TEACHING AND SERVICE AWARD RECIPIENTS 2011-2012

Anna DePold Hohler, M.D., Boston University School of Medicine, Department of Neurology
Stanley L. Robbins Award for Excellence in Teaching, Boston University School of Medicine

Ellen Difiore, Boston University School of Medicine, Office of the Registrar
Perkins Award for Distinguished Service, Boston University

Edward Feinberg, M.D., Boston University School of Medicine, Department of Ophthalmology
Committee on Faculty Affairs Educator of the Year Award for Clinical Sciences, Boston University School of Medicine

Neil Fleisher, D.M.D., Boston University Goldman School of Dental Medicine, Department of General Dentistry
Spencer N. Frankl Award for Excellence in Teaching, Boston University Goldman School of Dental Medicine

Sophie Godley, M.P.H., Boston University School of Public Health, Department of Community Health Sciences
Association of Schools of Public Health/Pfizer Early Career in Public Health Teaching Award, Boston University School of Public Health

Adam Hall, Ph.D., Boston University School of Medicine, Department of Anatomy & Neurobiology
Committee on Faculty Affairs Educator of the Year Award for Graduate Sciences, Boston University School of Medicine

Rob Lowe, M.D., Boston University School of Medicine, Department of Medicine
Boston University Metcalf Award for Excellence in Teaching, Boston University School of Medicine

Megan Sandel, M.D., Boston University School of Medicine, Department of Pediatrics
Committee on Faculty Affairs Educator of the Year Award for Preclinical Sciences, Boston University School of Medicine

Lisa Sullivan, Ph.D., Boston University School of Public Health, Associate Dean for Education
American Statistical Association Section on teaching Statistics in the Health Sciences Outstanding Teaching Award, Boston University School of Public Health

James Wolff, M.D., Boston University School of Public Health, Department of International Health
Boston University School of Public Health Educational Innovation Award, Boston University School of Public Health

BU

Boston University School of Medicine

Welcome to

The Seventh Annual John McCahan Medical Campus Education Day

Dear Colleagues,

Welcome to the seventh annual John McCahan Medical Campus Education Day. Dr. McCahan, M.D. served as distinguished associate dean for academic affairs at Boston University School of Medicine for 30 years. We are pleased to offer Boston University medical campus educators, staff, and students a day of stimulating speakers, workshops, and innovative ideas to inform and inspire.

Our keynote speaker this year, Constance Bowe, M.D., a Senior Consultant at Partners Harvard Medical International on its global healthcare projects focused on the evaluation and development of health science education, has served as faculty in the Harvard Macy Institute's (HMI) faculty development programs for 'Educators in the Health Professions' and 'Leading Innovations in Healthcare and Education' since 1998 and co-directs HMI's program 'A Systems Approach to Assessment in Health Professions Education'. She will address participants with her talk focusing on teaching "digital natives" and preparing our students for a future where health care is increasingly networked.

Presented abstracts and oral presentations will cover a variety of topics to aid our educators in improving and re-evaluating how we teach students: evaluation, testing and assessment techniques, educational models and methods.

This day is an opportunity to consider your teaching ideologies, connect with colleagues, and dialogue with your colleagues.

Sincerely,

Karen H. Antman, M.D.
Dean, Boston University School of Medicine
Provost, Boston University Medical Campus

Educational Technology

* Abstracts are ordered alphabetically by the last name of the primary author

THE FUTURE OF E-TEXTBOOKS: E-TEACHER 48

L.TOTH[1], S.PATEL[2], M.COURNOYER[3], M.MACNEIL[1]
[1]Department of Anatomy and Neurobiology, Boston University School of Medicine, [2]Boston University School of Medicine, Third Year Doctoral Candidate, [3]Boston University School of Medicine, Second Year Masters Candidate

This past year has seen a surge both in publishing houses providing e-textbooks, and in authoring software designed to produce them. As teachers of preclinical and graduate medical curricula, we imagined how we want students to experience an e-textbook, and evaluated our ability to produce such a book.
Many e-textbooks focus largely on the ability to bring multimedia content together in one place. For our students, Blackboard-8 is currently used for this purpose, though an e-textbook may provide a more convenient or more "hip" experience. We will exhibit a sample chapter from the syllabus for "Cellular Organizations of Tissues" produced using Apple's iBooks Author software as a demonstration. A particular weakness of iBooks Author is that the iPad remains the only platform on which the resulting text can be properly experienced.
While many e-textbooks have a provision for including simple evaluations (as do many current print textbooks), we have identified a major failing in the inability of an e-textbook to provide a feedback-guided learning experience. (We note that many popular iPad games do provide excellent models of a guided learning experience, in their progressive stepwise approach to teaching a user how to play the game.) We conclude that the best vehicle for delivering such an experience is still an interactive website. We provide examples of how to model the learning process for "hematopoiesis", "urinary system", and "digestive system" labs from our course using a flow-chart for a game-based approach.
Furthermore, we describe an interactive textbook that includes the ability to monitor the timing of a student's learning, and enforce an appropriate review schedule.
We conclude that while e-textbooks may be the novelty of the year, the true revolution will occur when such books routinely incorporate "e-teacher" algorithms that serve to guide and track an individual's unique learning timecourse.

IMPLEMENTING AN OBSERVED CLINICAL SKILLS EXAMINATION TO IMPROVE NEUROPHYSIOLOGY SCORES ON THE RESIDENT IN SERVICE TRAINING EXAMINATION 47

A.WESTWOOD, J.OTIS, S.FRANK, A.HOHLER
Department of Neurology, Boston University School of Medicine

Objective: Implementing an observed clinical skills examination (OSCE) to improve neurophysiology scores on the RITE to prepare residents for life after residency and ultimately improving patient safety.
Background: The RITE exam is the closest indication of a resident's ability to pass the board examinations. Emphasis is placed on preparation for the RITE during training for residents to gauge their knowledge or lack thereof. Our institutional OSCE was implemented in 2010 and has been modified and increased in sample size.
Design/Methods: Neurology residents (PGY 2-4, n=17) undertook an institutional test covering EEG and EMG in 2011. There were 11 multiple choice questions on EEG and 5 structured questions on EMG, each scored out of a maximum of 1. EEG prints were obtained from Boston Medical Center records. EMG questions were obtained from "Electromyography and Neuromuscular Disorders: Clinical-Electrophysiologic Correlations" by DC Preston and BE Shapiro.
Individual resident scores were anonymised and blinded to the investigators.
Comparisons were made between the scores on the institutional exam and the RITE between both year of training and within year of training.
Results: PGY3 outperformed other years on average in the subcategory of neurophysiology on the institutional test but not on the RITE. The RITE score improved in each year of residency. More junior residents were above the national average in neurophysiology than PGY3.
Conclusions/Relevance: RITE scores improve with more experience in neurology residency. Generally scores improve in neurophysiology on the RITE. After modification to MCQ structure and expansion of number of questions (from 9 to 16) the institutional test did not correlate with the RITE. However the institutional exam may encourage more motivation in studying for the RITE. Further investigation will be needed to improve the association. It is unclear whether the institutional examination motivates junior residents to perform better on the RITE.

TEACHIGN HUMANISM AND CLINICAL GERIATRICS IN THE ANATOMY DISSECTION LAB 43

M.YOUNG[1], A.ZUMWALT[2], V.PARKER[3]
[1]Department of Medicine, Boston University School of Medicine, [2]Department of Anatomy and Neurobiology, Boston University School of Medicine, [3]Department of Health Policy and Management, Boston University School of Public Health

BACKGROUND: Several national programs exist to incorporate geriatrics content into the traditional pre-clinical years of medical school. Two of these innovative models, at Brown University and Florida State, introduce geriatrics concepts during the gross anatomy labs. METHODS: Boston University (BU) has adapted the curriculum developed at the Warren Alpert Medical School of Brown University. Fellows in the BU Geriatrics section visited the gross anatomy lab in 2010 and 2011. During sessions, the fellows approached each lab table and spoke informally about clinical questions raised by the students. RESULTS: In 2011 all 187 students enrolled in the anatomy course were asked to respond to the following question: "Early in Head & Neck a number of geriatricians visited the lab to discuss the medical conditions observed in your donors. What was your reaction to these discussions?" 67 students answered the question. 59% of those who answered the question said they remembered interacting with a geriatrician. Out of those students over half (62.5%) made positive comments related to humanism, clinical aspects of geriatrics and enjoying the experience. 22.5% of students made negative comments and 15% had mixed comments about the experience. CONCLUSIONS: Having a Geriatrician in the anatomy lab encourages students to think about the clinical relevance of anatomic findings. It also helps students think about their donor as a person thereby promoting humanism. There are several explanations for why some students did not remember interacting with a geriatrician: the time between evaluation and experience was too long, that the coverage within the lab was uneven or that students did not realize the fellow was from geriatrics. We are currently using all the student comments to shape the exercise for next year. This exercise is a promising model for teaching humanism and geriatrics in the pre-clinical years of medical education.

REFLECTING ON PATIENT DEATH ENCOUNTERS: AN UNMET NEED IN RESIDENCY EDUCATION 44

R.ZITNAY[1], A.ORKABY[1], H.MIN[1], W.SUEN[2]
[1]Department of Medicine, Boston Medical Center, [2] Section of Geriatrics, Department of Medicine, Boston University School of Medicine

Background: Internal Medicine residents are frequently exposed to patient deaths, with few formal outlets for them to reflect on their experiences. Studies have shown that providers who do not address and cope with their emotions may experience professional dissatisfaction and burnout. We created and analyzed the results of a survey to address and understand these concerns from the resident trainee's perspective.
Methods: Based on an extensive review of the existing literature, we created a 19-question survey that was administered to 150 Internal Medicine residents from July to September 2011. Participation was voluntary. Descriptive statistics were calculated for each question. Free text responses were analyzed for common themes.
Results: 91 residents completed the survey. 87% reported encountering a patient death every 3 months or more frequently, with 69% most frequently encountering deaths in the Intensive Care Unit (ICU). Approximately half reported no prior training on coping strategies for dealing with patient death. 41% reported that an encounter with a patient death negatively affected their professional satisfaction. 91% experienced an emotional response, while 50% reported a physical reaction. Most expressed interest in opportunities to formally debrief during scheduled sessions and to learn more about available resources when they are having difficulty coping (83% and 84% respectively).
Conclusions: Residents encounter patient deaths most frequently in the ICU, where they spend at least six months of their training. Nearly 80% of residents reported rarely or never experiencing a debrief session after a patient death, demonstrating an existing cultural and educational gap in our residency program. With most of the residents reporting an interest in this, there is a receptive climate to embark on curriculum development in this area. Based on our survey, the ICU appears to be the most appropriate target for first step interventions to provide more resources and support to trainees.

ACKNOWLEDGMENTS

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The John McCahan Medical Campus Education Day Planning Committee:

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Turning Technologies

NON-COMMUNICABLE DISEASES CURRICULUM USING TRAIN-THE-TRAINER AMONG UGANDAN CLINICAL OFFICERS 42

M.WARNER, G.KAYINGO
Department of Medicine, Boston University School of Medicine

Problem: Uganda has one the most rapidly growing incidence of non-communicable diseases (NCD) in the world yet capacity for managing these diseases is inadequate. We hypothesized that having well trained non-physician providers may be the quickest intervention to build a sustainable capacity in dealing with this worsening burden of NCD.
Evidence: Studies show that well trained clinical officers are capable of providing quality and cost effective health care. In Zambia, clinical officers render HIV care with very good outcomes (Bolton-Moore et al., 2007; JAMA) and in Mozambique; clinical officers successfully provide emergency obstetric care (Chilopora et al., 2007, BJOG). Performance problems do arise when there is inadequate training (Kolstad et al., 1998; Trop Med Int Health).
Solution: First we undertook a needs assessment to identify knowledge gaps and opportunities for additional training. We then initiated an educational intervention to train Ugandan clinical officers (CO) and CO educators in NCD. A curriculum appropriate to Ugandan settings, delivered by Ugandan physicians, included lectures and hands-on workshops.
Outcomes: So far 50 clinical officers have graduated from our program. We are monitoring their NCD knowledge before and after the training. Participant feedback suggests the curriculum was appropriate and relevant to their practice.
Innovation: This project is the first of its kind to focus on NCD capacity building among non-physician healthcare providers in Uganda.

Funding: The initial phase of our program was funded by the R.K. Pederson Global Outreach Fund: American Academy of Physician Assistants.

Future Directions: We plan to scale up our training programs to other parts of Uganda and East Africa and hope to garner foundation funding.

SIMULATED LUMBAR PUNCTURES IMPROVE CONFIDENCE AND KNOWLEDGE IN MEDICAL STUDENTS 46

A.WESTWOOD, A.HOHLER
Department of Neurology, Boston University School of Medicine

Objective: Investigation into whether simulated lumbar punctures improve confidence and knowledge in medical students during a neurology rotation.
Background: Patients typically are apprehensive about undergoing a lumbar puncture. A physician's ability to understand and explain the procedure with confidence results in reassurance and acceptance of the procedure by the patient. Practice on models has been shown in other specialties to improve outcomes, performance and confidence of practitioners.
Design/Methods: Medical students during the neurology rotation were surveyed on their perspective on lumbar puncture simulation. Using six questions on a Likert scale ranging from 1-5 (5 being "expert, 1 being "unconfident", score total 30) medical students were surveyed before and after their use of the lumbar puncture simulator.
Results: A total of 17 students were surveyed (6 MSIV and 11 MSIII). All students recorded an increase in confidence after use of the simulator. Typically final year students were more confident at baseline than third year students (12.5; 11) with greatly improved scores in comfort levels after use of the simulator (20.7, 22). Additional comments were all positive "more prepared for the wards", "feel a lot more comfortable" or requesting further education including teaching on CSF analysis and practice on more challenging models.
Conclusions/Relevance: Medical students find simulated procedures useful and increase their levels of confidence based on self-rating. More experienced students still gain confidence from simulations despite more experience in the patient-doctor relationship. Further study into their ability to perform in a real clinical setting will need to be explored.

DOES EVALUATING MEDICAL STUDENTS' ORAL CARE PRESENTATIONS AFFECT SUBSEQUENT PRESENTATIONS? 40

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Background: The oral case presentation is a critical communication skill medical students must learn during clinical clerkships. However, the ideal means of teaching this skill remains unknown.
Objective: Our objectives are to determine (1) if participating in a structured presentation evaluation session early in the core Pediatric clerkship improves medical students' subsequent presentations, and (2) whether the quality of students' presentations differs when faculty use a simple or detailed evaluation form.
Methods: We conducted a single-blinded randomized controlled trial with 3 study-arms: (1) a control, (2) a "simple" intervention, and (3) a "detailed" intervention. Subjects in both intervention groups have presentations formally evaluated by faculty within ten days of beginning the clerkship, while control subjects do not participate in early evaluation sessions. The "simple" group's presentations are evaluated globally (9-point Likert scale), while the "detailed" group's presentations are evaluated using an 18-item inter-rater reliable form. The study population includes students rotating in pediatrics over a 1-year period at four medical schools: Boston University, University of Maryland, Oregon Health & Science University, and Case Western Reserve University. The primary outcome is the quality of students' presentations on a 9-point Likert scale assessing student's clarity of communication and inclusion of relevant clinical information relative to expectation level. Preliminary data analyses include comparing mean presentation quality scores using t-tests.
Results: Preliminary data analyses of mean presentation quality on 9-point Likert scale (9=highest) demonstrated no significant difference between control (n=59, mean=5.85 +/- 1.40) and "simple" group (n=65, mean=5.95 +/- 1.46, p>0.10). Preliminary comparison demonstrated mean presentation quality of the "detailed" group (n=42, mean=6.33 +/- 1.22) trended towards being significantly higher than the control (p=0.07).
Conclusion: The preliminary findings from this multi-site RCT suggest overall quality of students' oral presentation may be affected by formally evaluating students' oral presentations early in the core Pediatric clerkship.

DEVELOPING A PHYSICIAN ASSISTANT PROGRAM IN 2012 41

M.WARNER[1]
[1]Department of Medicine, Boston University School of Medicine

Problem: With the passage of the Affordable Care Act, the need for primary care providers and specialists who care for vulnerable populations is growing rapidly. Physician Assistants because of their generalist training and career flexibility provide a cost- effective solution to this growing problem.

Objectives:
1. Educate physician assistants equipped to care for the medically underserved in the United States.
2. Develop innovative approaches to interprofessional education that emphasizes highly functional teams.
3. Foster leadership in advocacy, research and education.

Program Description: This 28 month professional degree program is the first to train midlevel medical providers at the BU School of Medicine. The first phase, comprised of lectures and seminar sessions, provides the basic and clinical sciences foundation requisite for practice as a physician assistant. The second phase of the program includes clinical clerkships that engage students in inpatient, outpatient, long-term care and emergent medical settings, while the thesis project requires students develop a research proposal.
Methods: The concept of the Master of Science degree was submitted to through the Graduate Medical Sciences Division approval process using the new E-cap format. Concurrently, a proposal to the Accreditation Review Commission on Education of the Physician Assistant was submitted. To accomplish our goal of training PAs in interprofessional teams, garnering opportunities for collaboration with the medical school is ongoing.
Findings: Challenges related to faculty recruitment for the first year course work and clinical placement development require dialogue and innovation.
Lessons Learned: Communication and collaboration remain important to our success. Support for the program is widespread throughout Boston University and the Boston Medical Center.
Future Directions: Pending approval of the GMS faculty, the degree proposal will be submitted for University approval. Preparing for the accreditation site visit and developing the model for interprofessional education remain our top priorities.

Seventh Annual
John McCahan Medical Campus Education Day
Showcasing Educational Innovation and Scholarship
at the Boston University Medical Campus

May 23rd, 2012
Hiebert Lounge

SCHEDULE OF EVENTS

8:30-8:40a.m. **Welcome and Introduction to Panel of BUMC Academic Deans**
Karen Antman, M.D.,
Provost, Boston University Medical Campus

8:40-9:30a.m. **Panel of BUMC Academic Deans**
Linda Hyman, Ph.D., Associate Provost for the Division of Graduate Medical Sciences, BUSM
Angela Jackson, M.D., Assistant Dean for Academic Affairs, BUSM
Cataldo Leone, D.M.D., Associate Dean for Academic Affairs, BUGSDM
Lisa Sullivan, Ph.D., Associate Dean for Education, BUSPH

9:30-10:30a.m. **Poster Session/Vendors/Networking**

10:40-10:45a.m. Introduction to Keynote Speaker
Ann Zumwalt, Ph.D.

10:45-11:45a.m. **Keynote Lecture**
"Health Science Education: R Our Students Optimally Prepared for Their Futures in iHealthcare?"
Constance Bowe, M.D. Senior Consultant, Partners Harvard Medical International

12:00-12:45p.m. **Lunch/Networking/Vendors**

12:45-1:45p.m. **Award Presentations**
Ann Zumwalt, Ph.D.

BUSM Office of Academic Affairs Voluntary Faculty Award of Excellence

GMS Faculty Recognition Award

BUGSDM Faculty Recognition Award for Educational Innovation

BUSPH Educational Innovation Award

(See page 11 for descriptions)

NEUROPHYSIOLOGY OF EDUCATION: LESSONS FOR STUDENTS AND TEACHERS 45

L.TOTH[1], S.PATEL[2], M.COURNOYER[3], M.MACNEIL[1]
[1]Department of Anatomy and Neurobiology, Boston University School of Medicine, [2]Boston University School of Medicine, Third Year Doctoral Candidate, [3]Boston University School of Medicine, Second Year Masters Candidate

Overlap between the intellectual fields of education and neurophysiology has always been of interest in the case of conditions that change cognitive capacity, such as autism spectrum disorders, or senile dementias. Now, neurophysiology research is becoming directly applicable to normal human learning, even when this learning is of the esoteric type that accompanies a college curriculum. We have attempted to summarize a few areas of rapidly-changing neurophysiology research that are vitally relevant to students and teachers.
Physical exercise - It is becoming better understood how exercise modifies brain structure. Is acute exercise more important than chronic fitness? How much exercise is beneficial? Are aerobic and weight-bearing exercises equally beneficial? What is the neurobiological basis of the effect of exercise?
Emotion and attention - the efficacy of learning is increased through associations, especially with emotionally salient experiences. Hypotheses on the role emotion, perceived reward, and tendency to action can now be tested directly by recording individual neurons from basal ganglia structures in humans and non-human primates.
Reinforcement schedules - cramming is bad, but how frequently, and on what schedule must material be reviewed to provide efficacious learning? This question may be answered by looking at the time scale of synaptic reorganization in model systems. It is especially important to understand what factors might affect individual variation in synaptic reorganization. It is likely that some students need to review more than others - would it help to make students aware of what their individual learning "time constant" is?

ASSESSING DENTAL STUDENTS'ATTITUDES AND KNOWLEDGE ABOUT THE ELDERLY 39

W.TRAINA[1], P.FRIEDMAN[2]
[1]Boston University Goldman School of Dental Medicine, Class of 2014, [2]Office of the Dean for Strategic Initiatives, Boston University Goldman School of Dental Medicine

Objective: The most rapidly growing segment of America's population are those 65+. This is especially important for the health care industry which serves America's senior citizens. Students who are entering the health care field need to be knowledgeable about the facts on aging to be adequately informed clinicians. In this study, dental students completed a validated survey in order to evaluate their breadth of knowledge and attitudes about aging. Both the international Advanced Standing (AS) students (foreign-trained dentists) and traditional Doctor of Dental Medicine (DMD) students participated, and the overall as well as class-specific results were compared.
Methods: Both AS and DMD students from the academic years of 2008 – 2009 and 2009 – 2010 participated in the study. They completed a widely utilized instrument, the Facts on Aging quiz prior to the first session of a course in Geriatrics and Gerontology. The AS and DMD students quizzes were graded separately using scantron answer sheets.
Results: The results from the Facts on Aging Quizzes show a significant difference ($P < .001$) between the performance of the AS and DMD students. In both years, the DMD students were more knowledgeable about the facts on aging than the AS students. Both groups of students performed better on the quiz in the academic year of 2008 – 2009. Both groups of students also performed significantly better when answering the test questions which were based on a physiological component of aging, compared to the other questions on emotional or sociological components.
Conclusions: The study findings show that the DMD students appear to be more knowledgeable more about aging and the elderly than the AS students. Additionally, the study shows that dental students are more knowledgeable about physiological questions regarding aging in comparison to the emotional and sociological question.

INTERNAL MEDICINE RESIDENT KNOWLEDGE AND ATTITUTES REGARDING PRESSURE ULCERS: A PILOT STUDENT 35

W.SUEN[1], V.PARKER[2], L. LAUBENSTEIN[3], S.NEVIN[3], J.JANSEN[3], L.ALEXANDER[3], D.BERLOWITZ[2]
[1]Section of Geriatrics, Department of Medicine, Boston University School of Medicine [2]Department of Health Policy and Management, Boston University School of Public Health, [3]Department of Surgery/Nursing, Boston Medical Center

New CMS guideline requires physicians to be more involved in pressure ulcer (PrU) prevention and documentation. PURPOSE: 1) Assess internal medicine interns' and residents' attitudes towards PrU prevention 2) Identify extent of interns' knowledge about PrU identification and staging METHODS: Quantitative cross-sectional study of 21 Internal medicine interns and 21 internal medicine residents. One-hour lecture on PrU was provided. Interns completed pre- lecture attitude survey and post-lecture knowledge quiz. Residents completed a pre-lecture attitudes survey. RESULTS: Interns and residents have positive attitudes towards PrU prevention. Residents felt that pressure ulcer prevention was important, but time consuming. Interns had difficulty identifying Stage III, Unstageable, and Deep Tissue Injury. CONCLUSIONS: Attitudes towards PrU prevention amongst internal medicine interns and residents are overall positive. Some areas in PrU prevention attitude and PrU staging knowledge can be improved

QUALITY IMPROVEMENT CURRICULUM FOR GERIATRICS FELLOWS USING LEAN METHODOLOGY 36

W.SUEN[1], G.GUPTE[2]
[1]Section of Geriatrics, Department of Medicine, Boston University School of Medicine, [2]Department of Health Policy and Management, Boston University School of Public Health

OBJECTIVES: Practice-based learning and improvement (PBLI) and systems-based practice (SBP) is one of the Accreditation Council for Graduate Medical Education required six competencies. The purpose of this work was to teach quality improvement (QI) principles using Lean methodology to run a QI project by the Geriatric Fellows within the Geriatrics Department. The Lean methodology has been introduced and perfected by Toyota in order to make waste visible and eliminate it. It is now being well adopted in hospitals. METHODS. The project included five Geriatrics fellows who along with Lean experts used the Lean management principles for improving the chosen project of improving the labs ordered in the home care setting. The fellows met once a month with the experts to discuss the ongoing project. The sessions included: Introduction to QI, Value Stream Mapping, Identification of Waste, Brainstorming solutions, Pilot testing a project, and a Final Project presentation. Post-curriculum survey and reflection pieces were administered and analyzed for themes.
RESULTS. The curriculum successfully introduced QI principles to geriatrics fellows, engaged their thinking about stakeholders, the system involved in the process, and introduced them to the systematic process of performing a QI project.
CONCLUSIONS. The QI project fostered collaborative QI work, allowed for hands-on QI experiences, and influenced the section of geriatrics QI culture.

PEER TEACHING 38

K.SYMES[1], S.DASGUPTA[2], L.HYMAN[3]
[1]Department of Biochemistry, Boston University School of Medicine, [2]Department of Medical Genetics, Boston University School of Medicine, [3]Division of Graduate Medical Sciences, Boston University School of Medicine

Foundations in Biomedical Sciences (FiBS) is a modular, interdisciplinary course created to bring doctoral students from seventeen admissions pathways at Boston University School of Medicine (BUSM) into an integrated first year curriculum. Implemented for the first time in the 2011-2012 academic year, this course included an additional professional development component for senior doctoral students and postdoctoral trainees of mentored, peer teaching. Applications included a teaching statement, a research summary, an unofficial transcript, and a letter of reference from their laboratory director granting release time. During the interview process, candidates presented a 5-minute teaching lesson on a topic of their choice to the FiBS module directors. Twelve students and postdoctoral trainees were selected from the applicant pool to teach in one or more 4-week module(s). Teaching fellows worked in collaboration with faculty mentors to review material, set goals, facilitate small group break out sessions, and grade assignments. This study analyzes data obtained from surveys designed to assess student perceptions of peer teaching fellows, and the experiences of the teaching fellows. Finally, lessons learned by faculty and peer teachers will be discussed in the context of the second year of the FiBS curriculum.

Schedule of Events

Abstract Awards – Oral Presentations
Best Faculty/Staff Abstract
Eric Hardt, M.D., "Culturally Competent End of Life Care: A Curriculum for Fourth-Year Medical Students"
See abstract listings page 27

Best Student/Resident Abstract
Lina Nazartchouk, BUSM Class of 2012, "Tailoring the 360-evaluation: NICU nurses' perspectives on evaluation of pediatric residents"
See abstract listings pages 34

Best Student/Resident Abstract
Kirsten Lyman, BUSM Class of 2014, "Exercise by students, for students: A Novel Approach to Facilitate Improved Academic Focus and Stress Reduction on Campus"
See abstract listings page 32

2:00-3:30p.m. **Workshop Sessions**
See workshop listing p. 14-15 for descriptions and locations

Educational Vendors will be showcasing their products in Hiebert Lounge after 9:00 a.m. throughout the day

BOSTON UNIVERSITY SCHOOL OF MEDICINE – FOREST HILL RUNNERS (BUSM-FHR): HEALTH PROMOTION AND EDUCATION 34

K.SCHWARZ, O.KENDALL

Boston University School of Medicine, Class of 2014

Statement of the Problem: Recent research has shown that medical students demonstrate significant changes in health habits during their preclinical years, including decreased exercise frequency and socialization. These lifestyle changes are correlated with poor academic adjustment and increased depression [1]. Research has also begun to explore the educational value of service-leadership experiences in community health initiatives. A recent study demonstrated that health care trainees effectively learn health promotion skills through leadership in community-based exercise programs and wellness groups [2].

Objective of the Intervention: BUSM-FHR has created innovative extracurricular activities to address problematic trends in medical student health habits. We aim to educate medical students about exercise and nutrition and to increase BUSM student physical activity, stress reduction, and socialization by hosting weekly group runs. The BUSM-FHR Youth Run/Walk Program is an innovative model for medical student community outreach and experiential learning. One objective of the Youth Run/Walk Program is for BUSM students to learn, through experience, effective communication and motivational skills for the promotion of exercise and health maintenance.

Description of the Intervention: Four main components:

(1) Education: BUSM-FHR hosts running and exercise nutrition workshops for BUSM students.

(2) Service-Learning: BUSM-FHR founded a Youth Run/Walk Program for disadvantaged teens in partnership with Hyde Square Task Force (HSTF). 15 BUSM students volunteer as "running buddies" and mentors for 35 teenagers at HSTF twice weekly. After practices, teens write about their training experiences in journals, which their BUSM "journal buddies" read and respond to with encouragement and advice.

(3) Medical Student Running Group: BUSM-FHR meets on the BUSM campus every Wednesday for group runs.

(4) Community Enrichment Runs: Runs open to the Boston community are hosted by FHR three times weekly. BUSM students and community members plan routes and lead runs.

Method: Second year BUSM students lead the different components of BUSM-FHR and recruit others to engage in scheduled runs, education events, and volunteer activities.

Future Directions: (1) Track ongoing medical student learning and development through quantitative and qualitative data collection, (2) Collaborate with HSTF in hosting a 5K run/walk event in June 2012, (3) Host exercise workshops for adolescents at Martha Elliott Health Center, and (4) Create a template for replication so that similar programs can be implemented elsewhere.

EDUCATIONAL EVALUATION: RESEARCH CAREER OUTCOMES OF K-AWARD FELLOWS 37

K.STEVENSON

Clinical and Translational Sciences Institute, Boston University School of Medicine

Statement of Problem or Question BUMC offers NIH Mentored Career Development Awards (K Awards) to individuals with a health professional doctorate who want to pursue careers in research. Evaluation of the impact of such K Award Programs includes the assessment of research career outcomes over time. There is a growing body of literature indicating that the transition of early career clinical investigators to independently-funded investigators is increasingly difficult due to lack of protected time for research, reductions in research funding, and increased research administrative burden with regulations. This descriptive study examines:

1) What are the research career outcomes of K-fellows at BUMC over the past 10 years?

2) What are the career pathways to becoming independent investigators?

Objectives and Description of Program : The NIH Mentored Career Development Program provides fellows with mentoring and continuing education that develops research skills and knowledge in biostatistics, regulation and ethics, research design, grant writing, and interdisciplinary collaboration that culminate into a completed mentored research project.

Methods: Using document review of federal and non-federal databases, researcher profiles, and CVs, career outcome metrics are aggregated by individual and cohort, then compared to national data. Process mapping is used to showcase steps in careers pathways by year and social network analysis explores diffusion of research networks. Metrics include academic appointments, publications, co-author disciplines, applications, grants, patents, protected time, and mentorship in transition years one-three.

Findings to Date and Future Direction: Preliminary results show a wide variation in outcomes and that while some persist to become successful researchers, others leave research to pursue other positions in medicine. Future evaluation will examine the specific pathways taken by BUMC investigators to illuminate the facilitators and barriers to research careers, as well as return on investment of the K Award Program.

PREPARING DOCTORAL STUDENTS TO TEACH: A PILOT PROGRAM AT THE BUSPH 31

R.SCHADT
Office of Teaching, Learning and Technology, Boston University School of Public Health

Statement of Problem or Question: While a student's discipline training has provided opportunities to develop content expertise and practical skills, the work needed to teach effectively is left pretty much to the student.
Objectives of Program/Intervention: Students will gain an enhanced perspective on teaching by preparing a working portfolio of curricular materials for teaching a public health course and an e-portfolio to document professional practice and make examples of teaching visible (i.e. video of microteaching).
Description of Program/Intervention: This program was offered as a 6 session course in 3 hours sessions held every other week. This was a non-credit bearing course directed towards doctoral students in SPH. Students clarify their approach to teaching and articulate this in a teaching philosophy statement included in an e-portfolio along with evidence of their curriculum development, teaching, community service and research. Other principle foci are implementing principles of integrated course design and developing effective teaching strategies.
Methods: Students work in teams and are responsible for producing a curriculum module relevant to the modules produced by others on that team. Students actively participate in all classes and web-based activities, conversations and assignments. Students complete the assigned readings, respond to online discussions in Blackboard and post weekly reflections on Digication. In addition to educational products, end of course evaluations and individual interviews will be used to gather data on the program's success.
Findings to date/Evaluation: Six students completed the program. There was some attrition due to work load and completing obligations for students. Interest and participation has remained high. Teaching philosophy statements, portfolios and curriculum modules were completed. Microteaching was a highly valued experience by all participants.
Key Lessons Learned: In a non-credit bearing offering it is critical, but challenging to find the balance of readings, activities and assignments to engage students while not overburdening them. Peer related activities are useful as is support from doctoral program directors to promote the value of the program and to acknowledge accomplishments of participants.
Questions / Future directions: Should the course be credit bearing? What length should it be? What should the requirements be? When in the semester and at what time of day should the program be offered? How can faculty be best employed in connection with the program?

NUTRITION WITHOUT BOUNDARIES – A STUDENT GROUP'S COLLABORATIONS IN BOSTON 30

C.SCHOETTLER[1], K.PEACE[1], C.LENDERS[2], K.GORMAN[2]
[1]Boston University School of Medicine, Class of 2012, [2]Department of Pediatrics, Boston University School of Medicine

Statement of Problem: Although there is a wealth of nutrition expertise in the Boston area, there is a lack of nutrition-focused collaborations, especially those from which medical students can benefit.
Objectives of Program/Intervention: Foster connections and partnerships between organizations with a nutrition focus within the Boston area -Encourage networking and professional relationships between medical students and other nutrition professionals, such as registered dietitians and public health professionals -Share sustainable nutrition knowledge with the Boston community
Description of Program/Intervention: SNAAC (Student Nutrition Awareness and Action Council) is a medical student nutrition group focused on bringing education and service-learning opportunities to medical students interested in nutrition. To diversify opportunities, SNAAC has sought partnerships with nutrition professionals outside of the medical school.
Methods: SNAAC made connections with nutrition-related organizations throughout Boston based on mutual benefit from working together.
Findings to date/Evaluation: Examples of collaborations to date include: BU Sargent College - a match program between medical students and dietetic interns; Tufts and Harvard medical schools - a joint lecture series for students; BMC's bWell Center - developing volunteer training and patient education materials; Roxbury and Mattapan community advocacy groups – holding health fairs for community members. These collaborations allowed medical students to build relationships with other nutrition focused professionals and more patients within Boston.
Key Lessons Learned: Establishing mutually beneficial connections and collaborations is challenging. Therefore, SNAAC is working on making long-term relationships. Barriers include programs dissolving due to lack of funding and limited manpower.
Questions / Future directions: SNAAC will collaborate with the University of North Carolina to bring nutrition modules to all medical students at BUSM and teaching cooking classes at the BMC test kitchen to BMC patients. SNAAC may be used as a model for nutrition groups at other medical schools.

John F. McCahan, M.D.

Dr. John McCahan served as the Associate Dean for Academic Affairs at Boston University School of Medicine from 1976 until June 1, 2006. From November 2003 through May 2005 he also led the School of Medicine as the Acting Dean.

Dr. McCahan received his B.A and M.D. degrees from the University of Pennsylvania. He subsequently trained in internal medicine at the Upstate Medical Center, Pennsylvania Hospital and Guy's Hospital, London. Following two years of service in the United States Public Health Service at the National Communicable Disease Center in Atlanta, he joined the staff at Lincoln Hospital in the Bronx and the faculty at Albert Einstein College of Medicine. He was appointed Director of the Department of Medicine at Lincoln Hospital in 1972. During this period Dr. McCahan was centrally involved in student and post-graduate training programs and became particularly invested in the care of the poor and the provision of health care services to underserved populations.

Following his recruitment to Boston University in 1975 as Associate Professor of Medicine, Dr. McCahan continued clinical practice with underserved populations through the Home Medical Service (now the Geriatrics Home Service). He regularly preceptored fourth-year students on home visits to frail elders. He developed a teaching program in family medicine and became a Professor of Family Medicine following the establishment of that department in 1997.

After his appointment as Associate Dean for Academic Affairs in 1976, Dr. McCahan oversaw numerous revisions and reforms of the M.D. curriculum. Most recently, he guided a major change in curriculum governance and chaired the Medical Education Committee, created in this reorganization. Throughout his career he has had a particular interest in the patient-doctor interaction and the teaching methodologies that result in effective clinical skills. He has actively taught, studied, and administered a variety of educational formats from large group lectures to one-on-one teaching, feedback, and evaluation. In recognition of his excellence as an educator, Dr. McCahan received the Frederick Jackson Teaching Award and faculty membership in AOA.

In addition to serving as chairman of numerous administrative and educational committees, Dr. McCahan was the principal investigator of several grants and contracts, including a PHS-BHP Grant to Establish a Department of Family Medicine; a PHS-BHP Predoctoral Training Grant in Family Medicine; and a Community Partnerships with Health Professions Education Initiative, W.K. Kellogg Foundation. He served as BUSM liaison and author of the Boston section of a plan for a statewide Area Health Education Center program. Throughout the years he earned the admiration of his colleagues for his ability to articulate and implement a clear vision of modern medical education.

USE OF DETAILED RUBRICS IMPROVED STUDENT CASE PRESENTATIONS AND CORRELATION BETWEEN PEER AND FACULTY EVALUATIONS 32

L.RAUH[1], S.LAMBETH[2], D.REED[3], C.VAUGHAN[4], J.ABBOTT[1]
[1]Department of Obstetrics and Gynecology, Boston University School of Medicine [2]Boston University School of Medicine, Class of 2014, [3]Boston University School of Medicine Alumni, Class of 2009 [4]Office of Medical Education, Boston University School of Medicine

In the obstetrics and gynecology clerkship, students have a required evidence based medicine (EBM) presentation although many students have limited experiences in creating and reviewing evidence based medicine presentations. A detailed rubric was implemented to determine if specific evaluative criteria improved presentations and altered a previously found difference in faculty and peer scores for this assignment.
Before June 2010, an undefined Likert scale was used to evaluate student presentation; after this date students were given a rubric at the beginning of the clerkship clearly establishing expectations of the presentations. 304 students were in the Likert and 191 in the detailed rubric group. Standard deviations and Pearson's correlation coefficient were calculated for each student presentation, comparing overall faculty and peer scores.
After implementation of the detailed rubric, there was no statistical difference between average scores given by faculty or students (p=0.05). When compared with scores prior to implementation of the new rubric, scores were high overall. Standard deviations were narrowed as well.
A rubric with clear and concrete descriptors was implemented with the goal of improving student EBM presentations and to determine if the new rubric would diminish differences in scores assigned by faculty versus peers. The rubric defines specific expectations for each level of achievement and is communicated at the beginning of the course. Implementation of the detailed rubric eliminated the previously noted scoring discrepancy. Scores assigned by faculty and students were overall higher and the standard deviation of scores narrower. By providing a template, students are able to create an effective and focused presentation utilizing primary sources and appropriate national/international guidelines and/or standards of care. When students have detailed templates they can critically and impartially assign scores that correlate with those of the experienced faculty.

MAKING EVER MINUTE COUNT: ENHANCING THE IMPACT OF ONE-HOUR SUICIDE PREVENTION SKILLS TRAINING FOR MEDICAL STUDENTS 33

M.RUSSELL[1], J.BARBOSA[1], V.PARKER[2]
[1]Department of Medicine, Boston University School of Medicine, [2]Department of Health Policy and Management, Boston University School of Public Health

PROBLEM: Suicide exacts a terrible price in lives both lost and shattered. Victims come to view suicide as an acceptable solution to unendurable psychological pain. For their survivors grief becomes complicated, and guilt is magnified. There is a growing effort to educate healthcare providers to screen for suicide risk.
OBJECTIVES: This project seeks to determine the impact of a one-hour didactic lecture and discussion, using a gatekeeper training program, on the attitudes of medical students about suicide prevention. Trainees learn to: 1) Recognize suicide risk factors, 2) Ask about intent, 3) Persuade someone to seek help, and 4) Refer to appropriate follow-up.
DESCRIPTION: QPR (Question, Persuade, Refer) gatekeeper training, a SPRC (Suicide Prevention Resource Center) Best Practice, met the class schedule's time constraints. A lecture was presented during Boston University Medical School's Geriatrics Rotation.
METHODS: This exploratory study asks a convenience sample of medical students to assess both knowledge level about suicide prevention, and comfort level with questioning of intent.
All students in attendance for the entire lecture were eligible to participate.
Paper copies of a 10-question survey were completed before and immediately after the program. A 2nd post-survey was sent to all participants through Survey Monkey approximately 10 days later.
The degree of change reported is assessed. Free text comments are examined for common themes.
FINDINGS:100 trainees responded. They reported improvement in general knowledge about suicide, prevention, and community resources. Trainees found 1) little added value in the program's video, 2) 80% would recommend QPR training to others, 3) 72% would devote ½ day or longer to additional training.
LESSONS LEARNED: This program offered a promising educational intervention that succeeded in raising awareness about suicide. Findings were instrumental in revision for the incoming class; a case presentation replaced the video segment, and review of suicidal behavioral theory was added.
Evaluation will continue throughout the coming academic year.

TAILORING THE 360-EVALUATION: NICU NURSES' PERSPECTIVES ON EVLUATION OF PEDIATRIC RESIDENTS (ORAL*)

L.NAZARTCHOUK[1], M.PARKER[2], D.BRODSKY[2]
[1]Boston University School of Medicine, Class of 2012, [2]Department of Pediatrics, Boston University School of Medicine

Background: The Accreditation Council of Graduate Medical Education (ACGME) recommends "360-evaluation" of pediatric resident performance which includes evaluation by nurses in conjunction with senior physicians. However, there is no standard approach to obtain nursing evaluations and it is unclear which performance measures nurses feel are most important or feel competent to evaluate.
Objective: 1) To assess the knowledge of neonatal intensive care unit (NICU) nurses of the core competencies recommended for evaluation by the ACGME; and 2) To assess the comfort of NICU nurses in evaluating pediatric residents according to ACGME "360-evaluation" recommendations.
Methods: We anonymously surveyed 27 NICU nurses working at Boston Medical Center who routinely work with pediatric residents.
Results: 27 of 32 (84%) eligible NICU nurses completed our survey. 81% had > 15 years of NICU nursing experience and 74% had > 15 years of experience working with pediatric residents. 93% of nurses reported they were not familiar with the term "360-evaluation" and 100% were not familiar with and unable to list the 6 core competencies specified by the ACGME. Most nurses felt comfortable evaluating interpersonal and communication skills (89%), professionalism (81%), patient care (81%), and fewer felt comfortable evaluating medical knowledge (52%), leadership and collaboration skills (52%) and habits of life-long learning (44%). Only 48% of nurses thought it was appropriate for nurses to evaluate pediatric resident performance in conjunction with attending physicians.
Conclusions: Despite extensive experience working with pediatric residents, NICU nurses were unfamiliar with the term "360-evaluation" and the core competencies specified by the ACGME. Approximately half of nurses did not feel it was appropriate for nurses to evaluate pediatric resident performance as part of the 360-evaluation. To adequately comply with ACGME recommendations for pediatric resident evaluations, nursing education as well as further investigation to create evaluation tools that reflect the nursing perspective is needed.

*** AWARD WINNING ABSTRACT – Will be presented by primary author after lunch**

EVALUATING THE EFFECTIVENESS OF GROUP WORK 29

S.PATEL[1], L.TOTH[2], M.COURNOYER[3], M.MACNEIL[2]
[1]Boston University School of Medicine, Third Year Doctoral Candidate, [2]Department of Anatomy and Neurobiology, Boston University School of Medicine, [3]Boston University School of Medicine, Second Year Masters Candidate

In higher education settings, teachers are becoming more desirous of fostering learning through effective group work. However, adding a "group project" to the curriculum in order to assess group work is often undesirable or unfeasible.
Using as a model the course "Cellular Organization of Tissues", a first-year course in a biomedical master's degree program, we required students to complete in-class lab exercises in pre-assigned groups of 3-4 students. We then developed techniques to measure whether their individual grades on exams or quizzes gave any evidence of the group to which they were assigned.
A Monte-Carlo simulation was used to detect whether student's grades were correlated above-chance with their groupmates. For approximately 5% of the students (n=104) performance was correlated with that of their groupmates, above what would be expected from chance. Interestingly, while this effect was seen for five summative evaluations that counted towards their final grade, it was not seen in the one summative evaluation that did not count. In addition, we explored individual responses to midterm and final exam questions using a naive bayes classifier, and found no relationship between groupmates responses. Student feedback indicated that the group work was the most important and most enjoyable part of our class. However, our results indicate that group work contributed only modestly to students' final performance in the course. If group work is to be considered an important institutional objective, hard work will be needed to alter existing, successful curricula to properly incorporate it. Our work provides ideas on how to measure the success of its incorporation.

John McCahan Medical Campus Education Day Awards

BUSM Office of Academic Affairs Voluntary Faculty Award of Excellence

This award honors our voluntary faculty members, community-based physicians who teach medical students and/or residents in one of BUSM's external teaching programs or travel to BUMC to teach on campus. These individuals are honored for their commitment to teaching, quality of teaching, impressive student evaluations and their overall commitment to the teaching mission of BUSM.

GMS Faculty Recognition Award

The Division of Graduate Medical Sciences is committed to the highest quality educational experiences for our students. The Faculty Recognition Award celebrates those faculty who embrace our teaching mission by seeking ways to engage students in an active learning environment and by challenging students to think critically and supporting students to take ownership of their own scholarship. This award recognizes faculty that have gone above and beyond expected contributions by developing creative initiatives to our teaching mission including, but not limited to, innovative coursework, new curriculum design, and the support of an improved teaching and learning environment.

BUGSDM Award for Innovation in Education

The Award for Innovation in Education goes to the faculty member who best exemplifies the characteristics that makes our students excited about learning. This faculty member, through the use of technology or alternative modalities of teaching and assessment, has been able to inspire and motivate his/her students to achieve competency in their subject matter while enhancing student learning.

BUSPH Educational Innovation Award

BUSPH values its excellent reputation for innovative teaching and is proud to acknowledge excellence in teaching and learning through the BUSPH Educational Innovation Award. This award recognizes creative contributions to the development of tools for the innovative presentation of coursework, new curriculum design, and the creation of an improved teaching and learning environment.
The Educational Innovation Award is designed to reward faculty who are prepared to challenge the traditional ways of doing things, to try out new approaches and to seek improvements in the way teaching is delivered and learning is achieved. Its aim is to enhance the status of teaching, encourage innovation and disseminate good practice.

THE BUATP: INCORPORATING SOCIAL DETERMINANTS OF HEALTH INTO MEDICAL EDCUATION THROUGH INNOVATIVE PARTNERSHIPS BETWEEN STUDENTS, RESIDENTS AND FACULTY 27

A.MARTINEZ[1], D.HADDAD[1], L. FIECHTNER[2], M.SANDEL[2]

[1]Boston University School of Medicine, Class of 2012, [2]Department of Pediatrics, Boston University School of Medicine

According to LCME standards ED-20 and 21, medical education should prepare students to identify common medical problems caused by socioeconomic and cultural disparities. To effectively address the social constructs of poverty, homelessness, and hunger that bring patients to our hospitals requires novel forms of education and rigorous development of student leadership. The Boston University Advocacy Training Program (buATP) is a longstanding and consistently innovative approach to teaching medical students to address social determinants of health through advocacy-focused curriculum and educational collaborations with residents, and faculty. Recognizing that to be an effective advocate requires significant leadership skills the buATP trains student leaders in advocacy through its interactive curriculum. The curriculum consists of elective courses in the first and second year taught by trained student leaders in collaboration with faculty. Through these electives, students have the chance to facilitate educational sessions, teach others about the social determinants of health, and pioneer advocacy initiatives within their area of interest. While collaborating with the residents and faculty invested in the program, students learn from practicing advocates the essential skills of using their white coats as powerful tools for change both inside and outside the healthcare system. Since 2006, approximately 180 students have participated in the program, and 25 have trained as student-leaders. Students have been challenged to engage in service-learning projects and lead discussions on the impact of socioeconomic disparities on patient health. The health of our patients demands our knowledge of social issues that affect their well-being. It also requires that future doctors must be trained as leaders to advocate for the needs of patients in all arenas. As the buATP continues to promote student leadership as one of the core objectives, future educational innovation will focus on evaluation of basic leadership skills for all medical students and further training for self-identified student-leaders.

EMBODIED HEALTH; AN ACADEMIC AND EXPERIENTIAL APPROACH TO MIND-BODY MEDICINE 28

C.MULLIN[1], H.MASON[1], S.SHAW[2], R.SAPER[3]

[1]Boston University School of Medicine, Class of 2014, [2]Boston University School of Medicine, Class of 2015, [3]Department of Family Medicine, Boston University School of Medicine

Background: Research shows that physician empathy and one's ability to connect with patients directly correlates with patient satisfaction and compliance(1). Ironically, medical training adversely affects the well-being of future doctors. Medical students report high burn-out rates, suicidal ideation and decreasing empathy throughout their education(2).
In contrast, yoga improves overall well-being, perceived stress, and depressive symptoms in medical students(3). It was therefore hypothesized that providing yoga alongside medical training could improve student wellness, physician empathy and patient satisfaction. Consequently, a team at BUSM, led by Heather Mason of Yoga for the Mind, created Embodied Health, an academic elective which aimed to improve student wellness and enhance knowledge about mind-body practices.
Course: Embodied Health was a free-time elective for pre-clinical BUSM students. Due to strong interest, participation was determined by lottery. Course expectations included attendance at 8 of 9 total classes. Course structure included pre-class reading, 30-min class lecture, 1-hr group yoga practice, home yoga practice, and 1 reflective essay. Students completed pre- and post-class research questionnaires and a course evaluation.
Findings: Thirty of 31 students (97%) met the attendance expectation. Informally, students reported improvement in overall anxiety, stress management and well-being. Evaluations showed high satisfaction with course organization, learning objectives and lecture content and less satisfaction with assigned reading (too much) and difficulty of yoga practice (too easy). One hundred percent of students who completed the evaluation felt the course deepened their understanding of the mind-body relationship and 100% recommended the course.
Future: We will evaluate the research questionnaires to formally assess Embodied Health's effect on student wellness. Results from the questionnaires and evaluations will guide future curriculum changes. Additionally, we hope our findings will support the integration of mind-body practice into formal medical training in order to improve physician empathy, patient care and the therapeutic use of mind-body practices.

EXERCISE BY STUDENTS, FOR STUDENTS: A NOVEL APPROACH TO FACILITATE IMPROVED ACADEMIC FOCUS AND STRESS REDUCTION ON CAMPUS **(ORAL*)**

K.LYMAN[1], B.CASTRO[1], S.SUNDARAM[1], L.WONG[1], E. HOLICK[1], S.SHAW[2]
[1]Boston University School of Medicine, Class of 2014, [2] Boston University School of Medicine, Class of 2015

Statement of Problem/Objectives: When asked to report on their level of stress, fifty percent of medical students reported feeling burnt out and eleven percent reported suicidal ideation within the past year. Exercise has consistently shown to decrease stress levels(1) as well as improve brain function and cognition. (2) Given the rigors of medical education, we feel there is a clear need in medical schools for an accessible means of incorporating exercise and stress reduction practices into busy schedules. Based on this need, a by-students, for-students group exercise model was implemented on campus at BUSM. We used exercise as well as informational sessions in order to promote learning about physical wellness, social interaction and collaboration, stress reduction and improved academic focus
Methods: A variety of fitness activities were promoted on campus and were open to all students. These included dance workouts, yoga, kickboxing, aerobics, and body-weight based strength training. We also included informational lunch talks focusing on running technique, incorporating healthy choices into a busy lifestyle, and mindful eating practices as well as various exercise activities similar to those described above. We used open-ended questions to request voluntary feedback from attendees on the impact of these sessions on their lives.
Findings and Key Lessons: Student feedback about this program was generally very positive. Through open-ended qualitative appraisals, students expressed that the convenience of open classes on campus made it very easy to exercise. They also felt that fitness classes helped them bond with classmates. A .majority of respondents felt that our program helps them both reduce stress and improve academic focus
Future/Ongoing: We will continue to use our current by-students, for-students model for a weekly open fitness activity or informational session on campus. In the next year we would like to develop and implement surveys for regular attendees to assess how having a convenient group exercise program available on campus affects students' ability to cope with stress inherent in medical education, and whether regular group exercise has improved academic performance.

*** AWARD WINNING ABSTRACT – Will be presented by primary author after lunch**

PROFILING A MEDICAL SCHOOL CURRICULUM USING LEARNING OBJECTIVES **26**

G.MARCH
Office of Medical Education, Boston University School of Medicine

Learning objectives are very much an important component of a medical school curriculum. The Liaison Committee on Medical Education requires accreditation standards on institutional learning objectives (ILO) and outcome-based learning objectives for each medical school curriculum. This study asks if the course and clerkship learning objectives adequately reflect the institutional learning objectives and how does this reflection appear in the medical school curriculum?
The purpose of this study is to document, analyze, and report on a medical school curriculum using the linkage of course and clerkship learning objectives to institutional learning objectives.
The 2009-2011 study follows a six-step process to collect the yearly learning objectives, analyze, revise, and report to the Medical Education Committee (MEC). The analysis begins in Curriculum Management and Information Tool (CurrMIT) on the learning objectives linkage to the institutional learning objectives and investigation into use of higher-order cognitive verbs, specific topics, redundancies, and gaps.
As a result of the study, yearly reports to the MEC display the course and clerkship learning objectives linkage to the institutional learning objectives, the linkage shift between years, the cognitive domain analysis, and areas needing modifications. The study results are only as good as the submitted learning objectives. After several presentations on writing objectives, faculty greatly improved the quality of the learning objectives, became more aware of the ILOs, and added identified competencies and special topics. This ongoing study is a new methodology for the medical school to examine the course and clerkship learning objectives and provide a profile of the medical school curriculum for the curriculum committees to assist the development of the medical school curriculum. Future plans will examine the effect from the study on the USMLE Step 1 and Step 2 passing scores, the student evaluation of courses questionnaires and the alignment of learning objectives and evaluation instruments.

Constance Bowe, M.D.

Dr. Bowe, formally trained as a pediatric neurologist, has been active in medical education design and delivery throughout her career at both private and public medical schools. She has served as faculty in the Harvard Macy Institute's (HMI) faculty development programs for 'Educators in the Health Professions' and 'Leading Innovations in Healthcare and Education' since 1998 and she co-directs HMI's program 'A Systems Approach to Assessment in Health Professions Education'. She is also a senior consultant to Partners Harvard Medical International on its global healthcare projects focused on the evaluation and development of health science education.

Dr. Bowe's consulting work, faculty development efforts and publications have been informed by the variety of educational experiences and roles that she has played at Stanford and Brown Universities and the University of California, Davis. In addition to teaching Neuroscience and Clinical Neurology at these institutions, she has directed Neurology clerkships, chaired strategic educational planning processes, chaired and participated in medical curricula reforms and faculty curriculum committees. At UC Davis, she developed and directed a longitudinal, interdisciplinary medical school course, designed several faculty development programs and directed a student learning community and advising program. All of these experiences have contributed to a deepening appreciation of the influence of organizational assumptions and culture on academic institutions' decision making processes on how to best prepare graduates for their future roles in health care.

Her international consulting work in designing new health science curricula and assessment programs has further heightened her awareness of the common dilemmas health science educators encounter despite institutional and cultural differences. Health science education programs represent complex adaptive systems and Dr. Bowe is currently exploring the utility of applying systems theory principles in assessment design to streamline the evaluation process and provide more informative and actionable direction for program improvement.

Dr. Bowe received a B.S. in Psychology from Fordham University in New York, her M.D. degree from Stanford University in California and completed residencies in Pediatrics and Adult Neurology (with special competency in Child Neurology) at Stanford University Hospital. She has served on the faculty at Brown University where she was Director of Pediatric Neurology and the University of California, Davis where she is Professor (Emeritus) of Clinical Neurology.

WORKSHOP DESCRIPTIONS AND LOCATIONS

2:00 PM – 3: 30 PM

The Write Way: Preparing Trainees for Academic Writing
Peter Cahn, Ph.D.
Whether conveying research findings, recording patient information, or advocating for policy change, successful health professionals need to communicate clearly. Despite the importance of equipping students and trainees with academic writing skills, few educators provide explicit instruction in writing. In this interactive workshop, participants will perform exercises designed to instill basic principles of clear, persuasive prose. They will also explore ways to integrate writing instruction into curricula already crowded with content. By enhancing trainees' writing ability, educators will both facilitate student achievement of learning objectives and prepare graduates to bring their knowledge to a larger audience.
LOCATION: L 214

SoftChalk: Promoting Active Learning in a Brick and Mortar Course with the Use of Online, Interactive Learning Modules
Wayne LaMorte, M.D.
One of the biggest barriers to introducing active learning exercises into the classroom is fear that the time consumed will limit the course material that can be covered. This workshop demonstrates a series of online, interactive modules created for an introductory course in epidemiology using SoftChalk® software. My objective was to provide rigorous, interactive modules to simultaneously deliver course content and stimulate active engagement. The modules fostered student engagement, reduced the use of lecture, and freed up classroom time for active learning and exploration of more complicated topics in greater detail. Creation of a module using SoftChalk® will be demonstrated.
Workshop participants are invited to bring their own laptops if they would like hands-on training with SoftChalk. SoftChalk allows prospective users to download a fully functional demo version that will work for 30 days. If you wish to do this, download the software to your laptop prior to the workshop from http://www.softchalkconnect.com/softchalk/demo. Also bring a Word file to use as an example that can be transformed into an online module.
LOCATION: L 212

Harnessing the Power of Twitter for Faculty and Student Development
James Wolff, M.D., Marion McNabb, M.P.H., Affan Shaikh, M.P.H., Alejandra Barrero, M.D.
In this workshop participants will develop hands-on experience with Twitter and the associated analytics available on the Web to assess Twitter use in the classroom. In workshop format, participants will learn how Twitter can be integrated into existing course design to strengthen social cohesion, to increase professional networking, and to keep current with new developments in their field. Participants will set up a Twitter account (if they don't already have one) and explore tools available for encouraging and analyzing student participation. At the end of the workshop participants will explore the benefits and limitations of integrating Twitter into course design.
LOCATION: R 107 (Computer Lab)

REPLICATING A CHIEF RESIDENT IMMERSION TRAINING PROGRAM IN GERIATRICS (CRIT) **24**

S.LEVINE, L.CARUSO, B.BRETT, H.AUERBACH, A.BURROWS, A.JACKSON, S.CHAO
Section of Geriatrics, Department of Medicine, Boston University School of Medicine

Chief residents (CRs) play crucial roles in resident and student training and in quality patient care. They typically receive minimal formal education in geriatrics, teaching skills and leadership. With support from the John A. Hartford Foundation and the Association of Directors of Geriatric Academic Programs (ADGAP), BMC disseminated its successful 2-day offsite CRIT program, addressing these deficiencies, to demonstrate national replicability.
Methods: Through a competitive RFP, 12 institutions in 3 cohorts were selected to implement CRIT across specialties for 2 years each. The modular curriculum included an unfolding case discussed in small groups, evidence-based mini-lectures on geriatrics topics, and interactive seminars on teaching and leadership skills. 1-to-1 consults helped CRs develop an action project. Social opportunities were provided to develop relationships. Faculty mentors were invited to increase institutional "buy-in." BMC's support to each institution included attending BMC's CRIT. National evaluation of CRIT included a self-report pre-survey, a 12-item pre- and immediate post-CRIT knowledge test, and a 6-month follow-up survey, administered by each institution. Results across institutions and cohorts were merged for analysis.
Results: Over 3 years in 12 institutions, 295 CRs and 86 faculty mentors participated in CRIT, representing 29 specialties. Response rates for CRs were 99% (n=293) for the pre-post test, and 78% (n=231) for matching pre to 6-month follow-up. CRs showed significant gains in knowledge ($p<.001$). Reported frequency of teaching geriatrics increased pre to 6-months ($p<.001$) as did confidence in ability to apply clinical problem solving skills to the care of older patients, responsibility CRs feel for teaching others about geriatrics issues, and extent to which others view the CR as a resource in geriatrics (all $p<.001$). Average number of topics covered in teaching related to the care of older patients doubled from 4.3 to 8.5 ($p<.001$). Finally, CRs showed significant improvements in confidence related to four leadership skills and overall leadership required to carry out work as CRs ($p<.001$). Most credited these changes at least somewhat to CRIT.
Conclusion: A 2-day retreat for CRs improved geriatrics knowledge, increased teaching of geriatrics topics, and enhanced skills needed to be a CR, and can be successfully replicated across institutions.

EMPATHY DURING THIRD YEAR MEDICAL SCHOOL INTERNAL MEDICINE ROTATION **25**

S.LIN[1], D.CHEN[1], W.SUEN[1], V.PARKER[2]
[1]Department of Medicine, Boston University School of Medicine, [2]Department of Health Policy and Management, Boston University School of Public Health

Problem: Many studies demonstrate empathy decline among medical students and residents during training, and has been thought to be due to work hours, sleep deprivation. This compromises one's ability to strive towards professionalism and may threaten health care quality.
Purpose: Explore presence of constructs of empathy from third-year students' reflective narrative essays, which are not observed or self-reported in objective measurements; to analyze this data for patterns and themes to help better improve medical curricula.
Description: Third-year students at the beginning of their internal medicine rotations were given two example essays demonstrating empathetic reflections; they were asked to write an essay based on clinical experiences by the end of their clerkship.
Methods: Qualitative analysis techniques were applied to essays completed during the required internal medicine rotation. All essays were grouped and randomly re-numbered. The Davis Interpersonal Reactivity Index was used to create a code book of empathy constructs. This was applied to 20 essays randomly selected for analysis. There were four categories: concern, distress, perspective taking, and self-projection.
Findings/Discussion: Inter-rater agreement was 89.3% between two authors, 81.4% with three authors. The authors identified three subcategories for "concern", "distress", and perspective taking". The study shows that third-year medical student do internally experience empathy despite objective, self-reported evidence that of empathy decline in third year. Findings also suggest that categories associated with empathy can be applied to certain clinical situations. A strength of the study is the use of qualitative analysis to identify categories and subcategories of empathy; a corresponding limitation is that there may be other categories that may have not been identified or overlap with multiple categories.
Future directions: How patterns of empathy change longitudinally during the year; how prior experiences and personal resilience shape themes; how certain situations lead to different nuances of empathy.

WHEN LIFE SPAN EXCEEDS 100: ASSESSING THE ORAL HEALTH STATUS AND NEEDS OF CENTENARIANS 22

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Problem: Studies concentrating on health and longevity in older adults have increasingly shown a rapidly aging American population. Over the next 20 years, the number of people aged 85 and older, including centenarians, is projected to be the fastest growing segment of the aging population.
While studies of centenarians have been ongoing, focus on oral health has been absent. Oral health conditions such as tooth loss, caries and pain can lead to problems eating and social withdrawal.
Objective: The objectives of this study are to assess the oral health status of a centenarian cohort and whether the centenarians are receiving regular dental care.
Methods: This cross-sectional study investigated the self-perceived oral health status of centenarians (n=64). Participants of the New England Centenarian Study, a nationwide study of centenarians, were recruited for this oral health study.
A questionnaire was designed to assess participant's evaluation of their general health, frequency in receiving care from physicians and dentists, overall oral health, and whether participants were dentate.
Findings: The mean age of the participants was 106.4 years (Â±3.9). Subjects reporting excellent, very good, or good general health totaled 73%, fewer (63%) reported dental health within this range. Most centenarians (89%) report receiving care from physicians at least once per year. Conversely, most centenarians (67%) do not receive dental care at least once per year. In this study, 63.5% of subjects were dentate.
Key Lessons Learned: 27% of the centenarians in this study reported fair/poor oral health. With almost 90% of centenarians receiving medical care from their physicians and only 37% receiving dental care, it is important for physicians to include oral health screenings and assessment as part of comprehensive patient care.
Future Directions: Dental students should be prepared to address the oral health needs of the growing numbers of older adults, including the oldest-old.

THIS IS NOT YOUR GRANDMOTHER'S IP 23

K.KELLY, J.WIECHA
Office of Medical Education/Department of Family Medicine, Boston University School of Medicine

Statement of Problem/Question: Clerkship director feedback that students could be better prepared for third and fourth year in the areas of clinical reasoning and evidence based medicine.
Objectives of Program: To familiarize BUSM faculty with curricular changes to Integrated Problems I and II, including expansion of clinical reasoning skills and reinforcement of clinical case format and evidence based medicine skills.
Description/Methods: All Integrated Problems I and II clinical cases were replaced or reformatted in the clinical format they will be required to use during their clerkship years and to present clinical data to mimic the clinical setting. Small group sessions were revised to require students to systematically develop thorough differential diagnoses and to then revise these lists as they gain more information. The process of differential diagnosis creation is presented during course orientation and is reinforced with examples in their student handouts. An evidence based medicine activity was added requiring that students develop a clinical research question in the PICO format to research. During this process, librarians visited the groups to help with this process.
Evaluation: Student evaluation of the course improved significantly with these curricular changes. In addition, feedback from clerkship directors has been that students arrive to third year more comfortable and skilled in their clinical reasoning skills.
Key Lessons learned/Future directions: The transformation to a clinical format with differential diagnosis development has flowed smoothly with positive feedback. Further faculty development needs to be done so that the instruction that students receive is uniform across groups. The EBM activity has been removed based on skill and timing problems, but as a member of the EBM vertical integration group this exercise is being revised.

ExamSoft Expo: Hands-On Feature/Function Overview for Computer-Based Exam Software

Deborah Vaughan, Ph.D., Jana Brady, M.S.

Academic computer-based examination environments are becoming more important to prepare students for their future, as the majority of national/standardized exams/boards move to mandatory computer-based formats. Adding the capability of robust onscreen color images and movies, reducing our carbon footprint by decreasing paper consumption, and having the ability to run exams securely (without access to internet or files) with no need for web access during testing are added benefits. ExamSoft has been in use on the medical campus since a pilot in Fall 2010, and was implemented into BUSM I this year. Come check out what all the buzz is about.
LOCATION: L 1105 (Library Computer Lab)

Try It Out: Practice-based Activities in the Classroom

Sophie Godley, M.P.H.

Many Health Care students are coming to graduate school with limited "real world" experience. Activities for both in and out of the classroom can be designed to engage students in hands-on learning and to receive critical feedback for their growth. Opportunities to collaborate with other students teach skills and techniques that will be put to use in future employment. This workshop will highlight a number of different innovative activities that can be adapted for use in your teaching. The challenges – and delights!-- of successful group work will also be addressed.
LOCATION: L 303

Using Creative Exercises to Teach Principles of Collaboration: The Marshmallow Challenge

Winnie Suen, M.D., Gouri Gupte, Ph.D., Jeromy Lin, M.D.

Professional development of future healthcare providers requires competency-based curricula that promote deep and collaborative learning. Short innovative exercises such as "The marshmallow challenge" are excellent techniques to foster teamwork skills, participant engagement, and meet Accreditation Council for Graduate Medical Education competency requirements of practice-based learning and improvement, systems-based practice, interpersonal and communication skills, and professionalism. In this workshop, participants will learn "The Marshmallow challenge," an exercise in collaboration using spaghetti and marshmallows, and discuss how to use exercises like this for situations where the intention is to develop active and collaborative learning that involve relating ideas, patterns and principles.
LOCATION: L 203

ENGAGING MEDICAL STUDENTS IN CURRICULUM DEVELOPMENT AND INNOVATION: THE CADAVER BIOPSY EXPERIENCE 20

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The Cadaver Biopsy project is an ongoing collaborative effort by the Gross Anatomy, Histology, Pathology and Radiology faculty at the Boston University School of Medicine, which was initiated in 2009. This effort aimed at incorporating a vertical integration of these above listed curriculum content throughout the first three years of medical school. One of the investigators (LJ) was awarded grant funding that was offered as scholarships to interested medical students who wanted to participate in the project. A total of 30 students applied for five scholarships of 500 dollars each. In addition three MD/PHD students with specific interest in medical education expressed interest in participating in the project in order to learn the process of curriculum development. A follow up survey of the students who participated in the project showed ongoing and continued interest in such curriculum development efforts by the Medical School. All students have expressed continued interest in participating in similar projects in the future and suggested elective rotations that might help them in learning about curriculum development. The students identified BUSM 2, 3 or 4 as an ideal time to participate in such projects. The MD/PhD students suggested time in their graduate study years toward such projects. All students were able to apply basic sciences better into their clinical rotations after participation in the project. In summary, the cadaver biopsy project is one example of engaging medical students with interest in medical education in curriculum development within an existing framework of medical school curricular integration efforts.

THE OUTREACH VAN PROJECT: A SERVICE LEARNING ELECTIVE "MEETING PEOPLE WHERE THEY ARE" 21

L.KAMINETZKY, K.KARKOSKA, A. KIMBALL
Boston University School of Medicine, Class of 2014

The mission of the Outreach Van Project, a student-run organization at BUSM, is to fulfill the unmet needs of the medically underserved populations in the Greater Boston area. The goals are to provide referrals for healthcare and access to services, while providing an opportunity for students to learn skills in community outreach. The program exposes medical students to the challenges that homeless clients face daily in order to promote a better understanding of how to care for this unique population.
Since its inception in 1997, OVP was open to all students without a requirement of commitment or continuity. In 2010, the program was redesigned to become a true service learning elective. In its new format, a new vision for learning was created and learning objectives were developed. Students are now required to devote themselves for an entire year, including monthly van trips, educational events, participation on one committee, and a final reflection paper. Students also engage in discussions with the volunteer physicians to make connections between the social determinants of health and the medical implications. With these structured additions to OVP, students are more engaged and have the opportunity to maintain continuity with a disadvantaged population. Monthly educational events provide more formal instruction in factors affecting homelessness, including barriers to care, mental health, and addiction.
By serving our clients in their own environment, students gain a much deeper appreciation for the care that patients need beyond the hospital. OVP strives to train medical students who will be more culturally aware, will advocate for patients, and who will consider the person behind the illness. The capstone of the elective is a final group reflection to allow students to share their experiences and make suggestions for improvement. Most importantly, students can reflect on their changing perceptions as they work to become physicians.

TEACHING SAFE AND EFFECTIVE OPIOID PRESCRIBING TO INTERNAL MEDICINE FACULTY PRECEPTORS 18

A.JACKSON, D.ALFORD, B.BRETT
Department of Medicine, Boston University School of Medicine

BACKGROUND: Opioid prescriptions for chronic pain and opioid misuse (addiction, overdose, diversion) are increasing, yet medical education about safe and effective opioid prescribing is inadequate. OBJECTIVE: Improve internal medicine (IM) faculty preceptors' knowledge, attitudes, confidence, clinical practice and resident teaching of safe and effective opioid prescribing for chronic pain. METHODS: Nineteen faculty preceptors participated in an education intervention including a 90 minute lecture followed by a 4-station Objective Structured Clinical Exams (OSCE) focused on communication skills using standardized patients and immediate faculty observer feedback. The lecture and OSCE covered essential opioid prescribing skills including assessing and monitoring for opioid misuse risk; addressing aberrant medication taking behaviors and conducting a brief intervention for unhealthy substance use. The evaluation compared results of a pre-, and 3-month post-intervention survey. Both surveys assessed knowledge, attitudes, confidence, clinical practice and resident teaching of safe and effective opioid prescribing. RESULTS: The 19 faculty preceptors had a mean of 8.3 years precepting residents in continuity clinic. During the 3 months post-intervention faculty treated a mean of 17 patients on long-term opioids and precepted a mean of 6 residents caring for patients with chronic pain on long-term opioids. Preceptors had significant increases in knowledge (6 items) (p=.03), confidence in practices related to using long-term-opioids (8 items, 5 point Likert scale) (p=.003), and positive attitudes about patients on long-term opioids (6 items, 5 point Likert scale) (p=.02). They had non-significant increases in frequency of effective practices related to caring for patients on long-term opioids (4 items, 5-point frequency scale) (p=.43) and frequency of teaching residents about the safe and effective use of opioids (7 items, 5-point frequency scale) (p=.19). CONCLUSIONS: A didactic session and related OSCE can improve faculty preceptor knowledge, confidence in skills and attitudes on safe and effective opioid prescribing for chronic pain. Clinical practice and frequency of teaching seemed to increase but the ability to detect significant changes may require longer term follow-up.

TARGETED CLASS DISCUSSIONS: AN INNOVATIVE CLASS ACTIVITY TO STIMULATE CRITICAL THINKING 19

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Department of Community Health Sciences, Boston University School of Public Health

Students retain information better when they are actively engaged in the dialectical process. However, such processes do not often occur spontaneously in a classroom setting. To aid students in actively considering opposing points of view, I developed 4 1-hour "targeted class discussions" (TCDs) on controversial topics for my course on Adolescent Health (BUSPH, MC795). Primary objectives were to: stimulate interest in the subject matter; apply critical thinking skills; and improve students' skills in synthesizing and communicating complex information. Each TCD poses a single question (e.g., Should adolescents be able to drink alcohol at home with their parents?) that relates to a topic covered in the course (e.g., alcohol use). Students are assigned 4-5 readings that support the "Yes" and "No" views in response to the question. They are encouraged to challenge themselves by considering positions that contrast with their personal opinions. To foster critical thinking, students were given a handout reviewing: (1) the role of values in scientific debate, (2) recognizing faulty reasoning, and (3) evaluating positions. TCDs do not require any AV. On the day of the TCD, two pairs of students take 5-10 minutes to summarize the main arguments of the "yes" and "no" positions. Next, the student moderator invites the full class to join the discussion. The TCD ends with the moderator summarizing the best arguments for each position, and with students reflecting on lessons learned. TCDs have led students to develop a deeper understanding of course concepts by examining their relevance to current issues. They provide the opportunity to respectfully disagree, appreciate complexities in different issues, and ponder how to use data to inform policy decisions. In a mid-course evaluation, one student said the TCDs: "summarize the readings better and make us think more critically". I plan to continue and expand TCDs in future semesters.

ABSTRACT THEME FOR POSTER PRESENTATIONS

Education Innovation and Research
The submissions are meant to showcase scholarship or ongoing research in education at BUMC. Projects can be presented prior to the completion of full evaluation. Examples of educational innovations include: development, implementation, or evaluation of educational tools, course curricula, simulations or innovative educational collaborations. For research, both quantitative and qualitative research may be submitted as well as research in progress.
Abstracts 1-46

Educational Technology
The submissions are meant to demonstrate creative use of interactive technology to augment learning. Appropriate types of submissions include course or clerkship websites, electronic clinical case simulations, online didactics, computer – based faculty development resources and electronic evaluation instruments. Submitted projects should be non-commercial although industry funding is permitted if the content and control of the project resides solely with the faculty authors.
Abstracts 47, 48

CULTURALLY COMPETENT END OF LIFE CARE: A CURRICULUM FOR FOURTH-YEAR MEDICAL STUDENTS (ORAL*)

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PROBLEM: The AAMC has developed competencies for cultural awareness, palliative care, and spirituality assessment. Separate curricula are typically created to address each one.
OBJECTIVE: To describe an innovative fourth-year Geriatrics clerkship curriculum combining cultural awareness, palliative care, and spirituality competencies.
CURRICULUM DESCRIPTION: A four-session interactive training module on Culturally Competent End of Life (EOL) Care was created for the fourth-year Geriatrics Clerkship. The curriculum aims to broaden students' understanding of EOL care and facilitate reflection on personal attitudes and feelings about death. Three one-hour sessions encourage discussion and reflection on topics related to EOL care. Prior to each session, students read designated materials, view patient videos, and complete a written reflective assignment. In a final session, students give 10-minute presentations on EOL topics of their choice with creativity and non-traditional methods encouraged.
EVALUATION METHODS: All students in the Geriatrics Clerkship during the 2011-2012 academic year anonymously completed evaluations about the module at the end of the four-week clerkship. Using a five-point Likert scale, students rated agreement with statements regarding each session, assignment, and element of the online curriculum, and scored their experience with the curriculum as a whole.
RESULTS: 116 students completed evaluations. Attitudes about the module were overwhelmingly positive. 91% of students felt the module as a whole "broadened awareness of factors to consider at the end of life." 87% reported that the module "equipped them to better cope with feeling aroused by death and dying."
CONCLUSION: A four-session interactive training module on Culturally Competent EOL Care effectively increased awareness of end of life topics in a culturally competent manner and increased awareness of feelings surrounding death and dying.
FUTURE DIRECTIONS: We plan to analyze themes in EOL project presentations to better understand what issues are most salient to students, and to categorize how they approach them.
*** AWARD WINNING ABSTRACT – Will be presented by primary author after lunch**

THE BOSTON UNIVERSITY DOWN SYNDROME (BUDS) PROGRAM: AN INNOVATIVE SERVICE LEARNING APPROACH TO UDNERSTANDING AND COMMUNICATING WITH INDIVIDUALS WITH DOWN SYNDROME 17

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[1]Boston University School of Medicine, Class of 2014, [2]Boston University School of Medicine, Class of 2015
[3]Department of Pediatrics, Boston University School of Medicine

Individuals with Down syndrome have a greater disease burden and more unmet medical needs than most others with special health care needs (McGrath 2011). Due to its many co-morbidities, individuals with Down syndrome receive medical care from nearly all medical specialties. However, medical education provides limited opportunities to foster the ability to communicate with these patients and their families. Despite personal and parent indication that individuals with Down syndrome lead happy, fulfilling lives (Skotko 2012), it has been shown that physicians allow their own negative perceptions to affect their treatment recommendations, including suggesting abortion when a prenatal diagnosis has been made (Skotko 2005). Although most pediatricians and pediatric specialists have experience working with individuals with Down syndrome, many obstetricians and adult providers lack this experience. This lack of comfort impedes the formation of a strong patient -physician relationship and may contribute to the disparity in healthcare.
The Boston University Down Syndrome (BUDS) Program was developed and implemented as an elective model to effectively address these differences in opinions about quality of life and lessen these health care disparities. Medical students are paired with individuals with Down syndrome who, along with their families, function as teachers. The pairs meet each month to participate in social activities, including visiting museums, attending sporting events, and spending time together with family and friends. Additionally, student participants discuss their experiences and the ways in which the program is influencing their development into empathetic physicians during monthly reflection meetings. While current medical education exposes students to the co-morbidities of Down syndrome, it does not teach communication skills to bridge the present gap in non-pediatric services for this patient population. The BUDS Program implements an innovative service learning model that fosters communication skills necessary to provide exceptional care to patients with Down syndrome and their families.

CODE BLUE LEADER PREPAREDNESS AMONG INTERNAL MEDICINE RESIDENTS AT AN ACADEMIC MEDICAL CENTER 15

J.GROUNDS, A.DEKA
Department of Medicine, Boston Medical Center

Question: Does code leadership training improve resident confidence and preparedness as code blue leaders?
Objective: The development of rapid response teams (RRTs) has been associated with a 30-50% reduction in code blues. RRTs are attributed with identifying and treating pre-arrest states, resulting in better patient care and fewer codes. An unintended consequence is reduced resident experience with codes. Boston University Medical Center (BUMC) uses non-resident RRTs but internal medicine residents remain responsible for leading codes. Our program does not have formal simulation-based training curriculum but research has shown that simulations can be an effective educational tool. Due to reduction in real experience and lack of simulated experience, we hypothesized that medicine residents at BUMC do not feel prepared to lead codes and that code leadership training would result in increased resident confidence and preparedness.
Methods: Voluntary cross-sectional surveys were distributed to all internal medicine residents at BUMC before and after the intervention. The intervention consisted of mandatory code leadership training sessions: lectures on leadership, team organization and advanced cardiac life support (ACLS) protocol, and basic small group simulations. We created code leader identification, gave out ACLS and code pocket sheets, developed a relevant intranet webpage, requested the ICU to review codes in their regular lectures, and initiated elective advanced simulations.
Findings: 82 respondents completed the pre-survey and 61 have completed the post-survey. Prior to our intervention, 74% did not feel prepared and 80% did not feel like they had been adequately trained to be a code leader. After our intervention 91% felt more prepared and 98% thought the training was beneficial. Comparisons between the surveys show training had substantial impact.
Conclusion: We believe that code leadership training should be an ongoing process requiring frequent review and practice. Dedicated curriculum including mandatory simulation is needed at this residency program.

AN INTER-PROFESSIONAL QUALITY IMPROVEMENT CURRICULUM FOR INTERNAL MEDICINE RESIDENTS AND MASTERS OF PUBLIC HEALTH STUDENTS: THE LEAN WAY 16

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Purpose: The overall objectives of this initiative were to: 1.) use Lean methodology principles to create a quality improvement (QI) curriculum for interdisciplinary teams involving the internal medicine residency program and Boston University School of Public Health (SPH) and 2.) improve the quality and cost-effectiveness of healthcare delivery and QI education in multiple clinical microsystems at Boston Medical Center (BMC) a safety net academic hospital.
Method: The curriculum was implemented at BMC from September 2011 to December 2011. Ninety internal medicine residents and eight School of Public Health students participated in four, sixty to ninety minute, interactive, hands on QI sessions.
Sixteen groups and QI projects were created and conducted over that time. Student knowledge and attitudes towards QI were assessed using pre- and post-curriculum surveys.
Results: The BMC-SPH QI curriculum was a hands-on clinical experience that facilitated students' learning of quality improvement, sustained positive attitudes towards QI and patient safety in an internal medicine residency program.
Conclusion: The internal medicine resident-SPH QI curriculum was a hands-on clinical experience that led learners through the steps of approaching QI project using Lean methods. It facilitated students' learning of quality improvement, sustained positive attitudes towards QI and patient safety in an internal medicine residency program and with SPH students. This team structure also exposed each trainee to future working relationships that they will encounter later in their career. This inter-professional hands-on QI curriculum was a novel way to provide QI education to future practitioners and administrators.

Education Innovation and Research

* Abstracts are ordered alphabetically by the last name of the primary author

MEDICAL STUDENT EDUCATION IN RADIATION ONCOLOGY: A MULTI-YEAR ANALYSIS OF THE ONCOLOGY EDUCATION INITIATIVE 1

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Purpose/Objectives: The Oncology Education Initiative (OEI) was established in 2007 to advance oncology and radiation oncology education in medical school. The purpose of our ongoing analysis is to assess the educational impact of the OEI through student exam and survey data.
Materials/Methods: The OEI involves a two-week oncology block during the second-year and dedicated radiation oncology lecture and clinic time during the third- or fourth-year required radiology clerkship. The survey data includes 426 students and the exam data includes 155 students.
Results: Of the 426 students surveyed, 94% percent of students indicated that oncology is an important component of medical school education and 79% indicated that radiation oncology is an important component of the medical school curriculum. Seventy-five percent felt more comfortable managing cancer patients as a result of the OEI. Overall, 64% felt that the 2nd year oncology block adequately prepared them for the USMLE Step 1 examination.
The exam data showed a significant improvement in overall cancer knowledge among medical students, including knowledge about cancer screening guidelines. The exam scores improved from 57% to 72% ($p<0.001$) in the radiation oncology section of the exam.
Conclusion: In the United States, cancer remains a major public health problem. Despite approximately 60% of cancer patients today receiving radiation during the course of their care, a survey of family physicians at a palliative care conference revealed that 88% of respondents felt they did not have an adequate level of knowledge about radiation therapy and only 33% had received formal training in radiation therapy.
Dedicated radiation oncology education is an important addition to the undergraduate medical curriculum. Students have expressed a desire for greater exposure to various aspects of oncology during their undergraduate medical education. The addition of didactics in radiation oncology and the OEI in general is a sustainable and very well-received initiative that continues to show improvements in cancer education for medical students.

NATIONAL CLINICAL AND RESEARCH OPPORTUNITIES AVAILABLE FOR MEDICAL STUDENTS INTERESTED IN RADIATION ONCOLOGY 2

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Purpose/Objectives: Medical student interest in radiation oncology has been rising for many years; as a result, an increasing number of medical students have been exploring opportunities in radiation oncology to augment their basic pre-clinical and clinical education. The purpose of this abstract is to review and explore the available opportunities in radiation oncology for medical students.
Materials/Methods: A comprehensive search of opportunities for medical students in radiation oncology was conducted using Google and PubMed. To identify programs, search terms including "radiation oncology", "medical students", "internship", "summer", "clinical", "research", and "health policy" were used. Results were stratified by type (clinical, research, and health policy), timeframe during medical education (pre-clinical and clinical years), and duration.
Results: Four programs were identified that specifically cater to medical students interested in exploring radiation oncology during their pre-clinical years.
The 6-8 week AMA/ASTRO GRIP program places medical students in Washington DC to work with ASTRO's government relations office on legislation affecting the practice of radiation oncology.
The 10 week RSNA Medical Student Research Grant is a research opportunity for projects in the fields of radiology or radiation oncology at students' home institutions.
The 8 week ASTRO Minority Summer Fellowship Award allows students from underrepresented backgrounds to conduct research and gain clinical experience in radiation oncology during the summer.
The 6 week Simon Kramer Externship in Radiation Oncology allows students to conduct research and gain clinical exposure to radiation oncology.
Conclusion: Although limited in their availability, early internships in radiation oncology for medical students provide valuable experiences for students exploring this field for their future careers. In combination with institution-specific medical student rotations and electives, there are a growing number of opportunities available for interested medical students. Codifying opportunities in radiation oncology is an important first step towards making these experiences more accessible to future medical students.

MAKING EDUCATION EFFECTIVE AND FUN: CONSTRUCTIVE APPROACH TO TEACHING RADIOLOGY AND ANATOMY TO 3RD YEAR MEDICAL STUDENTS USING 3D MODELS 4

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It is often challenging to teach students three-dimensional aspects of clinical cases using two-dimensional illustrations. To this end, we implemented an approach based on construction of anatomy structures on 3D models. Initially, artificial skeletons were used as a scaffold for 3D models. Subsequently, we developed a new methodology for producing inexpensive 3D models from CT or any other sectional data. Basic architectural modeling materials such as soft foam, wood glue, hand saw, foam board, Velcro, Acrylic gesso etc. were used. 3D models of heart and pelvis were created and implemented in the multi-station imaging anatomy lab that has been developed at BUSM for students in their 3rd and 4th years. At 3D model workstation, students were given a disassembled set of components and asked to assemble them in the proper orientation.
At the end of the sessions, to evaluate the effectiveness of 3D models towards understanding anatomic relationships, anonymous surveys were sent to medical students. The students were notified prior to the survey dissemination that their participation was optional and would not have any effect on their grades. 93% of the students responded that the 3D models helped them recall anatomic principles from 1st year of medical school. 84% of the students responded that the 3D model improved their understanding of important anatomic relationships. 42% of the students responded that they found the 3D model to be of the highest educational value. 64% of the students strongly agreed that they had a positive experience at the 3D model workstation.
3D models are beneficial to medical students in recalling anatomic principles and improving understanding of 3D physiologic relationships. The cost of construction of a foam-based model is under $100. Future projects include constructing similar 3D models of coronary circulation, knee, and skull base.

IMPROVING DIABETES EDUCATION IN PORTUGUESE SPEAKING PATIENTS 3

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Problem: A review of a diabetic teaching program in a community health center, which serves a high proportion of Cape Verdean patients, showed a need for teaching materials on diabetes type II. In addition to the language barrier, the existing education materials did not address cultural dietary habits, which make it difficult for patients to adhere to a standard treatment plan.
Objective: The aim of this project is to create culturally sensitive reading materials on diabetes type II for Cape Verdean/ Portuguese- speaking patients
Description: Culturally sensitive pamphlets were created for Cape-Verdean patients in a community health center during a weekly diabetic education support groups.
Methods: Review of the literature was conducted using the Up To date, CINAHL and Google Scholar databases using search terms on diabetes education for non- English speakers. The diabetes nurse educator and nutritionist were interviewed to determine the perceived educational needs.
Findings to Date: The literature review showed that the materials should be culturally sensitive to the target populations health beliefs and dietary customs. Based on the literature and information gathered from the educators, four pamphlets in Portuguese were developed and implemented in weekly diabetic education support groups. The pamphlets focus on diabetes control through diet and exercise and short- and long-term complications.
Lessons Learned: Although targeting Cape Verdean/ Portuguese- speaking population may seem overly refined, there is a great need for diabetic educational materials that cater both to the language and culture.
Future Directions: While pamphlets were well-accepted by educators and patients, the next step is to conduct a more formal evaluation of the effectiveness of these materials.

THE PRICE OF PLEASURE WITH DEBATE FEATURING CAROL QUEEN AND GAIL DINES IS PORNOGRAPHY A PUBLIC HEALTH ISSUE? ENGAGING STUDENTS IN MULTIPLE PUBLIC HEALTH COURSES THROUGH A FILM SHOWING SCHOLARLY DEBATE 9

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Department of Community Health Sciences, Boston University School of Public Health

Provide public health students enrolled in four different courses (N=120) the opportunity to view a movie and participate in scholarly debate about an open and contentious issue in public health, offer students opportunity to bring a friend or guest to an event, inspire ongoing discussion and debate throughout the rest of the semester, demonstrate innovative collaboration.
On February 10, 2012, the Boston University School of Public Health Department of Community Health Sciences hosted a film screening for “The Price of Pleasure” a documentary about pornography and its harmful effects on society. Following the film scholars Dr. Gail Dines and Dr. Carol Queen debated the role of pornography in US society, its contribution to a culture of sexual abuse and gender inequality, and possible public health implications. Students prepared for the evening through readings and prescreening question preparation.
The screening was introduced by Dean Meenan. A lively debate followed the screening with many students asking questions, and some participating via Twitter. Students in the courses had supplemental reading and writing assignments including: discussion groups, reflection papers, and follow up commentary.
Students had a variety of reactions to the film and debate, including questioning the arrangements for the debate, the dominance of one of the speakers, the overall messages sent through the film, and their own reactions. While not quite what was expected or predicted by their professors, reactions confirmed deep engagement in the material and ongoing discussion of these key issues. Students in the Adolescent Health course discussed the idea of how to connect with youth who view porn and how to get them to critically analyze it and have it not affect their sexuality. Specifically, they raised the question of how to address the role of viewing pornography in sexual development, and how to address viewing porn (and misconceptions) in sexual education courses.
Students are willing and excited to meet across classrooms and engage in scholarly debate, students may learn more from events than can be predicted in advance, the issue of whether or not pornography should be considered a public health issue is an ongoing and important conversation.

URBAN NUTRITION SCAVENGER HUNT: AN INTERACTIVE LEARNING TOOL TO INCREASE MEDICAL STUDENT EXPOSURE TO URBAN NUTRITION ENVIRONMENTS 14

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Problem Statement: Anecdotal evidence from medical students and clerkship directors indicate that students have a poor understanding of their patients' living environments resulting in suboptimal counseling to improve their lifestyles.
Objectives: To create an interactive learning tool that will allow medical students to understand the factors that limit their future patients' access to healthy food and fitness opportunities in low-income areas.
Description of the Intervention: The Urban Nutrition Scavenger Hunt (UNSH) is an interactive learning tool that allows students to discover the nutrition and fitness resources in select neighborhoods where a BUSM Neighborhood Orientation Bus Tour for first year students is already organized. Each UNSC leads students to select neighborhood locations where they are directed to gather key information related to the food and fitness environment. After the visit, students discuss their findings with a trained member of the UNSH team.
Methods: Using existing local walking nutrition scavenger hunts as a guide, and working with a Registered Dietitian, dietetic students have paired with medical students to create UNSHs in additional Boston neighborhoods. The UNSHs are developed based on data obtained from field visits and interviews with neighborhood nutrition experts, community members, business owners, and members of key community resources.
Findings to date: In 2010 a group of medical students piloted a UNSH with overwhelmingly positive feedback and suggestions that it be a mandatory part of the BUSM curriculum.
Future Directions: The UNSHs will be introduced in student orientation and offered to students as an extracurricular activity after their first exposure to the neighborhoods on the bus tour. We have identified key areas in the curriculum where a UNSH could complement a class. Support from the New Balance Foundation and from Allen Foundation.

EVOKED POTENTIALS REFLECTING RULE LEARNING DURING THE WISCONSIN CARD SORT 12

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Objective: To characterize an electroencephalographic biomarker for rule learning found during the transition from naive to expert state in a rule learning process.
Background: Rule application is an essential component of the learning process, and allows the modification of internal state models to a set of options to achieve a desired outcome. The Wisconsin Card Sort Task (WCST) provides an ideal paradigm for measuring rule learning and application. In the WCST users learn a rule then adapt as the rule is changed unexpectedly.
Design/Methods: Electroencephalographic data was collected from nine healthy adults using a NeuroScan NuAmps amplifier with a 32 lead EEG cap. Subjects completed 10 consecutive correct rule applications during 6 rounds of the Wisconsin Card Sort Task. EEG data were analyzed using Matlab with EEGLab extension.
Results: The rule application component of the EEG record was defined as the time immediately following card presentation. The “first-correct-rule-application” epochs were averaged and compared with the eight consecutive rule-learned” epochs that followed this expertise turning point: A positive wave of 15 uV appeared at approximately 350 ms in both cases. In contrast, the first-correct-decision potential remained positive for 400-1000 ms at 15 uV but this persistent positivity is absent in the “rule-learned” waveforms.
Conclusions: A robust signal has been identified as a subject transitions from a naive to expert state while applying a rule. Cognitive computation is reflected in the late positive wave demonstrated at 400-1000 ms during which the subject has not yet learned the correct rule to apply. This wave disappears as expertise is gained and the rule is learned. This signal may provide a biomarker of learning that can be used to investigate more complex learning and rule application tasks in the future.

LETTER TO THE EDITOR: A SERVICE-LEARNING OPPORTUNITY TO DEVELOP LIFELONG SKILLS IN PHYSICIAN ADVOCACY 13

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Current medical education successfully teaches students to communicate with individual patients but struggles to provide guidance in communicating with broader audiences, including the popular press, on issues pertinent to the health of patient populations. LCME educational objective 19 mandates training in communication skills as paramount to the development of a responsible physician. To address this important objective, particularly communicating through media, the BU Advocacy Training Program (buATP) developed a service learning opportunity for medical students to address health and advocacy issues in national arenas by writing Letters to The Editor (LTE). This year, the training was delivered by Dr. Megan Sandel, a nationally recognized expert in child health and housing, who has experience publishing LTEs. Nineteen second year students attended the training, and sixteen submitted letters to various media sources. On quantitative evaluation, students felt that the session successfully accomplished two major learning objectives: to understand the role of medical students in effecting change through the media, and to learn the framework and structure for writing successful letters to the editor (4.5 and 4.9, respectively, on a five-point Likert scale). Qualitatively, those in attendance spoke highly of the training, appreciating the “great step in helping [students] turn knowledge and frustrations into concrete action.” Since letters to the editor are accessible to medical students at any skill level, this opportunity especially empowers first and second years to reach out and share their own voices on issues of public health. This innovative training fosters improved communication skills, increases medical student awareness of the media as a tool to change health care, and promotes the commitment of students to lifelong learning through physician advocacy. Through this session, along with other similar training, students can cultivate the communication tools necessary to spark improvements in the health and well-being of their patients.

AN INNOVATIVE APPROACH TO ADVOCACY TRAINING IN UNDERGRADUATE MEDICAL EDUCATION AT BOSTON UNIVERSITY SCHOOL OF MEDICINE 5

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Given the high prevalence of socio-economic issues among patients at Boston Medical Center, addressing the social determinants of patients’ health is central to the provision of optimal patient care. Some argue that advocacy to promote patient health is a core tenet of medical professionalism (Earnest 2010). Furthermore, the Liaison Committee on Medical Education (LCME) has established competency in addressing the “medical consequences of common societal problems” as an educational objective for medical school curricula (LCME 2011). Despite this, few dynamic models for teaching the social determinants of health have been described and advocacy training is not part of most medical school curricula (Earnest 2010). The Boston University Advocacy Training Program (BUATP) is a curricular innovation designed to cultivate advocacy skills in medical students. The program is an elective scholarly concentration that provides structured training in the pre-clinical and clinical stages of undergraduate medical education. During the pre-clinical years, students explore a spectrum of physician advocacy roles and develop a conceptual understanding of the social determinants of health through facilitated interactive forums between students and experts in medicine, law and public health. Students learn and practice advocacy skills such as framing, communicating, and addressing a problem, and develop community and professional partnerships by working on team-based advocacy projects and consulting with local physicians. During the clinical clerkships, students complete online modules on advocacy issues germane to each discipline while refining their skills through practice in individual patient advocacy. Currently, medical education exposes students to social determinants of health, but it often falls short of teaching advocacy competencies needed to address these problems. The BUATP provides training in patient and community advocacy required for optimal patient care. Further evaluation and development of this curriculum will enhance Boston University School of Medicine’s ability to provide the education required to achieve this important goal.

IMPLEMENTATION OF CADAVER BIOPSY PROJECT PHASE 3 6

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The Cadaver Biopsy project at Boston University School of Medicine (BUSM) began in 2009 as an effort toward integration of Gross Anatomy (BUSM 1, Fall) and Histology (BUSM 1, Spring) into the Disease and Therapy course (BUSM 2, Fall and Spring). Now in its third year of implementation, the project has progressed to integrating and reinforcing basic science material learned in BUSM 1 and 2 into the Radiology clinical clerkship in BUSM 3 or 4. This phase of the project was to incorporate the same cadaver biopsy material that this class of students had encountered in BUSM 1 and 2 into a seminar format presented by the students. A competitive award, funded by the American Society of Investigative Pathology, allowed engaging medical students interested in medical education to participate in the project. At the beginning of each Radiology rotation, the third and fourth year medical students were divided into four groups and assigned a series of questions from the case studies focusing on histopathology, gross pathology/anatomy, clinical medicine, or treatment and follow up. During the third week of the rotation the groups presented their answers, while members of BUSM faculty and the medical students who developed the Cadaver Biopsy Project observed and provided feedback and critique. At the end of the session, the case study was posted on Blackboard for review by the group. An IRB-exempt survey was administered to the Radiology clerkship students to evaluate the project and provide feedback to the project team members. The feedback has been positive and logistical changes were made along the way, based on student feedback. In conclusion, projects that seek to integrate basic and clinical sciences in a small group setting can be successfully implemented during clinical rotations.

BROOMBALL AND MEDICAL STUDENT WELLNESS 7

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Medical school can be a time of significant stress for doctors in training. This stress can contribute to poor academic performance, academic dishonesty, and substance abuse, as well as depression, anxiety, burnout, and in some cases, suicide. Efforts to promote mental and physical wellness in medical students is of utmost importance and can include support groups, peer advising groups, and extracurricular activities. Given the amount of stress that medical students experience regularly as part of their didactic and clinical education, we aimed to see if intramural sports, specifically broomball, could be a weapon in a student's arsenal of stress management techniques. Broomball is one of the many intramural sports offered by Boston University's (BU) Fitness and Recreation Center (FitRec). While relatively novel for most people, FitRec lists broomball as the most popular intramural sport at BU. The sport is played on an ice rink and is similar to ice hockey; however, participants wear sneakers and use a stick resembling a lacrosse stick with a plastic paddle. Playing competitively on such a slick surface is a unique experience. We believe that the exercise and athletic requirements of broomball, in combination with the social aspects of the sport, can serve as a means of stress management or relief for medical students. We formed a co-educational team comprised entirely of first year medical students. We assessed the current health habits of our peers and then assessed the impact of broomball on them. This was done by sending an anonymous multiple choice survey with an optional free response question at the end.
Our findings have shown that after playing a broomball game, medical students have a reduced stress level, are more focused on their studies, and are more motivated to exercise and to eat well within the following 2-3 days of playing.

A DOCTORAL CURRICULUM IN TRANSITION: A CASE STUDY OF BUSM'S GRADUATE MEDICAL SCIENCES IN CURRICULUM REFORM 8

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The Division of Graduate Medical Sciences at Boston University School of Medicine (BUSM) is the home of numerous dynamic graduate programs. Division doctoral students conduct cutting edge research on a wide range of topics that are directly related to improving human health and treatment of disease. Before transitioning to full time thesis research, students are engaged in classroom training in a variety of fundamental disciplines, and with 17 unique pathways of admission to these doctoral programs, there were also 17 unique curricula. Departments and programs offered courses independently, and students participated in curricula that were overlapping combinations of these courses. This system created curricula that were not well coordinated and that had redundant course content as well as content gaps. In an effort to address these issues, a curriculum reform process was initiated in December 2010 to completely restructure doctoral education at BUSM. In order to embark on this journey, it was necessary to create a culture that encouraged our community to adopt a new educational paradigm. Towards this end, we implemented the process for leading change, a system born out of the business world (Kotter, J. P., & Rathgeber, H. (2006). Our iceberg is melting: Changing and succeeding under any conditions. New York: St. Martin's Press). In this case study, we present the application of the leading change method to the academic process of curriculum reform. We detail the key pedagogical objectives and elements designed into the new curriculum through this process of leading change. In addition, we discuss the creation of a curriculum that fosters the interdisciplinary thinking students are ultimately asked to utilize in their research endeavors. Finally, we explore the lessons learned during the first implementation (Fall 2011 – Spring 2012) of the new Foundations in Biomedical Sciences integrated curriculum.
* These authors (Dasgupta, Symes) contributed equally to the work.

PATRNERSHIP FOR YOUTH HEALTH EDUCATION; BOSTON PUBLIC SCHOOLS' MIDDLE SCHOOL ACADEMY AND BUMC FMRP 10

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Background: Middle School Academy (MSA) in South Boston is the only alternative middle school in the Boston Public School District. MSA serves students who have struggled at and been expelled from mainstream middle schools in the district. Students at MSA are at high risk of dropping out and most have been retained at least one grade and are older than traditional middle school students. Due to budget cuts within BPS and a decrease in funding, MSA has been unable to retain a health teacher on staff since school year 2010-2011. Responsibilities for teaching health have been shared among remaining faculty including an English teacher and two math teachers. We identified the need for a knowledgeable health instructor at MSA.
Methods: We administered the CDC's Middle School Youth Risk Behavior Survey to MSA students to assess learning needs in the area of health education. We designed lesson plans on a variety of health topics, including sexuality and reproductive health, diabetes, nutrition, depression and suicide. Thus far we have taught 15 classes to MSA students over the course of academic year 2011-2012.
Results: YRBS results indicate many MSA students engage in risky health behaviors including unprotected sex, smoking marijuana, and drinking alcohol. Many also reported having considered suicide. Having an FM resident in the role of health teacher at MSA is an effective way of building relationships and rapport with some of Boston's most at risk youth and educating youth regarding their health both now and in the future.
Conclusions: FM residents can play an important role in the education and empowerment of Boston's at risk youth. The overall goal of the project is to establish a long term partnership between the residency program and MSA to continue to strengthen relationships between FM residents and Boston's at risk youth.

MENTORING HIGH SCHOOL STUDENTS BY EXPOSING THEM TO CAREERS IN THE MEDICAL FIELD AND HELPING THEM ADDRESS LOCAL HEALTH DISPARITIES 11

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This mentoring program will empower high school students to immediately take an active leadership role in reducing the impact of health disparities that plague their neighborhoods. Under the guidance of mentors, the students will become local leaders by developing community service projects geared to improve health outcomes in their own neighborhoods. Ultimately, the program will expose students from underrepresented groups to the medical field supporting national health priorities of training a diverse healthcare force.
During the first component, the students will familiarize themselves with interpreting scientific papers. This training is intended to ignite their passion for science and increase their confidence in their scientific abilities.
During the second component, the students will listen to lectures about the physiology and pathology of health disparities. The students will not only learn more about health disparities, but also learn about career planning from the medical student presenters. The lecture series will thus serve both didactic and mentoring purposes.
The remaining components will demand a more active role from the students. Each student will develop a workable project that seeks to mitigate the impact of the disease in his/her community. Then each student will present the findings of his/her project in a school-run health fair. The health fair will enable the students to present their findings directly in their own community.
Each component of the project will be assessed individually and holistically to assess whether the goals were met. During the project development component, medical students will monitor the high school students' time management, leadership, and critical thinking skills. Finally, the health fair will serve as an indication of the growth of the students' abilities to understand the following: (1) the scientific process; (2) the impact of health disparities on their communities; and (3) their capacities for implementing change as leaders in their communities.