiazepines to manage geriatric delirium. Future research should focus on development of interventions to assist ED providers in assessment and management of this common, complex, potentially life-threatening syndrome.

**Poster 54: Towards a Taxonomy of Reflection – Promoting 21st Century Competencies, Skills and Thinking through Reflection in Service-Learning**

Barbara Rose Gottlieb

The Liaison Committee on Medical Education states that medical schools “should make available sufficient opportunities to participate in service-learning activities and should encourage and support medical student participation.” They define service-learning as a “structured experience that combines community service with preparation and reflection.” Service-learning has the potential to promote many of the 21st century challenges in medical education that are difficult to achieve in traditional settings: citizenship, population health, cultural competence, advocacy, team work and altruism.

Experiential learning must be consolidated. Reflection, Dewey asserts, provides the bridge between experience and learning. Reflection makes thinking visible, fosters development of hypotheses and spurs action and, according to Moon, “is a form of mental processing...that is applied to relatively complex or unstructured ideas for which there is not an obvious solution.” In this way reflection can promote intellectual capacities that are well-aligned with 21st century medical educational objectives. In order to deliver on its potential, reflection activities must be theory-driven and intentional. Learners must be engaged with educators who can promote learning across multiple domains. Educators need theoretical guidance and tools. Research is needed to characterize the cognitive dimensions of reflection, measure educational outcomes, and define operational aspects of the learner-teacher relationship. To this end, we propose a taxonomy to guide a standardized approach to reflection. The four domains of the vertical axis depicted in the figure—descriptive, interpretive, explorative and directive correspond to an evolution from concrete to abstract, analytical to action. The horizontal axis represents locus—internal and external. The
taxonomy can be used to locate a student’s reflection at domain and locus coordinates, to encourage deeper exploration within or across coordinates through targeted prompts.

We propose this tool to promote learning through reflection, and to enhance performance of service-learning programs in achieving their educational objectives. We will present preliminary findings.

Poster 55: What’s in a Name: Distinguishing Medical School Educators

Karen Harrington, Stacey Brown

Purpose/ Project and Objectives: The literature examining the roles of non-physician medical educators is minimal. There have been a small number of investigations focusing on residents and medical students’ evaluation of courses using nurses, health care consultants, and physician assistants. However, the literature does not adequately define the title and role of non-physician medical educators, nor considers the position from the perspective of the non-physician medical educator. The objectives of this research are to learn how nonphysician medical educators define their roles, ascertain appreciation of their teaching contributions, identify faculty development opportunities and ultimately address the existing gap on this topic in the literature.

Background/Theoretical Framework: The University of Connecticut School of Medicine has a long tradition of employing nonphysician medical educators. In the Principles of Clinical Medicine (PCM) course, nonphysician and physician educators co-precept classes. Non-physicians are referred to as Allied Health Professionals. We suggest that this designation may not adequately describe this group, and that the roles of this group are insufficiently represented in the literature.

Methods: Non-physician educators who have taught in PCM from 2007-2012 were identified and contacted. Potential participants received email invitations asking them to participate in the study via Survey Monkey. Participants were also asked if they would be willing to be interviewed for more in-depth inquiry.

Expected Results: To date, 33% of the anticipated responses have been received and 80% of those respondents have agreed to an interview. By March 2013, our survey response target is 75%.

Reflection (including limitations) and Conclusions: Based on the data collected, programs employing non-physician medical educators will have additional information for developing their programs and preparing part of their workforce to contribute to the learning of medical students. The knowledge gained can be used to create curricula that optimize the talents and expertise offered by non-physician medical educators.

References

Poster 56: Use of Study Resources for the Pathology Course and Boards

Tipsuda Junsanto-Bahri, Jenna Mennella

Background: Pathology is a fundamental course for medical students’ understanding of human disease. In addition to required texts, students use ancillary resources for the course as well as preparation for the Boards (USMLE, COMLEX). There seems to be a trend that students utilize more review books (the “hidden curriculum”) than the required texts. We sought to determine what Pathology textbooks and resources were useful for 1) the course and 2) step 1 Boards preparation.
Method: A 21 item survey was created and pilot tested on the recently graduated class. The survey was distributed to the current 2nd-4th year medical students at our institution via an online, anonymous survey (SurveyMonkey). Descriptive analysis was performed (SPSS). Comments were reviewed for qualitative themes.

Results: The response rate was 33% (128/390). Students used 2 or more sources (68%). Robbin’s and Cotran Pathologic Basis of Disease was utilized by 80%. Most students purchased their texts online (86%), but not directly from the publisher (2.5%). Price was a factor when making a purchasing decision (59%). Key ancillary resources used for the course: First-Aid for USMLE Step1 (72%) and Goljan Rapid Review Pathology (64%).

The use of ancillary resources helped enhance students’ performance on course exams (77%) than the required texts (46%). The use of the required texts and ancillary resources were helpful in Boards preparation (63%). Additional resources identified include: Pathoma, Goljan audio, USMLE World, and the Kaplan course/QBank.

Conclusion: This study provides insight for Pathology educators to the “hidden curriculum” where various Boards review resources are used to supplement course learning. Pathology educators should be aware of these resources, review them for content accuracy, and possibly integrate their use for curriculum correlation.

Poster 57: The Impact of Medical Spanish Instruction on Communication Barriers

Sara Harcharik, Wei Yang, Hari Shankar, Edward Polliandro, Rainier Patrick Soriano

Since 2005, Medicina en Español, a student-run organization, has provided medical Spanish instruction to students at the Mount Sinai School of Medicine in an effort to decrease the consequences of language barriers in interactions with Spanish-speaking patients with limited English proficiency so as to facilitate greater patient comfort and better patient care. This prospective study is designed to evaluate the efficacy of the program among intermediate-level medical Spanish students. Three outcomes were assessed: oral and written Spanish proficiency, counseling skills, as well as interpersonal and communication skills. Each participant completed a 50-point written exam prior to and after completion of the 12-week course. Additionally, oral Spanish proficiency was assessed by trained instructors on a 10-point scale prior to and after course completion. Finally, students were videotaped counseling a standardized patient in response to a commonly encountered clinical scenario immediately after course completion, and again 18 months later, in order to assess interpersonal and communication skills, as well as retention of language skills.

Data regarding pre- and post-class written and oral Spanish proficiency among the intermediate-level students (n=19) showed an improvement in written Spanish proficiency among the low-intermediate and high-intermediate students (from pre-course scores of 73.3% and 79.2% to post-course scores of 88.4% and 90.2%, respectively). Additionally, there was improvement in oral proficiency among low-intermediate and high-intermediate levels (from pre-course scores of 3.09 and 5.01 to post-course scores of 3.86 and 5.53, respectively). Videotaped recordings of the participants’ standardized patient counseling encounters are currently being evaluated by a trained evaluator for language proficiency, counseling and interpersonal skills.

It is our hope that this program equips medical students with language proficiency and interpersonal communication skills so as to decrease communication barriers and enhance care for East Harlem’s large Hispanic community.

Poster 58: Experience of Mature-Aged Students in the Clinical Setting

Mai Abdelnabi, Jill Krapf, Rosalyn Jurjus

Purpose: To understand the experience of mature-aged medical students on clinical rotations.

Background/Theoretical Framework: Although the mean age of first year medical students is 24, an increasing number of “mature-aged” students, defined as over age 30, are entering medical school. Most studies of mature-aged medical students have examined academic performance using quantitative research design [1, 2]. Few studies have employed qualitative methodology to determine the experience of mature-aged medical students, especially in the clinical setting.
Methods: A recruitment e-mail was sent to all medical students enrolled in clinical rotations; first responders were interviewed until saturation in emerging themes was achieved. Interviews were conducted and recorded in a private office setting, then transcribed into a Word document. Five mature-aged students and four traditional students were interviewed. Using methodology for qualitative research described by Mustakas (1994), the investigators individually coded the transcripts to identify emerging themes [3]. Coded themes underwent peer review, with triangulation of data collection, to determine main themes.

Results: Three main themes emerged from our study. First, abundant life experience influences students’ perception of their role on clinical rotations. A mature student explained, “...having kids... being married and divorced... helps in connecting with patients.” Previous work experience shapes expectations as a physician-in-training. While traditional students tend to be “intimidated,” mature students desire to “take the initiative.” Age plays a role in the students’ ability to relate to senior team members, as well as medical student colleagues. Traditional students note that mature students are “more realistic” due to their “life experience in the workplace.”

Conclusion: Mature-aged students draw upon previous life experience, which shapes role expectations, as well as medical team dynamics. These differences may have implications in training the growing number of mature-aged medical students. A larger scale qualitative study including multiple medical school sites is being developed.

References

Poster 59: Enlivening Second-Year Medical Student Journal Club Utilizing a “Jigsaw” Format
Laura Willett, Gabriela Ferreira, Sarang Kim, Edward Rivera, Michael Gochfeld

Goals and Objectives: Medical literature evaluation is a useful skill, but traditional one-presenter journal clubs are passive experiences for most of the learners. An interactive “jigsaw” teaching technique may increase learner engagement.

Background/Theoretical Framework: The student who is engaged and who anticipates the need to teach others is likely to learn more.

Instructional Methods and Materials: The “jigsaw” approach is a two-stage cooperative learning technique in which each student's participation is needed for a full understanding of the material. Before the exercise, students were assigned to read one of 5 articles dealing with aspects of the diagnosis and treatment of a single common condition. During each stage, five classrooms were utilized, each with one preceptor and about 25 students, divided into 5 teams of about 5 students each. During the first stage, all of the students in a particular room had pre-read the same article. Each 5-member team worked through a set of questions about their article, then the entire classroom engaged in discussion, allowing each student to become “expert”. For the second stage, students moved to different rooms, creating new 5-student teams in which each of the articles was presented by a different “expert” student. At the end of stage 2, the preceptor asked “non-expert” students to review each article’s major points, e.g. study design and important biases, for the class.

We asked preceptors and students to provide their impressions.

Reflective Critique: Preceptors felt that the students were more engaged than in typical one-presenter journal club exercises. Students thought the sessions were helpful. We found it useful to set aside time before the session to review with preceptors our expectations and logistical challenges. We plan to continue using this technique for medical student journal clubs.
**Poster 60: Enhancing Journal Club Experience for Medical Students**

Teresa Milner, Bernice Grafstein

**Objectives:** The Journal Club component of courses at Weill Cornell Medical College acquaints students with contemporary research concepts and techniques complementary to other learning modalities. Challenges include promoting student interest and participation and maintaining consistency of the experience among journal club groups. In “Brain and Mind”, a second year course, we have made several innovative changes to address these challenges.

**Background:** Journal club has been an integral part of medical education for over a century (Linzer, 1987) and is an effective platform for training students in critical appraisal of the research underpinnings of evidence-based medicine (Edwards et al., 2001).

**Methods and Materials:** Peer tutors are comprised of senior Neuroscience graduate students, MD-PhD students, and post-doctoral fellows. Papers deal with “Supporting Cells”, a topic not covered directly in other parts of the course. Papers are short and have a clear message. They are accompanied by “News and Views” highlighting clinical relevance. Student guides, written by the tutors, include 1) “Clinical Significance”, which highlights a case vignette; 2) “Background Review”, which defines terms that may be unfamiliar to the students; 3) “Summary of Experimental Procedures”, which explains methodologies; 4) “References”, which provide relevant text citations and further reading. Tutor guides provided only to the tutors include 1) “What the students have already been taught”; 2) “Paper summary”; 3) “Points for Discussion”; and 4) “Take-home messages.” Tutors meet prior to journal club sessions to discuss articles and prepare questions for periodic course quizzes.

**Reflections:** Journal Club experience in Brain and Mind is rated highly by students in objective Likert scale evaluations. In the future, we will use student focus groups to refine the experience.

**References**

**Poster 61: Principles of Learning Exemplified in an Academic Support Program**

Maris F. Cutting, Norma Susswein Saks, Robert Lebeau

**Goals and Objectives:** To articulate the framework, goals, and strategies employed in an individualized academic support program in terms of principles of learning that support medical education.

**Background/Theoretical Framework:** Evidence-based principles of learning from the cognitive sciences on learning and memory have been applied to instructional practices in medical education. They appear to support better instructional and curricular decision making and help faculty guide students toward better organization of their study efforts and better deployment of active learning strategies. Academic support programs, working individually with medical students, have a unique opportunity to model strategies based on these learning principles and help students recognize, shape, and flexibly employ them to meet learning goals.

**Instructional Methods and Materials:** Over the past 30 years, the Cognitive Skills Program at Robert Wood Johnson Medical School has supported M1-M4 students as well as Residents in the development of more efficient and effective approaches to learning. A diagnostic interview is flexibly used in our consultations to identify key areas for improvement and to support student goal-setting. These interactions were analyzed in rich case studies to reveal specific strategies recommended, contexts to which they were applied, and growth in the ability to employ them flexibly and independently.

**Reflective Critique:** The case study method provides an opportunity to analyze the components of academic support. Case studies are sufficiently fine-grained to serve as a vehicle for exploring and characterizing interactions with medical students receiving academic support. This methodology is subject to the limitation imposed by lack of generalizability, and, in this
particular instance, by its retrospective nature. Nonetheless, this analysis may provide a basis for dialog and collaboration among those interested in student learning and student support.

References:

Poster 62: Week on the Wards: A Break in the Basic Science Course Rejuvenates, Excites and Promotes Learning

Michael Goldberg, Cindi Hasit, Paul Katz, Vijay K. Rajput, Lawrence S. Weisberg

Introduction: Medical education continues to evolve from the traditional 2+2 model to a model that integrates basic science instruction and clinical experience, often in an ambulatory setting. Typically, the education experience still begins with the course that incorporates the concepts of “basic science.” This often entails much time spent in the classroom or the laboratory with a major emphasis on medical knowledge, and consequent learner fatigue. We believed that with early introduction of an in-patient experience during this basic science course, students would gain insight into all the core competencies, overcome fatigue and be re-energized to the purpose of their medical education.

Methods: The curriculum is case-based, integrated and organ-centric. There are three longitudinal educational experiences including an outpatient clinical experience. At the end of week eight of our primary basic science course we interjected a course entitled "Week on the Wards (WOW)". During this week our students rotated through a variety of inpatient units: OB/Gyn, pediatrics, medical or surgical intensive care, the operating rooms, internal medicine and emergency medicine. Based on preparatory lessons in two longitudinal courses, Scholar’s Workshop and Foundations of Medical Practice, students were assigned to look at the core competencies of communication, teamwork, professionalism, systems-based practice and practice improvement. They posted reflections and observations to a discussion board and completed a survey about the experience. At week’s end, students returned to the medical school for a reflective session in their active learning groups followed by a teamwork session to discuss positive and negative behaviors related to the competencies. These observations formed the basis for process improvement projects.

Results: Assessment measures indicated that students were enthusiastic about the experience. They identified behaviors related to all competencies, and saw the connection between their classroom learning and medical practice. They started the next eight weeks with renewed vitality.

Reference(s):

Poster 63: Community Site Visits in Medical Education

Carrie Ruby Wong, Arjun Iyer, Iris Granek, Catherine Messina

Background: Current medical training at Stony Brook does not provide formal exposure to community healthcare resources. Recommendations have been made to develop medical curricula that provide first-hand community-based experiences, integrating competency in community resources in medical education. Other medical schools have successfully implemented curricula with similar goals.
Objectives: A student-initiated pilot for site visits was implemented in Stony Brook’s doctoring course in Spring 2012. Sites were chosen based on curricula topics of the course. The pilot aimed to expose first-year medical students to community resources that provide extended care to patients with specific needs. The visits intended to challenge the student to develop greater awareness and competency of patient resources in the community.

Methods: Students were assigned to visit one of five different community sites. Each site provided for a specific population (geriatrics, children with autism, nutrition for low-income). Students toured the site, spoke with patients and staff, and then convened to share experiences in discussions facilitated by second-year medical student TAs. The pilot also included one visit to an Alcoholics Anonymous meeting and a written reflection on the experience. A standardized evaluation collected quantitative and qualitative feedback on the site visit activities.

Results: The evaluation was completed by 120 students and revealed that 89% gained better understanding of the needs of specific populations, 88% gained appreciation for the use of community resources, 85% learned to recognize and assess community resources for different populations, 84% found the visits worthwhile, and many reported appreciation for learning about patients’ experiences.

Reflective Critique: Strengths include improved understanding and appreciation of community resources and allied health professionals and involvement of second-year students in the pilot creation, facilitation, and evaluation. Weaknesses involved transportation logistics. Future directions include additional site visits and integrating pre-post evaluations to assess change in students’ awareness and competency of patient resources.

Resources:
Note: the submitter attached these resources as PDFs to their submission. AAMC staff pulled all of the citation information found in the attached documents.

Poster 64: Med Students as Teachers: What Self-Assessments Reveal

Michelle Yoon, Larrie Greenberg, Benjamin Carl Blatt

Goals & Objectives: To analyze narratives for emerging themes that reveal what students valued about the program. Background: Students-as-teachers programs report evaluation methods that include OSTEs, direct observation, and global ratings. In the George Washington University School of Medicine fourth-year (MS4) teaching elective, “Teaching and Learning Communication Skills” (TALKS) in 2011-2012, MS4’s self-assigned summative grades, and prepared written narratives based on their perceived quality of teaching in the physical diagnosis course for first-years (MS1).

Design/Methods: MS4s recorded self-perceptions and paraphrased MS1 and standardized patient instructor comments about their teaching quality at the course’s conclusion. They submitted their narratives to one of the authors (LG), who assigned a final grade. In their self-evaluations they reflected upon their teaching experiences, resulting in comments about what was important and valuable about the TALKS elective. We analyzed narratives using a qualitative inductive content analysis for themes, to better understand the elective’s strengths.

Results: Seven themes emerged: The value of 1) varied teaching strategies (facilitating critical thinking, creating a safe learning climate, learner engagement); 2) pre-class preparation; 3) professionalism (taking responsibilities seriously); 4) clinical correlation with physical diagnosis findings, 5) enthusiasm (going "above and beyond"); 6) feedback; and 7) mentorship. Sub-themes emerged around adult learning theory, which was emphasized throughout course workshops: self-direction (importance of identifying one’s own learning objectives), valuing diverse learning styles, making material relevant, and making learning active.
**Conclusions**: Themes suggest students valued key education principles and implemented integral skills from the course objectives. The adult learning sub-themes have important implications for their own teaching and learning as students across the continuum of medical education. Students learn what this long-running course intends to teach. Narratives from more TALKS cohorts will be similarly analyzed for a more robust picture over time. Possible future extensions include gauging accuracy and interrater consistency/reliability of students’ self-assessments.

**References**

**Poster 65: *Use of Standardized Students in Faculty Development OSTE - A Student's Perspective***

Perrilynn Baldelli, Kathleen Burke, Wei-Hsin Lu

**Goal/Objective:** To use medical students as standardized students for a faculty development Objective Structured Teaching Exercise (OSTE).

**Background/Framework:** The OSTE format has been found to be an effective faculty development training tool for teachers to practice their teaching skills under realistic scenarios and receive immediate feedback.

**Instructional Methods:** A series of Objective Structured Teaching Exercises (OSTEs) were developed to train and evaluate faculty on how to teach professionalism and medical ethics to students in clinical settings. Eleven second year medical students were voluntarily recruited and trained to perform as standardized students in scenarios dealing with a professional or ethical dilemma. There were a total of seven scenarios and two standardized students (SSs) and/or standardized patients (SPs) were assigned to each case. The training of the standardized student/patient consisted of two phases. Phase one included the review of the case objectives, the scripted scenario, and review of the evaluation checklists. Since the SSs/SPs were required to provide the faculty with immediate feedback following the scenario, they were also trained on effective feedback techniques. Phase two of the training was to complete a “mock” workshop that allowed the SSs/SPs to practice role-playing the scenarios and help coordinators identify any potential issues regarding the process flow or performance.

**Reflective Critique:** Twenty faculty members were trained during a series of 3 workshops. After the third workshop, a student focus group revealed benefits including decreased anxiety interacting with attending physicians and increased confidence in future OSCE performance and dealing with future potential ethical and professional issues in the clinical arena. Overall, the workshop strengths included the use of the OSTE method for faculty teaching, use of medical students in certain scenarios that would have been difficult for a “standardized patient” to learn and the “mock” OSTE process. Limitations included more time for feedback sessions.

**References:**

**Poster 66: Use of Video Instruction to Improve Safety of Venipuncture***

Michael Pan, Sara Harcharik, Sebastian Bernardo, Gillian Heinecke, Marina Moskalenko, Adam Luber, Shaily Shah, Jacob Levitt
Background: Proper and safe venipuncture technique is a critical skill that all healthcare workers must learn in order to avoid accidental occupational injury. The use of instructional videos has been shown to be effective in enhancing acquisition of surgical and clinical skills. This study seeks to determine whether an instructional video improves medical students’ competency in safe venipuncture technique.

Method: 42 second year medical students were recruited and randomized into groups A and B. All subjects attended an expert-led interactive didactic session on venipuncture. During the experiment, group A watched an instructional video on venipuncture technique while group B watched a non-related video. Subjects were then paired and instructed to perform venipuncture on each other while being scored using a standard checklist by a blinded evaluator. Students also completed pre- and post-procedure surveys to determine demographics and self-rated confidence of the subjects. Scores and survey responses were analyzed and tested for significance using a two-tailed student t-test for continuous variables and two-tailed Fisher’s exact test for categorical variables.

Results:
Mean total score was significantly higher in group A than in group B, with values of 14.15 and 9.18, respectively (p<0.0001). Mean scores were significantly higher in group A than group B among subjects who performed first (p=0.008) and subjects who performed second (p=0.005). From the post-procedure survey, only group A rated their confidence significantly higher after the study (p=0.008).

Conclusion: Subjects who watched an instructional video performed venipuncture more effectively and safely than those who did not. Medical students can benefit from having access to an instructional video on venipuncture as an adjunct to their current curriculum.

Poster 67: Showcasing Geriatrics in a Clinical Skills Curriculum

Kimberly Dodd, Naomi McMackin, Louis Pugliese, Julie S. Taylor, Iris Tong, Sarita Warrier

Objectives: We developed a program in which first-year medical students are paired with residents in assisted living facilities (ALF). The goals were to promote a better understanding of aging, the role of ALF and to improve students’ attitudes toward caring for older adults.

Background: A lack of adequate training in geriatrics has been demonstrated (#), causing many schools to develop more robust curricula. Other schools have implemented a senior mentor program involving community dwelling older adults in order to increase exposure. (%,^) Early introduction may improve students’ knowledge and create more positive attitudes.

Methods: Lectures include geriatrics, ALF Program, and functional assessment. Students interview their resident 5 times throughout the year to practice clinical skills and discuss medical topics. Students complete a pre-/post-survey using a Likert scale where 5 is strongly agree.

Reflective Critique: After participation, students gained a better understanding of aging and the role of an ALF. Students reported a more positive attitude toward caring for older adults (4.03 vs. 4.37, p=0.001) and a better understanding of the aging process, the complex medical and social needs of older adults, (3.13 vs. 4.16, p<0.001). They felt they had developed skills to assess health with a focus on function, independence, and quality of life (2.51 vs. 3.81, p<0.001) and had a better understanding of the role of ALFs as non-medical supportive housing (3.75 vs. 4.30, p<0.001). Our transmittable program offers an innovative method to integrate geriatrics in training and to develop positive, longitudinal clinical experiences.

References
%Roberts E, et al. The Sr Mentor Program at USC School of Medicine: An Innovative Geriatric Longitudinal Curriculum. Gerontology & Geriatrics Education 2006; 27(2):11-23.
**Poster 68: The Teaching and Learning Center and Faculty Collaboration. An Online Learning Tool: From Idea to Implementation**

Gary Leydon, Michael Hodsdon, James Howe

**Objectives:** The principal mission of the Teaching and Learning Center (TLC) at the Yale School of Medicine is to foster excellence in medical education by collaboration with and support of medical educators. We focus on student, faculty and curricular assessment, faculty development, and innovation in learning technologies and pedagogy.

**Background:** Prior to establishing the TLC, educators had limited resources to aid them in creating, applying, and innovating with digital and online technologies in support of their teaching activities. This project describes a collaboration between the TLC, the pharmacology course director, and a clinician educator to create an online teaching tool to aid students in understanding the complexities of pharmacokinetics and drug-receptor interactions, and the application of basic concepts to dosing regimens, drug toxicity, and concentration-response relationships. A review of the literature failed to identify available tools that met the requirements of the educators. Existing applications were either too complicated, difficult to use, or too simplistic.

**Methods:** We defined the scope of the requirements, identified an appropriate delivery platform (web-based, mobile device app), created an approximation of the tool, and followed an iterative process of evaluation, feedback and redesign. This process resulted in an animated web-based application that is innovative, dynamic and rich with supporting documentation. The web-based design ensures the tool can be used on many devices and is easily updated. We will continue to survey student and faculty satisfaction and engagement with the application both for user interface improvements and to assess its efficacy.

**Reflection:** The collaboration between the TLC and pharmacology led to the discovery of innovative digital tools and development techniques that are directly applicable to other projects. Limitations include the typical resource/time/priority allocations. There are many good ideas and a finite development team, a concern that will be addressed as the TLC evolves.

**Resources:** Citations pulled from PDF supporting documents by AAMC Staff.
2. Yale School of Medicine Report of the Strategic Planning Committee for Medical Education June 2010
   Available at http://medicine.yale.edu/education/strategicplan.

**Poster 69: The Medical Student Mentoring Family**

Avery LaChance, Arija Weddle, Shelley Burchsted, Christine Castater, Loreen Fournier, Shawnet Jones, Keila Veiga

In this project, the Gold Humanism Honor Society (GHHS) chapter at UConn SOM set out to develop a mentoring program that would: (1) improve peer mentoring at UConn SOM; (2) be longitudinal in nature, spanning all four years of training; (3) provide continuity in mentoring relationships; and (4) allow students to benefits from simultaneously playing the roles of mentor and mentee in one group setting. The benefits of mentoring in the medical field have been highlighted in a number of studies. Peer mentoring, in particular, has the potential to improve the educational experience of both upper- and lowerclassmen in UGME. Underclassmen have expressed a preference for peer over faculty mentors in guiding them through certain milestones in medical school, such as the transition from pre-clinical to clinical years. Additionally, taking on a mentoring role has been shown to enhance personal and professional satisfaction as well as increase mentors’ desire to teach.

In the fall of 2012, GHHS students launched their “Medical Student Mentoring Families” program. The program is mandatory for the MS1 class but voluntary for the MS2-MS4 classes. Participating students were broken up into 31 “families” each consisting of 1-3 students from each of the four classes. The families are designed to persist throughout each student’s time in medical school, taking on new MS1s as their MS4s graduate. As a result, each student will progress from the role of mentee to mentor over his/her career at UConn. Families are encouraged to meet six times a year, arranged around particular milestones in each of the four years. To date, the program has been well received by both faculty and students. As a pilot project, data is limited; the next step will consist of surveying participants to determine overall strengths and weaknesses and how to build in years to come.
References:

Poster 70: CORE Week: A Comprehensive Orientation to Clinical Skills & the United States Medical Licensing Examination (USMLE) Step 2

Maurice Clifton, Antonio Pellegrino, John Szarek, Kathryn Powell

Third year students at The Commonwealth Medical College (TCMC) must participate in three separate Core Weeks designed to orientate them to key clinical skills, research methods, life as a resident, and the United States Medical Licensing Examination (USMLE) Step 2.

Students report to the Scranton campus in October, April and June, respectively. The CORE week curriculum is composed of both hands-on experiences and didactic presentations which provide students with the wherewithal to be successful in their residencies.

The CORE week curriculum components include didactic presentations, skill development, simulation, and OSCE preparation. The didactic presentations cover a variety of topics ranging from financial planning to specialty selection. The skills component covers the execution of a variety of procedures including intravenous therapy, suturing, and intubation, to name a few. The simulation component includes a wide-range of medical emergency scenarios such as asthma, anaphylaxis, sepsis and motor vehicle accidents. The fourth component consists of a multi-station Objective Structured Clinical Examination (OSCE) which serves to prepare students for the USMLE Step 2. The various components of the CORE week curriculum are delivered by part-time and full-time TCMC staff and faculty, spanning a wide-range of disciplines and expertise, both clinically and academically.

The CORE week curriculum gives faculty the opportunity to monitor students' development during the clinical years in a structured environment. Additionally, students receive valuable formative feedback in their performance during each week. Students also have an opportunity to evaluate the sessions and lectures at the end of each week. We continue to refine the activities in each CORE week and are planning for scaling up the current activities for coming years with our planned increase in class size.

Poster 71: Bringing Simulation to Life: Use of Standardized Patients in Simulation Scenarios with Medical Students

Kathryn Powell, Maurice Clifton, John Szarek, Antonio Pellegrino

Increasingly, simulation is being used as a modality to allow students the opportunity to practice and develop skills using patients in a safe environment. While a patient simulator can be used for many scenarios, sometimes a scenario calls for a live person. In this report, we describe the use of standardized patients in simulation scenarios. Standardized patients have been used for years in assessment of students through such methods as OSCEs. Their use in these assessments is important in providing a life-like environment for assessing a particular skill. Simulations, on the other hand, are designed to provide students a life-like experience but, rather than being summative, students are encouraged to make mistakes, work together, and learn. Thus, standardized patients are not necessarily evaluating students but are providing them a patient to work with.

Students in their first three years at TCMC complete about 25 simulations. In the preclinical courses, the simulations are aligned with the content presented and provide students with an opportunity to apply the content in a life-like clinical setting. An example of a scenario that would benefit from the use of a standardized patient is a patient having an acute stroke.
Mannequins are not able to change their facial expression, or manifest other abnormalities associated with an acute stroke such as hyperreflexia. Standardized patients can be trained to express the facial features of acute stroke and emulate other findings as well.

The use of standardized patients allows for expansion of scenarios that the limitations of a mannequin would normally preclude. At this time facilitators are needed for each hour-long session. In contemplating changes, we are considering having the standardized patients provide formative feedback to the students as part of the debriefing.

---

**Poster 72: *An Ongoing Student/Faculty Collaboration on an Integrated and Longitudinal Approach to Incorporating LGBTQ Health within the Vermont Integrated Curriculum (VIC)***

Shannon Blaney, Laura Greisinger, Anja Jokela, Andrew Jones, Matthew Lin, Jen Makrides, Cate Nicholas, Charlotte Reback

**Goals and Objectives:** Physicians need to be competent in societal and health-related problems faced by LGBTQ patients. Medical schools in North America dedicate little time to discussing LGBTQ issues in their curricula. Thus, students in the Gay Straight Alliance (GSA) and faculty began a collaborative process to create a longitudinal LGBTQ pre-clinical curriculum within the Vermont Integrated Curriculum.

**Background Theoretical Framework:** A preclinical course director worked with the GSA to inventory the curriculum to identify areas that could be strengthened. Specific course directors and GSA worked together to identify key competencies based on the literature and in alignment with the VIC Institutional Competencies to create learning objectives, learning activities and assessments. Internal evaluations of those courses and external measures such as the AAMC GQ allow for ongoing curricular improvement.

**Instructional Methods and Materials:** Three preclinical courses have required and elective activities that include small group sessions, panels facilitated by LGBTQ identified health care providers, and LGBTQ patients, LGB standardized patient cases, lectures and supplemental workshops. Assessments include multiple choice exams and clinical skills exams with LGB standardized patients. Throughout the entire preclinical year, students practice clinical skills and history taking using standardized cases involving both sexually-related complaints in non-heterosexual patients, and non-sexually-related complaints in gay and lesbian patients.

**Reflective Critique:**

**Strengths**
- continual refreshing of the program through review of the medical education literature
- collaboration among course directors and the GSA
- increased time dedicated to LGBTQ issues
- introduction of a longitudinal/integrative LGBTQ curriculum.

**Improvements/future directions**
- Develop transgender standardized patient cases by consulting with the transgender community to help write cases and become standardized patients.
- Spend more time with students and faculty developing awareness/acceptance of differences among world views on gender and sexuality.

---

**Poster 73: Active Citizenship in the Curriculum: Tufts University School of Medicine’s Community Service Learning Program**

Jennifer Greer-Morrissey, Mark Pearlmuter, Mindy Nierenberg, Ann Maderer

**Goal:** The required Community Service Learning (CSL) program at Tufts University School of Medicine (TUSM) aims to have students: learn about healthcare disparities; gain exposure to diverse patient populations; and hone clinical, communication,
organization, and teamwork skills, all while addressing community-identified needs and developing student’s sense of social responsibility.

**Background:** Community-based education is advocated widely across the health professions, and the Liaison Committee on Medical Education (LCME) mandates that medical schools offer opportunities for service learning. TUSM’s CSL requirement, in partnership with Tufts’ Tisch College for Citizenship and Public Service, aligns Tufts’ active citizenship values with educational objectives of understanding social determinants of health, developing interpersonal and intercultural communication skills, and emphasizing compassion and integrity.

**Instructional Methods:**
The CSL program includes:
- An hour-long online preparation module
- 50 hours of service
- Online reflection logs
- Small Group reflection led by Peer Facilitators
- Final synthesis paper
- Advisement from faculty, staff, student leaders, and community partners throughout the program

Students may begin their CSL projects at any time within their four years, and can choose from a range of different health issues, patient populations, and project locations. This flexibility enables us to be responsive to both student innovation and community needs while also maintaining the consistent pedagogical elements outlined above.

**Reflection:** Since our pilot year in Fall 2009, over 450 students have participated in CSL with nearly 100 different sites/projects. The program’s greatest strength is the richness that results when students can choose when, where, and what to do with their projects. However, such flexibility brings administrative complexity and a perpetual struggle to balance community needs with ever-changing student interests.

---

**Poster 74: Adapting A Medical School Curriculum to the 21st Century**

Mark Kelly, Karen Richardson-Nassif, Martha Seagrave

**Background:** In the 21st century, medical students must have the knowledge, skills and attitudes to navigate an evolving health care system while providing effective, collaborative, and accountable patient care. Medical school curricula are changing to integrate new standards of care with existing core science and clinical skill objectives. The University of Vermont (UVM) Family Medicine (FM) Department is creating an innovative, comprehensive curriculum called TOPMEd (Team-Oriented, Patient-Centered, Medical Education).

**Goals:** This curriculum will inspire and prepare medical school graduates to provide patient-centered and team-oriented medical care in rural and underserved communities.

TOPMEd objectives include:
1) Increasing the primary care workforce
2) Preparing students for practice with the medically underserved
3) Increasing effectiveness of health care delivery
4) Participating in population health improvement

**Design:** This poster outlines the key features of the TOPMEd curriculum: a progressive, longitudinal, participatory program which introduces medical students to the concepts, language, and application of the knowledge, skills, and attitudes needed for successful implementation of the Patient-Centered Medical Home (PCMH). The TOPMEd curriculum recognizes the challenges of introducing new curricula, and enhances current courses by “tweaking” content, incorporating new curricula into existing courses, as well as building new focused educational opportunities. TOPMEd content incorporates team-based...
healthcare, healthcare policy and reform, shared decision making, patient-centered care, diversity and care of disadvantaged populations. TOPMEd builds through the four years of medical school, beginning with an introduction of concepts and language, acquisition of skills, application in practice and culminating in focused experiential opportunities at the community and state level.

**Lessons Learned:** Regular review with an advisory board and course director committees is invaluable for achieving acceptance and endorsement of the TOPMEd curriculum. Adoption of this curriculum is facilitated by the immediacy of healthcare reform. Providing assistance and resources to course directors is increasing the project’s success.

**References:**

2. Council on Graduate Medical Education (COGME), 20th Report. Advancing Primary Care, Dec. 2010

**Poster 75: New York City Cultural Consults**

Alexander Peters, Evan Pulvers, Sar Medoff, Adam Phillips, Erica Friedman, Basil Hanss, Rainier Patrick Soriano

Formal medical school curriculum often fails to highlight the important perspectives of professionals from the arts, politics, business and education and their impact on the health care of patients. It is more evident at Icahn School of Medicine at Mount Sinai (ISMMS), a standalone medical school that lacks the cultural enrichment opportunities found at most universities. To facilitate conversations around the interface between medicine and other professions, New York City Cultural Consults (NYCCC), a student-run event series, was started.

Dynamic and accomplished guests engage in informal, round-table conversation with medical students and faculty over dessert and wine. Events are limited to 30 students and faculty and last 90 minutes. A selected student and faculty member facilitate the discussion. To assess the impact of the first 10 NYCCC events, attendees completed an online survey.

Five faculty and 26 students responded (n=31). 97% said the overall quality of NYCCC events was “above average”/”superior.” 55% of respondents thought the program should be integrated into the curriculum of all medical schools. 89% of students “agree”/”strongly agree” that “NYCCC events have enriched their medical education.” Comments included: “[the events] exposed me to innovative ideas, which may help me think outside the box…and helped me to see beyond the rigors of medical school.” All respondents hoped to attend a future NYCCC event.

NYCCC is a vibrant part of extracurricular life at ISMMS that offers high-quality, education-enriching events which encourage participants to think more broadly about how we and how our profession can improve the lives of our patients and community. Whether such events should be formally integrated into medical school curricula remains unclear. Future directions include increasing the frequency of events to accommodate more capacity, including more women as guests and broadly surveying other medical schools about the value of these types of events.
Panel Discussion: Hurricane Sandy and Its Educational Aftermath

Shari Midoneck, Sibel Klimstra, Mel Rosenfeld, Molly Poag

On October 29 Hurricane Sandy hit New York City. The storm, which caused devastating flooding, knocked out the back-up generators at NYU Langone Medical Center necessitating the evacuation of Tisch Hospital. Bellevue Hospital, located a few blocks south of NYU, was forced to evacuate two days later. The Manhattan VA Hospital had been evacuated prior to the hurricane. Once these three medical centers were closed, there were a limited number of clinical training sites available for NYU medical students.

Our panel discussion will focus on the steps NYU needed to take to ensure that their students had adequate LCME-approved clinical teaching sites and the coordination that occurred between NYU and other medical schools to accomplish this task.

Panel Discussion: In the Bush with Digital Natives: A Roadmap for Technology Use In Medical Education

Jason Korenkiewicz, Michael Schwartz, Jill Jemison, Marc Triola, Morgan Passiment

Students grow up in a world immersed in technology. The way students communicate, research, read, organize and abstract information, from a very young age, is impacted by the ever-changing role of laptops, mobile devices, tablets, online content and social media. This session gathers four educational technology leaders from schools in the Northeast to discuss how students use technology at their institutions, share strategies on how to bridge the technology divide between students and faculty, and offer thoughts on emerging popular topics like MOOCs, flipped lectures and mobile devices in the classroom. A question-and-answer period will be included so attendees can share their own thoughts and ask the panel about issues faced at their schools.

Panel Discussion: Implementation Science and Medical Education

Ralitsa Akins, Robert Birnbaum, Iman Hassan, Robert Morrow, Chris Norwood, David Thomas

The field of implementation science (IS) was developed to optimize quality of care by narrowing the gap between research and practice. It involves the scientific study of methods to promote the uptake of research results and evidence-based practices to improve the quality and effectiveness of health services. The goal of implementation science is to discover "what interventions work where, when, for whom, and why" in order to implement innovations, programs and processes effectively. The panelists, all who are involved in a GEA Implementation Science writing project, will introduce the topic and engage participants in thinking about how to integrate Implementation Science into their educational activities, and about the link of IS to Outcomes Education.

LCME: Innovation, Comparability, Severe Action Decisions, and Public Comment on the Elimination of IS-2

Dan Hunt, MD, MBA
LCME Co-Secretary, Senior Director, Accreditation Services

This presentation will provide examples of innovations being implemented in new schools as well as information related to the most significant variables associated with schools receiving severe actions. In addition, time will be set aside to take comments on the recommendation from the LCME to delete the following standard: IS-2. The parent institution of a medical education program should have not-for-profit status." The deletion of this standard is consistent with previous legal opinion, which has stated that accreditation decisions must be based on the ability of an institution to meet accreditation standards and not based on its form of governance.
AAMC: MedAPS and MedEdPORTAL Update

Terri Cameron, Robby Reynolds

Rationale/Background: AAMC’s development of the Medical Academic Performance Services (MedAPS) suite of services is rapidly moving toward implementation, and MedEdPORTAL has two exciting new features. This session will provide an update on the current status of each of these initiatives and present an opportunity for participants to provide input for these and future projects.

MedAPS’ suite of services consists of the following three tools: Curriculum Inventory and Reports (CIR), Accreditation Standards Self-Assessment Tools (ASSET), and the ASSET Dashboard. The new tools will use the vast amount of data collected by the AAMC and LCME annually to provide new options for continuous quality improvement and reduce the time and energy schools expend during the accreditation process. All three tools are in development and expected to be released in 2016. Together, these tools will provide new, robust options that will help medical schools inculcate an environment of continuous quality improvement across their missions.

The AAMC’s MedEdPORTAL ® has evolved into an integrated suite of services – Publications, iCollaborative and the CE Directory. MedEdPORTAL features over 3,000 peer reviewed publications, innovative resources, and continuing education courses that cover the continuum of health education. Specialty collections such as the Building Oral Health Training Capacity in Medical Education and the Interprofessional Education Collaboration series will be highlighted in this presentation. Through Publications, iCollaborative, and the CE Directory, MedEdPORTAL aims to equip healthcare professionals across the continuum with effective and efficient educational tools to improve patient care.

Faculty Development in Quality Improvement & Patient Safety: AAMC’s Teaching for Quality (Te4) Initiative

Robert Englander

The AAMC has a new initiative to support faculty across the medical education continuum in development of their clinical teaching in quality improvement and patient safety. The Te4Q Report published January 2013 includes an environmental scan of the current state; recommended changes to enhance teaching and assessment in QI and PS; and proposed competencies for faculty. Future plans include a website for resources and community of practice; development of a curriculum for a faculty development program in teaching QI/PS; opportunities for mentoring; and research in the field. Dr Englander serves on the Te4Q Steering Committee.

DOCS SIG

Felise Milan

DOCS is a new organization which formed almost 2 years ago out of interest that was expressed partially at NEGEA meetings.

The purpose of the Directors of Clinical Skills Courses is to build a cohesive and productive national consortium of educators who direct courses which teach clinical skills to medical students. We aim to promote scholarship, establish best practices, and encourage exchange of ideas within the broad realm of medical education.

At the interest group meeting at NEGEA we would like to:

1. Update NEGEA members about the DOCS organization including ways to join and become involved
2. Solicit ideas and suggestions from NEGEA members to take back to the national organization.
3. Solicit interest and develop a potential project(s) for NEGEA DOCS members to work on.
OSTE SIG

Alice Fornari

This well established model to assess clinical performance with standardized patients is now being adapted to faculty and residents as teachers in the clinical setting as Objective Structured Teaching Exercises (OSTEs). The OSTE has been used as a means of assessing and improving faculty teaching performance as well as assessing the impact of teaching skills programs. There is little quantitative data supporting the effectiveness of the OSTE in improving teaching performance, although most participants believe it had a beneficial effect. The ideal OSTE structure and design are not currently known. This special interest group (SIG) session will focus on a foundational introduction of OSTEs in both UGME and GME and CME. It can be used across the spectrum of medical education as a faculty development tool and facilitate learning and hopefully behavior change in the competencies of IPCS and Professionalism. Most important we will share our diverse experiences and help build a series of resources and ideas that can cross institutions and disciplines and levels of medical education.

Technology in Medical Education (TIME) SIG

Nagaraj Gabbur

This is an interest group for those who would like to explore using technology to enhance the learning experience for our students or to deliver education through novel methods for the 21st century. Extensive computer knowledge is not a requirement.
Presentation Zen: Creating Enlightened Oral & Poster Presentations

Maria Blanco, Michelle Daniel, Alice Beth Fornari

Introduction & Background: Oral and poster presentations have become an important venue for disseminating educational scholarship at professional meetings, and can also serve as useful tools for teaching, networking and collaboration opportunities (1). These presentations can be invaluable in assisting with manuscript preparation (2). An effective poster is a highly condensed version of a research paper constructed primarily of visual displays of data with just enough supporting text to provide context, interpretation, and conclusions (1). Literature suggests that presenters do not take full advantage of this powerful communication tool by designing poorly organized, overloaded and not visually attractive poster presentations (3). Similarly, oral presentations need to pack an audio-visual punch. The delivery is just as important as the content in terms of impact factor for the audience (4). Cluttered slides with too many words, reading excessively from notes, and a lack of “stage presence” all significantly impact the impression left of your work. As with everything in medicine and medical education, improvement requires knowledge and practice, and this workshop will help you cultivate the tools necessary to impress your next audience.

Objectives
By the end of this session, participants will have:

- Identified practical tips on oral and poster presentations development.
- Review criteria for delivering effective oral and poster presentations.
- Applied tips and criteria presented by critically analyzing samples of presentations.

Format: 90-minute interactive presentation allocated as follows:

Welcome, Introductions, Overview of the Workshop (10 minutes): Presenters will introduce themselves and review the goals of the workshop. Presenters will invite participants to introduce themselves and gather in groups of 3-4.

Review of Sample of Poster in Small Groups (15 minutes): Participants will be asked to review a sample of a poster in groups, and identify strengths and weaknesses related to organization and visual display (10 minutes). The small groups will report their discussion points to the large group (10 minutes).

Review of Sample of Poster Large Group Discussion (30 minutes): Presenters will build on the group’s reports, and review tips and guidelines for designing and delivering effective poster presentations. Participants will be encouraged to share questions and comments on the tips and guidelines that will be introduced. Participants will also be introduced to the 2013 NEGEA Poster Award Review Form during this discussion.

Observation and Critique of an Oral Presentation Video Clip (30 minutes): This portion of the workshop will begin with a discussion of what makes a highly effective oral presentation. Participants will then observe and critique oral presentation mini-clips. Resources for improving future oral presentations will be suggested.

Wrap-up and Workshop Evaluation (5 minutes): Participants will receive a copy of the one-page handout on tips for designing scientific poster and oral presentations developed by the MESRE Faculty Development Group, and complete the workshop evaluation.

References
Student/Resident Session Advancing Your Career: Effective Strategies for Taking the Initiative and Building Professional Networks

Susan Pasquale, Norma Susswein Saks, Suzanne Rose

Background/Importance to Medical Education: As residents, fellows and faculty members, you will play important roles in every aspect of a successful school: educating students, doing research, providing clinical services and engaging in community service. When residents and faculty members are hired there is the expectation that careers will be nurtured and that there will be the opportunity for advancement both academically and financially. Though factors are of varied importance at different medical schools, what remains constant is the need to know what is expected for career advancement, and to provide professional development activities to meet those expectations. Effective mentoring strategies are often discussed, but what can become lost in the culture of academic medicine is the realization of how important/essential building professional networks over the lifetime of a career can be. Once the importance of building these networks is established, strategies must be developed and implemented to begin and sustain these relationships, i.e., being proactive is essential to career advancement. Residents who do not understand the culture of academia, for example, might miss opportunities for creativity in their education and expansion of career options. Medical school faculty who do not understand the culture of academia and the requirements for promotion might remain mainly involved in clinical responsibilities and/or teaching. They may find it difficult and frustrating to meet the standards necessary for career advancement, and because of lack of career advancement, can become at risk to leave an institution.

Similar to the corporate world where employers generally understand the importance of training in requisite skill enhancement that will lead to success in new positions, medical schools must create professional development activities to provide information/coaching to help participants build strategies and professional networking relationships. These skills are important for professionals to allow them to individualize and optimize successful career trajectories for meeting promotion requirements of their institution and generally in academic medicine.

1. Objectives/Intended Outcomes
Workshop participants will
1. Be able to apply key strategies for developing high yield professional networks to enhance job performance (i.e., teaching, leadership, service roles) as future faculty and/or faculty in academic medicine.
2. Discuss strategies for taking control of professional networking that will contribute to career advancement in academic medicine.
3. Interact with presenters representing different but overlapping areas of work within their institutions, and thus gain comprehensive perspectives on the topic.

2. Format of Workshop Activities (75 minutes)
1. Session overview and a pair/share activity. Pair/share activity will be discussed and incorporated into brief presentation, emphasizing importance and timeliness of topic for future faculty and faculty in academic medicine. (15 minutes)
2. Case studies depicting effective and ineffective strategies for building professional networks will be discussed briefly in large group. A formatted worksheet will help guide and focus discussion of key questions in small groups. (25 minutes)
3. Small groups reports to larger group: There will be opportunity to pose questions, share strategies, offer reflections from small group discussions and own experiences. (20 minutes)
4. Summary statements will be generated to include key take-home points and next steps to assist participants in applying information to their own situations (15 minutes).

Target Audience(s): Students, residents and junior faculty.

References:
School’s Out... Learning is Not (Resident-as-Teacher)

Michelle Daniel, Cristin McDermott, Megan Toal, Katherine Farmer

In this session, we'll go through the "Who, What, Where, Why and How" of teaching medical students on the fly, from the perspective of newly minted residents. We'll address how to tailor teaching to "learner level," and discuss how to optimize teaching in the variety of settings in which medical students and residents interact throughout the day. Come ready for a high energy, humorous and interactive session!

Learning Objectives:
1. Who: How to get to know your learner and assess "learner level."
2. What: How to identify/create appropriate and relevant "knowledge nuggets."
3. Where: How to identify what to teach during pre-rounds, rounds, at the bedside, and in the afternoons.
4. Why: Because every teaching session needs some good feedback. We'll ask for your input, and also go over some techniques for how to provide and solicit feedback during informal teaching sessions.
5. How: How to develop “Go To” resources to facilitate quick and reliable clinical pearls