Boston University
School of Medicine

Welcome to
THE JOHN McCAHAN
MEDICAL EDUCATION DAY

Dear Colleagues,

We convene today to honor and recognize John McCahan, who has probably contributed more than anyone else to the character of medical education at this school for the past 31 years. About 75 percent of all living alumni -- some, 4,500 doctors -- manifest in their daily practice the enduring legacy of John McCahan's focus on patient-centered care delivered in the context of the patient's life situation, the most up-to-date standards of care, and common sense.

John McCahan arrived here in 1975 as a young medical educator possessing clear ideas about how to mold classroom and clinical experiences to create competent and caring physicians. As Chairman of the Curriculum Committee since 1976, Dr. McCahan has been the principal architect of the school's curriculum, introducing innovation as appropriate. He has taught us all that to arrive at a remedy, you must listen carefully and ask the proper questions.

His compassion, accessibility, and enthusiasm in professional and personal interactions have provided an uncommon example to students; his consistent display of equanimity and clear thinking in times of crisis have endeared him to colleagues. No finer tribute to an intellectual legacy could acknowledge the school's debt to Dr. McCahan than by assembling here on this occasion to explore the future of medical education.

Sincerely,

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

ACKNOWLEDGEMENTS

John McCahan Medical Education Day is an initiative of the Medical Education Committee (MEC), encouraged by Dean Karen H. Antman, M.D. The MEC acknowledges with appreciation the work of the following faculty and staff who have contributed to the planning:

The John McCahan Medical Education Day Planning Committee:

Sharon Levine M.D., Chair   Jay Orlander, M.D.
Todd Hoagland, Ph.D.   Benjamin Siegel, M.D.
Angela Jackson, M.D.   Deborah Vaughan, Ph.D.
Subha Ramani, MBBS, MMEd., MPH   Carol T. Walsh, Ph.D.
Stephanie Oberhaus, Ph.D.

The Planning Committee recognizes with appreciation the support from the following offices that has made this meeting possible:

Area Health Education Center
BUSM Alumni Association
Educational Media Services Center
Geriatrics Section, Department of Medicine
Office of the Dean
Office of Continuing Medical Education
Office of Facilities Management and Planning
Office of Medical Education

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 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 eduation.

Dr. McCahan is a recipient of the Frederick Jackson Teaching Award and a faculty member of AOA.

ELIZABETH G. ARMSTRONG, Ph.D.

Dr. Armstrong is currently Director of Education Programs, Harvard Medical International; Director of the Harvard-Macy Institute, Harvard Medical International; and Associate Professor in Pediatrics (Medical Education), Harvard Medical School. She has held positions at Harvard Medical School since 1984, including Director of Curriculum 1988 - 1992 and Director of Medical Education 1992 – 2001. She has played a leadership role in designing, implementing and expanding Harvard's *New Pathway* curriculum. In 1994 with funding from the Josiah Macy Jr. Foundation, she created and continues to direct the Harvard-Macy Institute. The Institute offers professional development programs for physician-educators and leaders of reform in medical education worldwide. These programs draw on faculty and teaching paradigms from multiple colleges at Harvard, particularly the Graduate Schools of Business, Education, Medicine, and Public Health. The global impact of the Harvard-Macy Institute's programs expanded in 2001 when Dr. Armstrong joined Harvard Medical International as Director for Education Programs. Since then, she has customized the Harvard Macy programs through collaborative efforts with the Association for the Study of Medical Education in the United Kingdom, the Council of Deans in Australia, the Karolinska Institute in Sweden, and the University of Queensland in Australia.

She has served on and chaired many Harvard Medical School committees and was a member of Cornell University's Board of Trustees and Cornell's Medical School Board of Overseers assisting in the major curricular reforms undertaken at their Medical College and School of Veterinary Medicine. Dr. Armstrong is currently a member of the Editorial Board for Academic Medicine and is a Co-Director of the United States Europe Medical Education Exchange program. She is also a member of the National Advisory Committee for the Robert Wood Johnson Clinical Scholars Program. As a member of China Medical Board's Institute for International Education, she has been instrumental in developing global minimum essential requirements in medical education. Recognized worldwide as an expert in medical education, she has lectured and written on this subject and received an honorary doctor of medicine degree from the University of Lund Medical Faculty in recognition of her international contributions to medical education. Her country programmatic experience includes Argentina, Australia, Canada, Croatia, Denmark, Germany, India, Japan, Singapore, South Africa, Sweden, and United Kingdom

Dr. Armstrong received her Bachelor of Science degree from Cornell University, Master of Arts degree in Teaching from Harvard University, and Ph.D. in Curriculum Design and Instruction from Boston College.

First Annual John McCahan Medical Education Day
June 19, 2006
Hiebert Lounge

SCHEDULE OF EVENTS

9:00-9:15 a.m.	**Welcome** Sharon A. Levine, M.D., Moderator Chair, Medical Education Day Planning Committee Karen H. Antman, M.D. Dean and Provost Boston University School of Medicine
9:15-10:00 a.m.	**Keynote Lecture** "The Academic Medical Center of the Future: Creating a Respectful Environment for Education and Patient Care Through a Systems Approach" Elizabeth G. Armstrong, Ph.D. Harvard Medical School
10:15-11:30 a.m.	**Workshop Session I** See workshop listing p. 6 for location
11:30 a.m.-1:00 p.m.	**Poster Presentations** Lunch
1:15-2:30 p.m.	**Workshop Session II** See workshop listing p. 6 for location
2:45-3:20 p.m.	**Award Presentations** Trainee Awardee: Daniel Chen, M.D. Faculty Awardee: John Wiecha, M.D. **Oral Presentations** Daniel Chen, M.D., "A Cross-Sectional Measurement of Student Empathy at BUSM", abstract 44 John Wiecha, M.D., "Web-Based vs. Face to Face Learning of Diabetes Management: The Results of a Comparative Trial of Educational Methods", abstract 45
3:20-3:30 p.m.	**Concluding Remarks** Sharon A. Levine, M.D.
4:00-5:30 p.m.	**Reception for Dr. McCahan**

WORKSHOP TOPICS AND LOCATIONS

SESSION I   10:15-11:30 A.M.

Room R-110
Peer Coaching as a Faculty Development Activity. Jay Orlander, M.D., M.P.H. and Warren Hershman, M.D., M.P.H.
   Observing and being observed by colleagues while teaching affords a useful opportunity to improve our teaching skills if time is allocated to analyze the utility of the teaching that is observed. We will discuss pairing of teachers with similar teaching duties who observe each other and then discuss teaching behaviors. This approach is applicable to clinical and classroom teaching. We will review strategies for analyzing teaching observations and ways individuals or sections can apply this approach.

Room R-108
Reflection: What Is It? How Can it Improve Your Teaching and Practice? Benjamin Siegel, M.D. and Faculty
   Reflective thinking can be an effective tool for practice enrichment, learning, and teaching. Reflection has been described as the critical questioning of the content, process, and premise of the learning/teaching experience in clinical practice. The goal of this workshop is to introduce reflective thinking as an important tool for the clinician and educator. We will explore opportunities for utilizing reflection- whether to improve the critical appraisal of a case or to provide constructive feedback to a trainee – in the busy life of a clinician–educator. Specific techniques for the practice of reflection will also be discussed.

Room L-301
The Use of Case Studies and Group Discussion in Science Education: A Film with Discussion. Rob Schadt, Ed.D., SPH Office of Teaching, Learning and Technology
   Many faculty struggle while teaching the quantitative aspects of science. Often students sit passively in class, appearing to understand the material, but when they leave the classroom, and start to do the homework, they are unable to apply what you've worked so hard to teach. The National Center for Case Study Teaching in Science is a NSF project that has been developed to help change this scenario. To introduce this project and build on basic principles of case study teaching, this session will focus on how to teach science in a meaningful way using case studies in classroom discussions and small group learning.

Room L-211
From an Educator to an Educational Scholar: Transforming Educational Activities into Scholarship. Subha Ramani, M.D., MMEd, M.P.H. and Stephanie Oberhaus, Ph.D.
   The six criteria of Teaching Scholarship – clear goals, adequate preparation, appropriate methods, evaluation, effective presentation and dissemination, and reflective critique – form a scaffolding to encourage the creation and evaluation of a variety of teaching activities. This workshop aims to provide participants with the knowledge of these criteria as well as their practical application.

Room R-107
Web Based Learning in Medical Education: Why (and How) to Get Started!
John Wiecha, M.D., M.P.H.
   This workshop will introduce web-based learning (WBL), including the current spectrum of medical education activities using the Internet. The evidence for effectiveness of WBL will be reviewed. Participants will gain an understanding of how creating curriculum for the web requires unique instructional design approaches. The pros and cons of self-directed vs. faculty-moderated designs, and strategies for integrating multimedia, will be addressed. Currently available learning systems at BUSM will be compared. This seminar will be held in a computer learning room, with opportunities provided for experiencing and critiquing examples of web-based curricula.

SESSION II   1:15-2:30 P.M.

Room R-123
Giving Effective Feedback: You Can Do It! Sharon A. Levine, M.D. and Angela Jackson, M.D.
   This interactive workshop will use a variety of small group learning techniques, such as brainstorms, role plays, case discussions and mini-lectures to 1. define feedback, 2. highlight the distinction between feedback and evaluation, 3. explore the barriers to giving effective feedback and 4. provide potential solutions and skills to overcome those barriers.

Room L-211
Team-Based Learning: a Teaching Method that Increases Student Active Participation in Learning with a Reduced Number of Faculty. Gail March, Ph.D. and Douglas Hughes, M.D.
   Medical Educators today are faced with numerous challenges including increasing class size and decreasing availability of faculty. The purpose of this workshop is to provide an interactive opportunity for the BUSM faculty to learn about a teaching method called Team-Based Learning (TBL) as a proven successful alternative to lecturing in the Basic Sciences and Clinical classes. In TBL, students attending a lecture are transformed into active learning teams of students who apply content to simple and complex assignments with the feedback of the facilitator as the content expert. TBL fulfills the LCME guidelines for reducing time in lectures and increasing student time in small groups and self-learning.

Room L-301
The Use of Case Studies and Group Discussion in Science Education: A Film with Discussion.   See listing in SESSION I.

Room R–107
Web Based Learning in Medical Education: Why (and How) to Get Started!
See listing in SESSION I.

DEMONSTRATIONS OF EDUCATIONAL TECHNOLOGY

BUMC Curriculum Database (http://bumccdb.bu.edu)
Adrianne Rogers, M.D., Director, Office of Medical Education, aerogers@bu.edu
Mary Blanchard, M.S. (LS), Associate Director for Library Services, Alumni Medical Library, mamckeon@bu.edu

The BUMC Curriculum Database (BUMC cdb) provides access to multimedia course materials comprising the 4-year medical program at BUSM. BUMC cdb is a modified version of the Tufts University Sciences Knowledgebase (TUSK) software. This searchable database supports the diverse teaching, learning, and curriculum development activities of faculty and students by enabling them to identify the placement and scope of teaching of specific topics within the curriculum. Application tools for searching, organizing, and annotating information in personal folders can be used in a variety of ways to manage information and enhance teaching and learning experiences.

LXR Test Software: Instructional Support Services' Exam Grading System
Domenic Screnci,Ed.D., Executive Director, Educational Media Services, dscrenci@bu.edu , Adam Housman, Laboratory Technician, Instructional Support Services, hous@bu.edu

Logic eXtension Resources (LXR) is comprehensive assessment software used to create both paper and online exams and includes question banking, test creating, scoring and reporting of item analysis. With LXR, faculty can create and store question items in the question bank with or without graphics and retrieve them for composing tests. Each question item is identified by the date of test and item analysis. This software is available for Microsoft Windows operating system and for MACs with Virtual pc and is distributed to BUSM Course Managers.

CourseInfo (http://CourseInfo.bu.edu): Web-Based Tool for Enhancing and Expanding the Classroom Experience
Joy Deligianides, M.S., Manager of Web and On-Line Services, Office of Information Technology, joyd@bu.edu

In 1999, Boston University began offering CourseInfo, which is a course management product by BlackBoard, to faculty across both campuses. On the Medical Campus, faculty have spearheaded the creation and development of sites on the CourseInfo server as a means of enhancing and expanding the classroom experience. In addition, to posting syllabi and lecture notes, faculty have conducted on-line quizzes/surveys (including interactive quizzing with audio and video files), held chat sessions, incorporated audio and video into lecture notes, managed grades, and much more. CourseInfo is a secured site with access granted only to individuals designated by the instructor(s). The Office of Information Technology on the Medical Campus (www.bumc.bu.edu/bumc/oit) offers assistance to faculty, staff, and researchers in creating and developing CourseInfo sites.

Located in Hiebert to the right upon entering.

ABSTRACT THEMES FOR POSTER PRESENTATIONS

Innovations in Medical Education (IME)

IME abstracts showcase innovative scholarly works in medical education designed to stimulate collaboration and creative thinking. Projects can be presented prior to the completion of full evaluation. Examples of projects include development, implementation, or evaluation of educational tools, course curricula, simulations, or innovative educational collaborations.

Abstracts 1–24

Interactive Resources in Medical Education (I-RIME)

This category is to demonstrate creative use of interactive technology to augment learning. Appropriate sites for submission include course or clerkship web sites, 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 25–31

Research in Medical Education (RIME)

This category is to showcase ongoing research in medical education at BUSM and includes presentation of findings which may add new knowledge to the field of medical education. This may include new knowledge in curriculum development, faculty development, innovative evaluation data suggesting that an educational intervention may make a difference etc. Both quantitative and qualitative research should be submitted as well as research in progress.

Abstracts 32–45

Innovations in Medical Education (IME)

MULTIDISCIPLINARY APPROACH TO THE USE OF SIMULATION FOR TRAINING OF PERIOPERATIVE CARE GIVERS

RJ AZOCAR[1], P LYONS[2], J. BONIVETT[2,] GD STANLEY [1] and KP LEWIS [1]
[1]Department of Anesthesiology Boston University School of Medicine,(BUSM) [2] Clinical Educator for Perioperative Services Boston Medical Center (BMC)

1

The use of simulation for medical education has become widespread. This year the Department of Anesthesiology at BUSM coordinated multidisciplinary crisis management sessions with the nursing educators from the OR and PACU at BMC as part of the perioperative staff competency training and the anesthesiology resident simulation training. All simulated scenarios involved an anesthesiology resident in the role of the anesthesia provider and 3 to 5 members of the perioperative team.

Our Objectives included 1) Use of full scale simulator scenarios for the trainees to face a crisis situation in an non threatening environment, 2) Discuss the scenario not only from the knowledge perspective but highlighting crisis management issues such as calling for help, assuming roles, following orders and team work 3) The review of etiology and management of perioperative complications; specifically Malignant Hyperthermia, respiratory insufficiency and cardiac arrest. It was not the intent of the sessions to evaluate the participants.

We completed seven sessions and trained approximately 120 members of the perioperative staff and 8 anesthesia residents. The end of session feedback was very positive and seems that both the knowledge based objectives as well as the crisis management objectives were satisfactorily covered.

Based on this experience, we are planning to continue this effort but realize the need for stronger evaluation mechanisms of the sessions. Although, we are not planning to use the simulator as an evaluation tool at this time, it is definitely an alternative to assure maintenance of competencies for the perioperative staff.

IMPLEMENTATION OF A CLINICAL SIMULATOR CENTER. THE BUSM DEPARTMENT OF ANESTHESIOLOGY EXPERIENCE

RJ AZOCAR[1], RA ORTEGA[1], G.D. STANLEY[1] and KP LEWIS[1]
Department of Anesthesiology, Boston University Medical School

2

Simulation has become an important tool for education, assessment and evaluation in the health care area. Since 2003, the Department of Anesthesiology at BUSM began the planning for the creation of a clinical simulation center. The initial goals were to allow the acquisition and improvement of hand skills related to the anesthesiology practice and to complement the residents' theoretical knowledge with an experiential learning.

To achieve the first goal several task trainer devices) airway management, central line placement and spinal anesthesia) were acquired. As an example of the use of these devices, since last year, first year residents will undergo a theoretical session in airway management in our web based program at the Department's media center and then follow with a" hands on" experience on skills such as mask ventilation, endotracheal intubation and laryngeal mask airway placement.

Our second goal has been possible with a full-scale simulator. Currently, we have monthly sessions in synchrony with the lecture series allowing the interface between theory and practice. In addition, scenarios of rare event in anesthesia practice such as Malignant Hyperthermia, sessions for discussion of crisis management, (where the discussion is centered in the reaction and action of the participants more than the situation per se complete) and multidisciplinary sessions with perioperative staff complete our list of activities.

Although, we have not use the simulator for evaluation purposes, the literature supports their use for this purpose and it is in our plans for the future.

IS THE OSCE A TOOL TO ASSESS DIFFERENCES IN SELF ASSESSMENT **OF PERFORMANCE BETWEEN PGY-3 AND PGY-4 ANESTHESIOLOGY   RESIDENTS?**

R. J. AZOCAR[1], K. P. LEWIS[1], and G. D. STANLEY[1].
[1]Department of Anesthesiology, Boston University School of Medicine, Boston, MA.

Introduction: Since 2002 our Anesthesiology Department implemented yearly OSCE's for residents. We have conducted four exams each involving 10 different stations. During two consecutive years, five of those areas were common to both tests. Upon completion of each station residents recorded their perceived score using the same scale examiners use. We hypothesized that as the residents become more senior, they would be more proficient at self evaluation and the ratio between perceived score and actual score (P/A) would be closer to one.

Methods: The stations that were common for the two exams were ACLS, mock oral exam, TEE, regional anesthesia and ethics. The ratios of perceived scores over actual scores were calculated for each resident at each station and for the overall average score. The average ratios for PGY-3 and PGY-4 residents were then compared using unpaired t-tests.

Results: 14 residents participated; 7 in year one and 7 in year two. No residents participated in both years and data from both years were combined. The ratios of perceived to actual performance for PGY-3 and PGY-4 in five areas and average scores with equal weighting is shown in the table below. There was a trend for PGY-4's to be better at self evaluation in each area and overall than PGY-3's although this did not reach statistical significance.

Conclusions: Although our small sample size probably precluded statistical significance, there was a consistent trend for PGY-4's to more accurately evaluate their performance than PGY-3's which was consistent with our hypothesis.

	ACLS	ORAL EXAM	TEE	Regional	Ethics	Overall
PGY-3	0.75+/- 0.33	0.20+/- 0	1.07+/-0.75	1.33+/-0.79	1.07+/-0.46	0.89+/-0.12
PGY-4	0.99+/- 0.32	0.83+/-0.16	0.97+/-0.33	1.005+/-0.29	1+/-0.14	0.93+/-0.10
p value	0.20	0.21	0.58	0.33	0.69	0.5

Comparison of ratios between perceived/actual scores between PGY-3 and PGY-4 residents

THE OBJECTIVE STRUCTURE CLINICAL EXAMINATION (OSCE) AS AN EVALUATING TOOL
OF RESIDENTS IN ANESTHESIOLOGY

RJ AZOCAR[1], GD STANLEY[1], RA ORTEGA[1] and KP LEWIS[1]
[1]Department of Anesthesiology, Boston University School of Medicine

The ACGME Outcomes Project and the American Board of Medical Specialties has suggested a toolbox of methods for evaluating residents and the fulfillment of all six core competencies. The (OSCE) is one such tool that seems well suited to the evaluation of residents in anesthesiology.

The OSCE in our Department has occurred annually since 2002. The examination is given to PGY 3 and 4 residents. Each exam consists of ten stations. Residents are allowed 15 minutes at each station and approximately 2 minutes to move between stations. The grading of residents at each station is standardized to a five-point scoring system. At the end of the examination, the residents are asked to complete an exit evaluation form in which they rank their perceived performance at each workstation. This is later compared to their actual performance and appropriate feedback given. The results are then compiled and standard acceptable answers are issued to the residents together with grading at each station, overall grading and comparative grading with peers.   Some of the feedback is particularly detailed and in one instance, a detailed CD-ROM was prepared to illustrate various aspects of regional anesthesia that had been tested in the exam.

The OSCE has allowed us to evaluate all six core competencies in our residents and also to initiate educational research projects. As our Department has engaged in other educational projects such as the simulation center, the media center and the "on-line" team based learning education, more opportunities for educational research will be possible.

TEACHING THE TEACHERS: THE VESALIUS PROGRAM AND TEACHING BIOMEDICAL SCIENCES

P. BERGETHON, T. HOAGLAND, J. SANDELL, D. VAUGHAN, D. DEROSA, C. ROMNEY and M. MOSS. Department of Anatomy & Neurobiology, BUSM, Department of Biochemistry, BUSM, and School of Education, Boston University

Statement of Problem
A key to successful educational reform is the development of the appropriate expertise of the instructors in both content and pedagogical areas. Traditionally neither basic science nor clinical instructors receive any formal training in pedagogy and yet they are expected to design, implement, teach and assess coherent curricula in the biomedical sciences from pre-doctoral through CME levels. The Vesalius program was developed in order to provide formal training in curriculum design and teaching techniques for masters and doctoral candidates who would go on to teach biomedical sciences in medical and graduate schools.

Objectives of Program
A foundational course in the Vesalius Program is GMS 806 Teaching in the Biomedical Sciences. The Performance Objective of this course is to provide the student with a systems approach to organizing and teaching knowledge and to transform them into an active and creative teacher with the skills to design and implement classroom and curriculum educational programs.

Description of Program
The course builds on the central concept from educational neurobiology that information and knowledge handling in the human nervous system depend on modeling processes that abstract certain features from a stimulus set to ultimately change knowledge and behavior (learning). The course makes this philosophy practical through the use of the "Cycle of Pedagogy" which recognizes that there are there are three interlinked model systems that represent:

1) The "mechanical" structure of knowledge creation or production (the brain or mind of the student)
2) The knowledge structure of a field, i.e., facts and theoretical interactions that make sense of the facts,
3) The path of pedagogical growth from naïve to expert practitioner and communicator in a field of inquiry.

The curriculum is structured for students to discover the above:
- 1) with a focus on learning styles and the concepts of differentiated learning;
- 2) by learning how to analyze knowledge using the 3Cs approach, (content:concepts:context);
- 3) by using an assessment design framework model of curriculum development and an instructional tool of the 5Es (Engagement, Exploration, Explanation, Elaboration, Evaluation).

Findings to date
The course is now in its second iteration of refinement and has been taught for the second time this spring. Formative assessment of the students through multiple teaching opportunities has supported the general attainment of the Performance objective as set forth.

A NOVEL 3-DIMENSIONAL TOOL FOR TEACHING MEDICAL NEUROSCIENCES   6

M.E. ESTEVEZ, K.A. LINDGREN, C.L. ZUCKER, P.R. BERGETHON. Department of Anatomy and Neurobiology, Boston University School of Medicine.

Traditionally, 3-dimensional visualization of neuroanatomy has been a challenge for first-year medical students. This study implemented and evaluated a new instructional tool for teaching 3-dimensional neuroanatomy in the 2006 Medical Neurosciences course at BUSM. Laboratories were split into experimental and control classrooms. All groups were taught neuroanatomy according to traditional teaching methods (blackboard lectures, brain tissue examination, and slide reviews of brain, brainstem, and spinal cord cross-sections). In-lab review time for the experimental group was spent constructing 3-dimensional color-coded clay models of the diencephalon and basal ganglia. In-lab review time for the control group was spent re-examining cross-sections. At the end of the course, all students were given a quiz evaluating 2-D and 3-D spatial relationships of the brain, as well as a survey of their learning preferences (based on *VARK Guide to Learning Styles*). Overall, the quiz scores for the experimental group were significantly higher than the control group ($t(85)=2.2, p<0.05$). However, when the questions were divided into those requiring either 2-D or 3-D visualization, only the scores for the 3-D questions remained significant ($t(85)=2.6, p<0.01$). Of note, there were no group differences in final course grades. These results suggest that medical students can perform satisfactorily on course exams without having an adequate understanding of 3-D relationships of neuroanatomy. Such an understanding is essential for higher education and training in neurology. Furthermore, when surveyed, 84% of students recommended repeating the 3-D activity for future labs, and this preference was equally distributed across learning styles (visual-kinesthetic and aural-reading) ($x^2=0.14$, n.s.)

IRB Protocol H-25184

AN INNOVATIVE HYBRID MODEL OF TEACHING GERIATRICS TO MEDICAL STUDENTS   7

L.GOLDMAN, M. HOFFMAN, J WIECHA Department of Family Medicine, Boston University School of Medicine

Rapidly changing demographics in the US will require competence among family physicians in the care of older patients. Like many medical school curricula in Family Medicine, our required third year clerkship did not include any content specific to geriatrics.
Objectives of new geriatric curriculum is to enable the student to:
1) Describe the impact of function on the life of an elderly patient
2) Master specific skills in the use of assessment tools for cognitive impairment, depression, gait abnormalities and functional status
3) Conduct a home visit including a medication review, home safety evaluation, and depression screen

To obtain these objectives we designed and implemented a curriculum that included a workshop on geriatric assessment tools, a video of a home visit on an elderly patient that was viewed on the web and critiqued on-line, a small group discussion on a follow-up visit of this patient, the actual use of screening tools on patients in the community preceptors office, and a home visit with a structured medication review, home safety evaluation and use of the Geriatric Depression Screen. A written summary of the home visit was required. The content was coordinated with the Geriatrics Block in the fourth year, where the same patient was revisited a year later.
We conducted an evaluation of the curriculum in three parts: students were given an attitude test, and a case-based knowledge test before and after the clerkship. A small control group was given the same tests before the curriculum was introduced. Students were also asked to critique the content and methods.
We learned that students were positively disposed toward geriatric patients, they were able to incorporate use of assessment tools effectively, and the highlight of the clerkship for many was the home visit. We also learned that many of the preceptors were not familiar with the tools and plan to provide education to them in the future.

BOSTON UNIVERSITY SCHOOL OF MEDICINE PATIENT ENCOUNTER CHECKLIST: MIPEP

N.C. HARVEY, D. HUGHES, G. MARCH, L. STANFIELD, Boston University School of Medicine, Office of Medical Education.

Statement of Problem: When observed by the authors during the 2004-2005 EOTYA, the students showed a need for a standard way to interact with patients that can be easily learned and allows gathering patient information without missing important clinical details. The authors created a patient encounter checklist/framework called MIPEP, an acronym for Meet the patient, Interview, Physical Exam, End the encounter, and Present findings.

Objectives of Program: The purpose of the MIPEP is to provide a conceptual framework and reference for the student to gather information and communicate more effectively with patients in various settings, and organize the data for oral and written presentations.

Description of Program/Intervention: MIPEP is a five-column table with bulleted lists in each column that outline the essential components and the necessary order of patient encounter tasks. The subsequent pages each present the individual column topic with more in-depth information. All first and second year students received the MIPEP as part of ICM 1 and ICM 2 this year. It was also shared with the PCS and CCS committees so that this format could be used for creating case scenarios in the pre-clinical years and that it could be the standard for student/pt encounters in the clinical years.

Findings to Date/Evaluation: A standardized approach to patient encounters has anecdotally resulted in more skilled oral presentation in ICM 1 small groups.

Key Lessons Learned: Students need to have more practice in utilizing MIPEP in patient encounters to strengthen the interviewing process.

Future Directions: Fuller medical school participation in using MIPEP will be encouraged by integrating its components into other courses. BUSM 1 students beginning in 07 will be required to participate in an interactive, online mini-course on MIPEP as part of their ICM 1 Spring course. The intent is for students to rehearse the patient encounter process in the simulated online exercises so they can apply MIPEP in their clinical site experience.

THE RADIATION ONCOLOGIST AS CLINICAL MENTOR

A E. HIRSCH. and J. EFSTATHIOU, Department of Radiation Oncology,Boston University Medical Center

Background: Radiation Oncology has traditionally been considered a very specialized field, with the majority of medical students having limited exposure to it during their training. Over the past year and a half, the radiation oncology department has offered formal fourth-year oncology electives and attending staff have accepted invitations to become clinical mentors for the first and second-year Introduction to Clinical Medicine Course. This is the initial report on our experience thus far.

Materials and Methods: We retrospectively reviewed the experience of our departmental participation in clinical mentorship with the rotating medical students and our patients.

Results: Over the past year and a half, six fourth-year medical students have taken the Introduction to Clinical Radiation Oncology and/or the Clinical Cancer Research electives. Two first-year medical students and one second-year medical student rotated through our department as part of the Introduction to Clinical Medicine course. One fourth-year medical student presented her clinical radiation research at a national meeting and received the Trainee Research Award. One first-year medical student received the Aid for Cancer Research Summer Fellowship and presented his clinical radiation research at the Massachusetts Medical Society Annual Research Symposium for Residents and Medical Students. The patients who have volunteered to be interviewed and examined by medical students have been uniformly pleased.

Conclusions: Clinical mentorship is a core component to an academic department. Radiation Oncology is a field that offers substantial patient interaction and a diverse patient population, allows for detailed review of anatomy, imaging and oncologic principles, and strongly supports clinical and basic research. The inclusion of radiation oncology as an elective or clinical session has contributed to the advancement of medical student clinical skills and productive research. As a result of this, the rotations have significantly increased in popularity, consistent with national trends in this field.

THE INTEGRATION OF ONCOLOGY EDUCATION INTO THE CORE RADIOLOGY CLERKSHIP 10

A E. HIRSCH.[1] and PJ. SLANETZ.[2]
[1]Department of Radiation Oncology, [2]Department of Radiology - Boston University Medical Center

Background: Cancer is the second leading cause of death among Americans and 1 of every 4 deaths in the United States is due to cancer. It is critical, therefore, that graduating medical students have at least basic oncologic teaching incorporated into the undergraduate medical curriculum beyond the 3rd year clinical rotations. The core radiology clerkship is a required 4-week rotation for all graduating medical students and represents an interesting opportunity to not only learn diagnostic radiology, but also to incorporate discussions of cancer diagnosis and management of those patients with radiographic evidence of malignancy.

Materials and Methods: Beginning with the incoming 4th-year medical school class this summer, the required core radiology clerkship will include lectures from the radiation oncologist consisting of the basics of cancer diagnosis, workup, and all aspects of treatment as well as correlating diagnostic radiographs to therapeutic radiation oncology.

Results: This will be the inaugural year to integrate oncology education into the core radiology clerkship.

Conclusion: Given the incidence and mortality of cancer in the United States, it is essential for graduating medical students to understand at least the basic principles of cancer diagnosis and management, and cancer education should be a main component of the medical school curriculum. There are a number of ways to incorporate cancer education in medical school and we anticipate that the inclusion of cancer education in the core radiology clerkship will be an essential step in increasing undergraduate oncology education.

IMPROVING MEDICAL GROSS ANATOMY EDUCATION AT BOSTON UNIVERSITY SCHOOL OF MEDICINE. 11

T. HOAGLAND, Department of Anatomy and Neurobiology in Partnership with the Carnegie Foundation, Boston University School of Medicine.

Statement of Problem: Medical students rarely have enough time to reflect on the information they are asked to learn in Gross Anatomy and the rote process of memorizing does not bode well for long-term retention.

Objectives of Program: Decrease total amount of time students spend in class, while placing the anatomical knowledge in a context where its relevance is clear to future physicians; stimulate life-long learning by developing web tutorials; use radiological imaging to reinforce the gross anatomy; and foster greater team-work in the anatomy laboratory.

Description of Program: In 2003, faculty led osteology lectures were eliminated and converted to self-directed learning stations (web-based or in class). In 2004, we changed the lab format, so students go to lab only one day a week instead of twice, freeing up one full afternoon each week. Oral presentations are used to teach the material to students who are not in lab. In 2006 we will provide an interactive imaging series (MRI, CT and X-ray) with selected cadavers in the lab.

Findings to date/Evaluation: **Formative assessment**: students enjoy having a free afternoon each week, they appreciate the oral presentations, and have a greater sense of teamwork and collegiality.

Summative assessment: student evaluation of gross anatomy shows an increase in basic science lectures (19.2%) and clinical lectures (8.6%) from 2001-5. Office of Medical Education student evaluations show increases in organization of the course (52.5%), clarity of learning objectives (27.6%), and course syllabus (35.4%), from 2001-5. The mean exam scores have also increased.

Key Lessons Learned: When material taught is reinforced via clinical correlations the relevance is obvious and more memorable. Giving students more time outside of class stimulates independent thought, and facilitates life-long learning and a deeper understanding of the content.

THE USE OF TEAM-BASED LEARNING IN A FINAL EXAM

12

D. HUGHES.[1] and G. MARCH,[2], Boston University School of Medicine, [1]Department of Psychiatry and [2]Office of Medical Education

The Psychiatry-2 Course for second year medical school students at Boston University School of Medicine was designed with a lecture series covering ten topics from substance abuse to suicide and violence. Each class begins with a lecture then after a short break, the students join their teams for Team Based Learning activities. The purpose for the course is to provide the content and knowledge for the student to identify mental illness and substance abuse and the basic treatments for these illnesses. In addition, the team exercises are designed to assist the students in developing team performance skills for their future roles as Interns, Residents and Attendings working in medical teams. The pre-class assignments are from the text, _Behavioral Science in Medicine_ by Barbara Fadem (2004) and the syllabus by the Dr. Hughes.

Team Based Learning, developed in the 1970's by Dr. Larry Michaelsen, is an active learning teaching method in which a large class is transformed into teams to apply the basic concepts of pre-class assignments to exercises with the instructor as the content expert. Each class begins with an individual quiz on the pre-class assignment and then the students take the same quiz and defend their answers to their teams. The instructor calls for the answers from the teams and confirms the best answers. The team next applies the concepts learned in the pre-class assignment to exercises that require the team to answer open-ended questions with a product or idea.

In contrast to past years when the Psychiatry-2 class was a series of lectures and small group sessions, the Spring 2006 class meet for five days and consisted of a 50 minute lecture, a 10 minute break, Team Based Learning Individual Quiz, Team Quiz and Team Application Exercise. Assessment of the student's performance was based on: 40% Individual Quizzes, 10% on the Team Quizzes, 5% on Team Exercises, 5% on online Peer Evaluations and 40% on the Final Exam. Course grades were Honors, Pass, Marginal Pass and Fail.

The final exam was designed as a team exercise in order to extend the team performance skills into the final exam.

HEPATITIS IN SPARTA

13

W. LAMORTE[1], R. SCHADT[2], R. CLAPP[3], W.ROCHE[4], B. MAHON[1], L. GLANTZ[4], C. CONNELEY[5], A.BALSAM[6] and T. BARTOLUCCI[2]
Boston University School of Public Health [1]Department of Epidemiology, Boston, [2]Office of Teaching, Learning and Technology, [3]Department of Environmental Health, [4] Department of Health Law, Biostatistics and Human Rights, [5]Director of Public Health, Arlington, MA, [6]Director, Brookline, MA Health Department

Health problems are inherently interdisciplinary, yet traditional curricula tend to be organized around departments that teach with a focus on a single discipline. As a result, students tend to learn from a one-dimensional perspective that is artificial and fails to illustrate the complexities of real problems and the manner in which expertise from multiple disciplines can be effectively integrated to provide real solutions. These observations have prompted efforts to better integrate the curriculum, with a greater emphasis on problem-based learning. In addition, educators and accrediting organizations are calling for less reliance on the traditional lecture format and a greater emphasis on active, student-centered learning. We assembled a multidisciplinary team to create an on-line problem based on a fictional outbreak of hepatitis A.

The script was developed based on learning objectives from Essentials of Public Health, and it was shaped to create an active learning environment in which the student's goal is to discover the source of the outbreak and establish appropriate control and prevention measures. The case unfolds in a rich multimedia environment and is enlivened by streaming video clips featuring faculty members as the inhabitants of Sparta, MA. The student is aided by easy access to a range of helpful resources that invite exploration in order to solve the case. The solution requires active engagement by providing raw data that must be analyzed, however, user-friendly tools obviate tedious calculations and allow the student to focus on application of concepts and interpretation of results.

CHIEF RESIDENT IMMERSION TRAINING IN GERIATRICS (CRIT)

S.A. LEVINE[1], S. CHAO[1], B. BRETT[3], A. JACKSON[1], L. GOLDMAN[2], A. BURROWS[1], L.B. CARUSO[1]. [1]Department of Medicine, Boston Medical Center and Boston University School of Medicine [2]Department of Family Medicine, Boston Medical Center and Boston University School of Medicine, [3]Brett Consulting.

Purpose: Chief residents (CRs) are influential in resident and student training, but have variable geriatrics education. Formal training may bridge gaps in knowledge and support CRs to incorporate geriatrics into their administrative and teaching roles. Few CRs are formally prepared for their roles as teachers and leaders. In a two-day retreat, we aimed to address these challenges by fostering multidisciplinary collaboration in the management of older patients.
Methods: A multi-disciplinary faculty team developed a curriculum based on a needs assessment of CRs. We used an unfolding, interactive case, evidence-based mini-lectures on geriatrics topics and leadership and teaching skills, and small-group interactive exercises. Each CR was mentored to develop a geriatric care or education project. Evaluation included a self-report survey and knowledge test administered at the beginning and end of the CRIT.
Results: Twelve CRs, representing 8 departments, participated in the CRIT. Significant gains were reported in all topics covered, with the greatest geriatrics knowledge gains ($p < .001$) in conducting a functional assessment, discharge planning, rehabilitation principles, and understanding insurance coverage. Confidence in teaching geriatrics was significantly increased ($p < .05$) in six topics. In 7 of 9 topics related to enhancement of CR skills, mean scores were >4.0 (scale: 1-5). CRs had mean scores of > 4.0 on the extent to which they made connections with other CRs and faculty. Each CR designed a year-long project.
Conclusion: A retreat to improve CRs' collaborative care of older patients improved geriatrics knowledge, increased confidence to teach geriatrics, enhanced skills needed for the role of CR, fostered collegiality, and enabled CRs to design a practicable project.

SOCS: STRUCTURED OBSERVATION OF CLINICAL SKILLS DURING THE THIRD YEAR MEDICINE CLERKSHIP

M.E.MANNING, W.HERSHMAN, N. RADHAKRISHNAN, D. THORNTON, and C. NORONHA. Department of Medicine, Boston University School of Medicine.

Introduction: Other than the required OSCE during the third year of medical school at BUSM, or the full history and physical required during the 3rd year medicine clerkship, BU medical students consistently report that they are rarely observed by physicians taking a history or performing a physical while on their clinical rotations. **Objective of Program:** In accordance with LCME requirements, and as a result of student input on the paucity of direct observation of history or physical exam skills while on their clinical rotations, the Department of Medicine will implement a program of structured observation of clinical skills (SOCS) for third year medical students during their medicine clerkship. The goal is to promote greater proficiency among BU medical students in the core clinical skills of interviewing and physical examination.**Description of Program:** A 10-15 minute structured observation card for residents and attendings was devised to better enable them to observe and give immediate feedback to students performing a history or a targeted physical exam during the course of a regular medicine work day. The reality is that housestaff and attendings already routinely observe students interacting with patients on the wards, but rarely use this opportunity to give specific feedback to students. The purpose of SOCS is to provide a structure for this direct observation and immediate feedback.
Instead of the now required complete history and physical, each third year student will be expected to obtain a minimum of 5 brief SOCS during the course of their 11 week clerkship. 2 SOCS will occur during each inpatient mini-block, and one during the ambulatory mini-block. Each student should have a minimum of 2 sessions focusing on the HPI, and 2 on a targeted exam. The resident and attending on each inpatient mini-block will be expected observe one SOCS per student. The student will be responsible for bringing the SOCS forms to the wards or clinic, and getting them back to the clerkship advisor.A questionnaire is being devised to obtain feedback from the students on SOCS in order to assess the feasibility and impact of this initiative on student learning. It is expected that SOCS will increase the quality and quantity of observations and feedback on students' clinical skills. Residents and faculty will benefit from having specific observations to incorporate into their summative evaluations of students.

EVIDENCE-BASED MEDICINE (EBM) INFORMATION-SKILLS INTERVENTIONS: PROVIDING
 ACCESS, DEVELOPING EXPERTISE, AND SUPPORTING THE CURRICULUM

L. MAGGIO[1], K. JEFFERY[1], M. BLANCHARD[1], L. CARUSO[2], J. WIECHA[3], D. GINN[1], [1]Alumni Medical Library, [2]Department of Geriatrics, [3]Department of Family Medicine, Boston University Medical Center.

Problem: Medical students, residents, and faculty require strategies and skills for retrieving evidence-based clinical information from the rapidly expanding body of biomedical literature.
Objective: The goal is to provide curriculum-integrated and other instructional methods in support of evidence-based medical education, to create a foundation for active lifelong learning.
Intervention: The Library provides EBM information-skills workshops and instruction to the BUSM and BUMC community. Librarians develop and provide customized curriculum-integrated workshops, interactive online tutorials for curriculum-based and independent learning, and subject-specific pathfinders that facilitate access to EBM knowledge resources.
Findings to date: Information-skills education in support of EBM can be developed and delivered through a variety of educational modalities and be implemented throughout the curriculum. A BUMC study reported that medical students completing an EBM information-skills online tutorial were able to retrieve higher quality evidence-based literature compared to those without training. The study also found the self-reported confidence level of these students was improved by the EBM intervention.
Key lessons learned: EBM information-skills interventions help students acquire the knowledge and expertise necessary to become lifelong practitioners of evidence-based medicine. Targeted, point-of-need online tutorials and other educational methods can be developed and implemented to more effectively support particular curricular needs and audiences.
Future directions: EBM information-skills interventions can be integrated vertically and horizontally throughout the medical curriculum. Ongoing development of the BUMC Curriculum Database will allow users to identify and track where EBM and information-skills instruction are taught.

A TEAM-BASED LEARNING SESSION INTEGRATING MICROBIOLOGY, PATHOLOGY,
PHARMACOLOGY, AND PROBLEM-BASED LEARNING

G.A. MARCH,[1] T C. KING[2], S M. OBERHAUS[3], C T. WALSH[4], K L. REED[5], AE ROGERS[1,2] Boston University School of Medicine [1]Office of Medical Education, [2]Department of Pathology, [3]Department of Microbiology, [4] Department of Pharmacology, and [5] Department of Surgery

Statement of Problem: This study evaluates the use of the teaching method called Team-Based Learning (TBL) in a BUSM-ll Problem-Based Learning class to combine concepts from the Pathology, Microbiology, and Pharmacology courses and apply the concepts as a team to solve a clinical case.
Objectives: As a result of the TBL session, the BUSM-ll students will be able to learn new information independently and to work in teams to integrate basic science and clinical information.
Methods: *Phase 1* (pre-class 1 week): Students were assigned to a team and given session directions and a reading assignment. *Phase 2 (in-class)*: Students were given individual and group readiness assessment tests (RATs) based on the pre-class assignment followed by discussion and facilitator feedback. *Phase 3 (in-class)*: The teams applied the pre-class concepts to formulate a differential diagnosis, select diagnostic tests, and discuss therapies for a patient with chronic diarrhea. The facilitators followed with a discussion of the answers.
Evaluation: Overall, the teams achieved higher group scores than the individual scores on the RATs. The application exercises were more challenging than the RATs and elicited active discussion and good performance. Both the student and the facilitator evaluations were generally favorable and included several ideas for revisions.
Key Lessons Learned: The BUSM-ll students benefit from applying basic science concepts to a clinical problem as a team and are able to manage complex case problems.
Future Directions: Two more complex TBL integrated sessions are planned for fall 2006.

TREATING AND PRECEPTING WITH RESPECT: WHY ANOTHER MODEL ADDRESSING RACE/CULTURE IN MEDICAL TRAINING?

C.MOSTOW , J.CROSSON, S.GORDON, P.GONZALEZ, S.CHAPMAN, L.DELGADO, M.DAVID, T.JAMES, E.HARDT, O.ALADESSAMNI, C.BRACKETT, S.WAHI, S.PUTNAM Department of Medicine, Boston Medical Center, Boston , MA

As the number of documented healthcare disparities in medicine continues to rise, the next challenge in contemporary medical training is to address inequities in health care within each individual doctor-patient encounter. In 2000, a diverse group of clinician-educators at Boston Medical Center, the former Boston City Hospital, banded together

1) to identify the elements critical to effective communication in their medical practice with a racially and culturally diverse population, and
2) to identify effective teaching practices for conveying the requisite knowledge , skills and attitudes to their residents.

Building on prior models of cross-cultural communication, we developed the RESPECT model, a skill set to address cultural/racial barriers.

Why another model for cross-cultural communication? The RESPECT model adds the elements of Respect, Power and Empathy as skills to build trust in the doctor-patient relationship across racial inequities as well as cultural differences. The resulting RESPECT model is an effective tool and preceptor model for cross-cultural communication in patient care.   This versatile model is designed to identify skills for doctor-patient communication training and also for observational skills for preceptor-resident evaluation. It helps us to assess and train residents to meet many of the new ACGME requirements.

 As attention has increased about how to assure physician mastery of multiple competencies beyond medical knowledge,(including professionalism, interpersonal communication, systems-based practice, compassionate and effective patient care, and practice-based improvement) the RESPECT model also holds promise as a model for preceptor-resident interactions. Part of the "new revolution" in medical education to address the power of the hidden implicit curriculum to shape physicians' attitudes and behaviors, (JGIM May 2004),   the RESPECT model focuses preceptors' attention on the parallel process of communication with their learners. By using Respect and Empathy to address the residents' Explanatory process , Social context, and underlying Concerns, preceptors can build the Trust necessary for residents to share patient care dilemmas , emPowering residents to approach the challenges of treating diverse patients with renewed confidence and interest.

REVISION OF THE MEDICAL MICROBIOLOGY COURSE AT BOSTON UNIVERSITY SCHOOL OF MEDICINE

S. OBERHAUS. Department of Microbiology, Boston University School of Medicine, Boston, MA.

Statement of Problem/Question: The results of student evaluations and informal input from clinical faculty indicate that the Medical Microbiology course is not sufficiently meeting the needs of students, particularly with respect to integrative learning, developing problem-solving and self-directed learning skills, and preparation for clinical rotations. How can this course be revised to address these deficiencies and improve the overall quality of the learning and teaching experience for students and faculty?**Objectives of Program/Intervention:** To define teaching and learning objectives for the Medical Microbiology course that: 1) are complementary to, and integrative with, the medical curriculum at BUSM, 2) are consistent with the objectives/recommendations of the AAMC and LCME, and 3) provide the foundation for revisions that will improve the quality of the course.
Description of Program/Intervention: Revising this course will involve a series of changes introduced gradually to improve, then maintain the quality of the course. The first step, in progress, is surveying 3rd and 4th year students, residents, and clinicians to determine: 1) how well-prepared students feel, and clinicians feel students are, for their rotations with respect to microbiology, 2) microorganisms commonly encountered by students during rotations, and 3) what clinicians expect students to know about microbiology prior to rotations and what they expect to have to teach them.
Findings to Date/Evaluation to Date: Surveys were pre-tested on a group of 4th year students (14/14 responded) and 14 clinicians (5/14 responded). 92% of the students agreed that things learned in the course had been useful during rotations, but 78% agreed that there were topics not covered that would have been helpful. Only 25% of the clinicians agreed that students were well-prepared in microbiology when they began rotations. Students identified microorganisms encountered during their rotations and topics that should be covered better in the course. Responses from clinicians identified their expectations for student knowledge in microbiology prior to rotations and what they expected to teach them.**Key Lessons Learned:** The surveys are providing useful, detailed information critical for making changes in the course that will better meet the needs of our students and faculty.
Consultation Focus: 1) How can we increase faculty participation in revising the course, i.e. developing new teaching materials and strategies?

TEACHING TOBACCO CONTROL THROUGH MEDICAL SCHOOL ELECTIVES

C A. POWERS, [1], M. WHITE[2], S. MCINTOSH[3], K. COBURN [4] C CONLEY-THOMPSON [5, 6], A. GELLER[1, 7] [1.] Department of Dermatology, Boston University School of Medicine[2.] Department of Preventive and Behavioral Medicine, University of Massachusetts Medicine School[3.] Division of Social and Behavioral Medicine, University of Rochester School of Medicine [4.] Department of Community and Family Medicine, Dartmouth Medical School[5.] Department of Medicine, Mount Auburn Hospital[6.] Harvard Medical School[7.] Department of Epidemiology, Boston University School of Public Health

Objectives: Training medical students in tobacco prevention and treatment skills is critical if we are to have competent physicians, prepared to address the grave levels of morbidity and mortality associated with tobacco use. Tobacco Prevention and Cessation Education at US Medical Schools (PACE), a National Cancer Institute funded project, was launched to improve curriculum content and teaching at 12 US medical schools. A Community Experience Module was piloted to provide students a structured, community experience. **Methods:** PACE faculty developed and piloted the curriculum with students. Data for the on-line elective with counseling practicum was collected via student, preceptor, and patient evaluations. Qualitative data was collected for the advocacy and community teaching program through student reports. **Results:** The curriculum was piloted at BU, Harvard, Dartmouth, Rochester, and UMass. The module was divided into 3 teaching modalities: on-line education (n=3), community education (n=2), and advocacy (n=1). In all, 109 students participated in the Community Experience Module. Of the 24 students completing the on-line course all reported that the course provided useful knowledge and skills. Patient respondents were asked about quitting and 72% noted that the encounter was very effective in making them think about quitting. Seventy percent of preceptors responded that the students influenced them and their staff to be more proactive educating patients about the risks of tobacco. To date, 14 students have participated in the community teaching elective, providing tobacco prevention education to more than 300 Boston school children.
Conclusion: Community electives are a promising form of cancer education for US medical students.

TRANSFORMING REFLEXIVE TEACHERS INTO REFLECTIVE TEACHERS: FACULTY
 DEVELOPMENT FOR CLINICAL TEACHERS

S.RAMANI, Department of Medicine, Boston University School of Medicine and Boston Medical Center, Boston, MA.

Statement of Problem: Most clinical faculty receive little training in theories or processes of teaching. Yet, they are expected to help their trainees master medical knowledge, clinical skills and acquire a habit of lifelong learning. Clinical teaching is a complex task for which many are inadequately prepared.
Objectives: 1) To identify the needs of clinical faculty at a Department of Medicine (DOM) educational retreat; 2) To design a "teach the teachers" program in response to their needs
Descriptionof Program/Intervention: A daylong educational retreat was organized for DOM clinical teachers. The retreat included keynote addresses and small group discussions on key clinical teaching topics. Information from faculty questionnaires and group discussions were analyzed and summarized. Data are being used by a steering committee to plan a clinical faculty development program.
Findings: Key themes identified at the retreat: 1) The Department values teaching but does not provide adequate protected time; 2) Faculty development is essential to improve teaching skills and increase teachers' morale; 3) Peer observation and evaluation of teaching should be implemented.
Lessons Learned: Findings highlight an awareness of enhancing and maintaining teaching skills among DOM clinical teachers as well as a willingness to receive feedback on their teaching. The time is ripe to establish a formal departmental program moving away from reflexive clinical teaching towards reflective teaching.
Future Questions: 1) What is the best model for clinical faculty development? 2) What are the best indicators of a successful faculty development program? 3) How can teaching outcomes be measured?

THE HEALER'S ART: A CURRICULUM IN MEDICAL HUMANISM AND PROFESSIONALISM

R. SAPER, Department of Family Medicine, Boston University School of Medicine.

Educating BUSM students in medical humanism and professionalism is critical if we hope to graduate physicians well-balanced in the science and art of medicine. No consensus exists, however, about how best to achieve this. To explore this, the Department of Family Medicine offered the Healer's Art (HA) elective in the Spring 2006. HA originated at UCSF in 1993 and is now offered at over 40 medical schools. HA aims to help 1st/2nd year students recognize, value, and preserve the human dimension of medicine. Five 3 hour evening sessions cover topics such as maintaining professional/personal balance, grieving loss, and medicine as a calling. The majority of the course employs non-cognitive methodologies including personal reflection on life experiences. Faculty facilitate groups of 4-5 students where members discover shared values and support each other's pursuit to be a balanced, caring, committed physician. 43 students enrolled. Students rated the course overall 4.1 (1=poor and 5=excellent, s.d. 0.72). Common themes from student evaluations included: HA reminded them about the reasons why they originally chose medicine; fostered compassion and self awareness; and filled an important unique educational need. Students also expressed the awareness that more than scientific knowledge is necessary to be an excellent physician. We found that creating a safe accepting environment in the small groups where students and faculty could share freely was critical to the success of the course. Future work needs to assess long term effects of HA and how to meet similar educational needs in the clinical years.

ONLINE EXAMS AND SUBMISSION OF EXAM QUESTIONS

J. SHARON, Department of Pathology and Laboratory Medicine, Boston University School of Medicine.

To ease the stress of in-class exams or quizzes and avoid using class time for tests, two online exams were introduced in the Medical Immunology course in 2006, keeping only the third, final exam – paper-based and in-class. Each online exam can be taken at the student's convenience during a one-week time window, from any location that allows access to the Medical Immunology CourseInfo site. Although the online exams are open-book, they are time-limited to approximately 80 seconds per question. One point is deducted from the student's grade for every minute in excess of the allowed time, serving as incentive to study for the test but without the stress of memorizing every detail. To help generate questions for the three exams, all of which are open format, an exam-question-writing assignment was introduced in 2003. In the current format, students are given 7 points to write an exam question on an assigned learning objective, with different students assigned to different learning objectives. The question is submitted as a Survey, under Assignments in CourseInfo. After editing and modifications, these questions are used in Medical Immunology exams in subsequent years. Writing exam questions is a valuable experience for students, allowing them to think about the material in new ways and to gain a better understanding of what a learning objective is. Furthermore, this assignment allows the continued use of open exams in Medical Immunology, because different individuals can come up with different ways to ask the basic questions on a limited amount of material.

MAKING THE WARDS A BETTER PLACE – a Program to Improve Inpatient Teaching

R C. LOWE, and S RAMANI, Department of Medicine, Boston University School of Medicine/Boston Medical Center

The Problem: There is currently inadequate formal training in teaching for clinicians. Can faculty development improve the quality of inpatient education?
Objectives: 1) to identify weaknesses in the DOM inpatient teaching at BMC; 2) to design and implement faculty development for teachers; 3) to evaluate clinical teachers pre and post faculty development using peer evaluation.
Methods: Phase1: A focus group of medicine residents will discuss the strengths and weaknesses of the inpatient learning experience at BMC; analysis of this discussion will define their educational needs. Faculty needs assessment will be obtained by peer observation of five attending physicians during ward rounds. Phase 2: A faculty development program will be designed to address identified needs. Phase 3: Twenty faculty will be evaluated by peers before and after faculty development to determine the impact of the program.
Findings to Date: Analysis of the resident focus group interview showed the following key areas that need improvement: 1) Faculty are not adept at teaching clinical skills or discussing pathophysiology; 2) Faculty do not make their expectations explicit; 3) Faculty provide inadequate feedback; 4) Residents and faculty lack sufficient time for education; 5) The institution does not make teaching a priority. We are using these data to design upcoming faculty development workshops.
Key Lessons Learned: We identified several deficiencies in our inpatient teaching. The teaching of physical examination skills, discussion of pathophysiology, and the provision of feedback were repeatedly identified as areas for improvement. Our next steps include design of a formal physical diagnosis teaching curriculum for residents, an intensive physical diagnosis module for incoming interns during orientation beginning June 2006 and our first teaching skills workshop for attendings in July 2006.
Questions: 1) How can we best evaluate our clinical teachers? 2) What is the best model for faculty development – a one-time or longitudinal intervention?

Interactive Resources in Medical Education (I-RIME)

A WEB-BASED ALCOHOL CLINICAL TRAINING (ACT) CURRICULUM FOR GENERALIST PHYSICIANS: IS IN-PERSON FACULTY DEVELOPMENT NECESSARY?
25

DP ALFORD[1], JM RICHARDSON [1,2], SE CHAPMAN[1], CE DUBE[3], RW SCHADT[4], R SAITZ[1,2,4], [1] Boston Medical Center, [2] Youth Alcohol Prevention Center, [3] Brown University, [4] Boston University School of Public Health

Background: We studied whether in-person faculty development would increase teaching with an Alcohol Clinical Training (ACT) curriculum among generalist educators.**Methods:** Subjects were physician educators who applied for an ACT workshop at a national meeting. ACT is a web-based teaching tool about alcohol screening and brief intervention including assuring cross-cultural efficacy. Controls (physicians who applied after the workshop was full) were provided the curriculum web address. Intervention subjects attended a workshop demonstrating use of the website. Before and 3 months after the workshop, subjects completed a survey assessing 5 domains of teaching alcohol-related confidence and practices.**Results:** Of 20 intervention and 13 control subjects, 19 (95%) and 10 (77%) respectively completed follow-up surveys. The 2 groups did not differ significantly on baseline characteristics: male 72%; white 44%; English as first language 56%; academic hospital as primary teaching environment 84%; median years since residency 9; any substance abuse expertise 55%. At follow-up 79% of intervention and 50% of control subjects reported using the curriculum (p=0.20). On a 5-point Likert scale, intervention subjects increased significantly more (p<.05) than control subjects in two domains of teaching practices (alcohol screening +0.56 vs. -0.56 and eliciting patient health beliefs +0.81 vs. -0.33) and one domain of teaching confidence (alcohol screening +1.24 vs. +0.11).
Conclusions: In-person training for physician educators on the use of a web-based curriculum was associated with an increase in alcohol-related teaching. Although the web is an effective dissemination tool, in-person training may be required to effect widespread teaching of clinical skills.

GERIATRICS ON-LINE: A WEB-BASED TUTORIAL IN EVIDENCE-BASED MEDICINE
26

LB CARUSO[1], AB BURROWS[1], J WIECHA[2], X CAO[2], B BRETT[1], SA LEVINE[1]. [1]Department of Medicine, Section of Geriatrics, [2]Department of Family Medicine, both at Boston University Medical Center.

URL: http://www.bu.edu/geriatrics/ebm/   Username: guest   Password: guest
Purpose: Evidence-based medicine (EBM) is the integration of best research evidence with clinical expertise and patient values. Practicing EBM in Geriatrics is challenging because research studies are often not generalizable to elderly patients with functional disability, cognitive impairment, and medical complexity. We developed a web-based case-based tutorial in EBM for internal medicine residents rotating through a 4-week Ambulatory Geriatrics Block to complement their monthly EBM case conference to 1) standardize the residents' EBM didactic experience, 2) provide other learners access to a Geriatrics-focused EBM curriculum, 3) promote self-teaching in EBM, and 4) teach geriatrics content. **Methods:** At the start and end of the 4-week block, a self-assessment questionnaire was completed. Residents graded six of their own skills in EBM using a 5-point Likert scale. **Results:** Residents as a group showed some gains between pre and post on all six self-report questions. The greatest difference in gains between the treatment and non-treatment group were in "applying research evidence to the care of very old patients with functional disability, cognitive impairment, and medical complexity" (with a difference between the groups of +.57) and "efficiently searching the medical literature to obtain a brief list of articles targeted to your clinical question" (with a difference of +.43.)**Conclusions:** From this small pilot study, we conclude that the addition of a Geriatrics-focused EBM tutorial for internal medicine residents maintained a positive impact on self-reported EBM skills. We plan to expand the number of trainees completing the tutorial to further quantify self-assessed skill improvement in EBM.

A SELF-STUDY BREASTFEEDING CURRICULUM   27

M. HOFFMAN, Department of Family Medicine, Boston University School of Medicine.

Competence in caring for breastfeeding patients is critical during prenatal, intrapartum, postpartum, and well-child care. Medical students and residents are rarely provided with adequate formal education related to caring for breastfeeding patients. This knowledge and skill-set requires more than the traditional lecture format. The Breastfeeding Self-Study curriculum (BSSC) uses theory driven instructional design principles to improve the knowledge, attitudes, and skills of students in this area.

The BSSC is currently being used in the Family Medicine Department at Boston University School of Medicine. Participants are evaluated with pre and post-tests. The BSSC consists of a self-study CD-ROM. Slide format includes factual information, question/answer, and case vignettes. Participants use a doll during the curriculum to simulate positioning techniques, and receive the "Physicians' Pocket Guide to Breastfeeding." The curriculum takes 20-30 minutes to complete. Topics covered include: Epidemiology, benefits of breastfeeding, "Initial breastfeeding counseling in seven simple steps," feeding positioning, and indicators of adequate breastfeeding. Thirteen cases cover common clinical breastfeeding problems, including sore nipples, mastitis, smoking, and insufficient milk supply.

Evaluation data will be presented regarding implementation at Columbia University. Mean knowledge scores increased significantly from pre to post-test ($p=0.00$). Self-efficacy showed a trend to increase from pre to post-test ($p=0.14$); this was most significant for the interns. Two benchmark attitude and behavior questions increased, most significantly for the interns. Evaluation of implementation at Boston University is ongoing.

A self-study curriculum can be an effective method to increase knowledge, attitudes, behaviors, and self-efficacy surrounding breastfeeding promotion and care of breastfeeding patients.

ONLINE CURRICULUM IN DELIRIUM AND DEMENTIA FOR 4TH YEAR MEDICAL STUDENTS   28

S.CHAO[1], J.WIECHA[2], L.NORTON[1], J.DOYLE[1], K.ACKERMAN, X.CAO[2], and S.LEVINE[1], [1]Department of Medicine-Geriatrics Section, Boston University Medical Center; [2]Department of Family Medicine, Boston University Medical Center. Supported by the Donald W. Reynolds Foundation

Background: Use of case-based online learning modules could be an effective way of standardizing core geriatric content provided to medical students. We have designed an online, case-based, interactive curriculum to teach delirium and dementia to 4th year medical students during their required 1-month Geriatrics and Home Medical Care clerkship. **Content and Design:** During the first 2 weeks of the clerkship, students complete 4 online learning power point modules located on the clerkship website, http://courseinfo.bu.edu/courses/geriatrics_ongoing. Through video clips and mock charts that precede each module, a "virtual" homebound elderly patient, developed in the 3rd year Family Medicine Clerkship, illustrates important characteristics in the clinical presentations of delirium and dementia. The modules consist of didactic teaching slides interspersed with multiple-choice questions designed to reinforce key concepts. Participation in the online curriculum is now mandatory. The online format has replaced live lectures in delirium and dementia. **Evaluation:** We designed 2 multi-part short-answer questions that assess knowledge about the diagnosis, risk factors, evaluation, and management of delirium. Students exposed to the online curriculum and an unexposed control group have been given the questions as a pre- and post-test. Students were also asked to rate the online curriculum's effectiveness. Analysis of these data is in progress. In focus groups, students who have used the online curriculum have stated that they like the flexible time schedule that allows them to learn at their own pace. **Summary:** Online curriculum with a case-based format has potential to augment geriatrics curriculum delivered to medical students during their clerkship rotations.

USING MULTIMEDIA TO FACILITATE TEAM-BASED LEARNING IN RESIDENT EDUCATION **29**

MA SANKARAN[1], KP LEWIS[1], GD STANLEY[1], RJ AZOCAR[1] and RA ORTEGA[1]. [1]Department of Anesthesiology, Boston University School of Medicine.

The Department of Anesthesiology at Boston University School of Medicine has adopted the team-based learning approach as the primary model for resident education. Previously, the Department used traditional lectures in which speakers presented topics to residents using PowerPoint slides. The team based-learning approach consists of three phases: a preparative phase, a readiness assurance phase, and an application phase. To adopt this model, the Department developed a system to create and distribute lecture materials and quizzes in advance of the team-based learning sessions, utilizing the Internet and CourseInfo, an online course management software application. These materials can be found by going to http://courseinfo.bu.edu/ongoing.html, selecting Anesthesiology Residency Program and entering a login and password.

Lecture materials are posted a week before the team-based learning sessions. Quizzes are also posted in advance and graded. Thus, web-based learning through CourseInfo makes possible the preparation and readiness assurance phases. In the application phase, residents are divided into teams and presented a clinical case scenario with questions. The teams initially discuss the answers amongst themselves and then debate with one another. The instructor serves as a moderator and provides answers when appropriate. Residents evaluate each other anonymously at the end of the session.

Data gathered between 01/12/06 to 05/15/06 shows that the anesthesiology website had 7013 hits. Early observations suggest that the majority of residents and faculty have had a positive experience. More time and data gathering is needed to fully assess the impact of this system on resident education.

THE HEART TRUTH: AN EDUCATION WEBSITE FOR HEALTH PROFESSIONALS **30**

M.R. SEAVER [4,6],MK. KLEINMAN[1], CJ LAZARUS[2] , R. AHMADI[3], KM FREUND[4], JP PREGLER[5], M. DAVID[4], [1] University of Illinois at Chicago, Chicago, IL, [2] Chicago Medical School, North Chicago, IL, [3] Yale University, Derby CT, [4] Boston Universtiy, Boston, MA, [5] University of California, Los Angeles, Los Angeles, CA, [6] VA Boston Health Care System, Jamaica Plain, MA

URL: http://www.womenshealth.gov/hearttruth/open access

Background: Cardiovascular disease is the number one killer of women in the US. The Office on Women´s Health (US Department of Health and Human Services) and the National Heart Lung and Blood Institute initiated a national program to educate physicians and other health care providers about cardiovascular disease in women. This included developing a website to house the evidence based curricular materials created by experts from the National Centers of Excellence in Women´s Health (CoEs) and the National Community Centers of Excellence in Women´s Health (CCoEs).
Content: The materials include over 300 powerpoint lecture slides, problem-based learning case materials, evaluation tools, a standardized patient case and bibliography, links to web-based CME/CEU cases, and links to national sites.
Design: From a sociological perspective, the web user is geared toward action and problem solving. The website is designed to meet the needs of clinicians and educators. Content is organized by category. Clinicians have access to downloadable content. Educators have access to materials for various educational levels, methods, and activities. Content for Palm OS, Pocket PC, and downloadable files in pdf, powerpoint, and wav formats are included.
Evaluation: To evaluate the usability and accessibility of this website, 5 focus groups including educators and clinicians from a range of health professions were conducted in Chicago, Los Angeles, and Nogales AZ. Responses resulted in final website design.
Summary: The website is a tool to make evidence based curricular materials and clinical resources available to as broad a constituency as possible.

TEACHING SURGICAL DECISION-MAKING: AN INTERACTIVE WEB-BASED APPROACH

EL SERVAIS [1], WW. LAMORTE[2], S. AGARWAL [2], W MOSCHETTI [3], SK MALLIPATU[3] and SL MOULTON [2], [1]Boston University School of Medicine 4th year, [2]Department of Surgery Boston University School of Medicine, [3]Boston University School of Medicine 3rd year

Background: Skillful surgical care demands proper patient assessment and decision-making. These skills are honed through long hours and years of clinical practice. A decrease in work hours is reducing the number of cases managed by medical students and residents. We have developed a set of interactive, web-based teaching modules to help fill this gap.

Materials and Methods: The modules aim to teach surgical decision-making in a convenient, non-threatening manner. Surgical case material is presented in a graphically rich environment, including video and sound to enhance realism. At the end of each web-page, the user must make a management decision. The correct answer is subsequently provided with immediate feedback. Medical students used and evaluated the modules during their surgical clerkships. Additionally, students took a pretest and 1-week delayed posttest after completing the modules to assess the program's efficacy.

Results: Eight modules involving pediatric and general surgery have been completed. Medical students gave high ratings to the quality of the modules and found the interactive format both engaging and educationally effective. Eighty-seven percent of medical students rated the program's educational value as above average to excellent. On pre- and posttest analysis, students' scores improved an average of 24.8% ($P < 0.001$).

Conclusion: Students enjoy web-based educational material. Additional modules covering a range of surgical topics are in development. Web-based modules appear to be an effective clinical teaching tool, well-suited for integration into the clinical curriculum.

**IS THE OSCE A TOOL TO ASSESS DIFFERENCES IN SELF ASSESSMENT   32
OF PERFORMANCE BETWEEN PGY-3 AND PGY-4 ANESTHESIOLOGY   RESIDENTS?**

R. J. AZOCAR[1], K. P. LEWIS[1], and G. D. STANLEY[1].
[1]Department of Anesthesiology, Boston University School of Medicine, Boston, MA.

Introduction: Since 2002 our Anesthesiology Department implemented yearly OSCE's for residents. We have conducted four exams each involving 10 different stations. During two consecutive years, five of those areas were common to both tests. Upon completion of each station residents recorded their perceived score using the same scale examiners use. We hypothesized that as the residents become more senior, they would be more proficient at self evaluation and the ratio between perceived score and actual score (P/A) would be closer to one.

Methods: The stations that were common for the two exams were ACLS, mock oral exam, TEE, regional anesthesia and ethics. The ratios of perceived scores over actual scores were calculated for each resident at each station and for the overall average score. The average ratios for PGY-3 and PGY-4 residents were then compared using unpaired t-tests.

Results: 14 residents participated; 7 in year one and 7 in year two. No residents participated in both years and data from both years were combined. The ratios of perceived to actual performance for PGY-3 and PGY-4 in five areas and average scores with equal weighting is
shown in the table below. There was a trend for PGY-4's to be better at self evaluation in each area and overall than PGY-3's although this did not reach statistical significance.

Conclusions: Although our small sample size probably precluded statistical significance, there was a consistent trend for PGY-4's to more accurately evaluate their performance than PGY-3's which was consistent with our hypothesis.

	ACLS	ORAL EXAM	TEE	Regional	Ethics	Overall
PGY-3	0.75+/- 0.33	0.20+/- 0	1.07+/-0.75	1.33+/-0.79	1.07+/-0.46	0.89+/-0.12
PGY-4	0.99+/- 0.32	0.83+/-0.16	0.97+/-0.33	1.005+/-0.29	1+/-0.14	0.93+/-0.10
p value	0.20	0.21	0.58	0.33	0.69	0.5

Comparison of ratios between perceived/actual scores between PGY-3 and PGY-4 residents

IS THE OSCE EXAM A VALID TOOL TO DIFFERENTIATE TECHNICAL SKILLS IN REGIONAL ANESTHESIA BETWEEEN RESIDENTS WHO HAD COMPLETED A FORMAL REGIONAL ROTATION AND THOSE WHO HAD NOT? 33

RJ AZOCAR[1], AD BRAMBLE[1], KP LEWIS[1], GD STANLEY[1]
[1]Department of Anesthesiology, Boston University School of Medicine , Boston, Massachusetts

Introduction: Beginning in the fall of 2002 our anesthesia department implemented yearly OSCE's for residents. During two consecutive years we included a regional station designed to assess both theoretical knowledge and "hands on" skills. This station was subdivided into 3 sub-stations: anatomy, technique and complications. In the anatomy and technique sub-station, a human model was used for "hands on" demonstration of anatomical landmarks and proper technique. The complications sub-station was mostly theoretical. At the time of the OSCE the PGY-3 residents had not completed a formal regional technique rotation. We hypothesized that the PGY-4 residents would have higher scores in the regional station overall and particularly in the anatomy and technique substation since they had completed a formal rotation.

Methods: A total of 14 residents participated; 7 in year one and 7 in year two. No residents participated in both years and data from both years were combined. We calculated the mean scores for the regional station overall as well as per substation for the CA-2 and CA-3 residents. Then we compared the results between both groups applying unpaired t-test.

Results:
The CA-3 resident tended to score higher than the CA-2 residents overall and in the anatomy and complications substations. In the technique substation, they scored higher and statistical significance was achieved when compared with the CA-2 (p=0.04). (Table 1)

Conclusions: We conclude that the OSCE exam is a valid tool to assess resident progress and acquisition of technical skills in regional anesthesia.

	Anatomy	Technique	Complications	Overall
CA-2	2.42±1.27	2.14±1.06	3.14±1.21	2.57±0.89
CA-3	2.85±1.77	3.28±0.75	3.42±0.53	3.19±0.83
p value	0.61	0.04	0.58	0.20

Means± standard deviation
Comparison between CA-2 and CA-3 residents scores in the regional anesthesia station during OSCE

DOES MEDICAL STUDENT SELF-REPORT OF COMMUNICATION SKILLS AND EDUCATIONAL EXPERIENCES PREDICT ACTUAL BEHAVIOR OF STUDENTS AND PRECEPTORS? A validation study 34

K. BROOKS [1], B. SIEGEL [2], T. LASH [3], A. GELLER [1,3], A. FITZGERALD[1], C. TRACY [1], M. PROUT [3]
[1] Department of Dermatology Boston University School of Medicine [2] Department of Pediatrics Boston University School of Medicine [3] Department of Epidemiology Boston University School of Public Health

Objectives: Pediatric clerkships can be important settings for medical students to learn how to perform smoking assessments and counseling with parents. In evaluating an educational intervention that promotes this skill, we assess whether students' self-report of this counseling skill was a valid measure of their actual behavior.

Methods: A trained observer evaluated student smoking assessment and counseling practices during pediatric well-child visits at five clinical sites in eastern Massachusetts. Using observations of behavior as a gold standard, we determined the accuracy of the students' self-report of their smoking counseling practices with families, and of their preceptors' educational interventions.

Results: We observed 38 pediatric preceptors and 85 Boston University School of Medicine (BUSM) III students in 85 clinical encounters. Sensitivities of the students' report of assessing smoking practices and counseling parents and children ranged from 0.60 to 1.00, specificities from 0.41 to 0.88, positive predictive values from 0.36 to 0.95, and negative predictive values from 0.32 to 1.00. Overall, student report of smoking assessment and counseling scored moderately well on all components. For measures where the observer could not determine practice, agreement between the student and preceptor was moderate to high.

Conclusions: While direct observations of behavior may still be the most accurate report of true practice, when this is not feasible, student self-report appears to be an acceptable measure of smoking assessment and counseling practices during pediatric clerkships.

TEAM-BASED LEARNING IN MEDICAL GENETICS: IMPACT ON GROUP AND INDIVIDUAL PERFORMANCE

S. DASGUPTA, Ph.D., Department of Genetics and Genomics, Boston University School of Medicine.

Students in the Boston University School of Medicine study medical genetics at the end of their first year using a combination of interactive lectures, patient case sessions, on-line discussion boards, and team-based learning (TBL) exercises. The TBL activities are designed to engage students in application of material they have been absorbing through other channels in the course. TBL sessions begin with an individual readiness assessment in the form of an individual quiz. Inclusion of a quiz at the start of the session is meant to encourage student preparation and review prior to the TBL meeting. Next, pre-assigned small groups retake the same quiz, as a group readiness assessment, utilizing the power of team learning to attempt to improve their performance. Finally, the teams are responsible for applying this information to problem solving situations involving pedigree depictions of family history, risk assessment for genetic disorders, interpretation of genetic test results, and recommendations for treatment of genetic conditions. The impact of these exercises on learning was measured in terms of effect on group scores relative to starting individual scores. Furthermore, we wished to examine whether the common student perception, that studying alone is the most effect study method, persisted after these TBL activities. Towards this end, student perspective on learning activities was also assessed.

THE RESIDENCY RETREAT: AN INTERVENTION TO INTRODUCE PROFESSIONAL DEVELOPMENT

DA. HALLE, AH. JACKSON, ME. MANNING, JD. ORLANDER, Department of Medicine, Boston University School of Medicine.

Background: The ACGME requires that all residents demonstrate competency in 6 areas before completion of residency. Many incoming residents seem unaware of these competencies or how best to develop the requisite skills. We hypothesized that curricular elements added to an offsite retreat would alter trainee perception of these competencies, and/or the role they and the program play in development of these skills. **Intervention:** A structured didactic discussion of the principles of professional development and the relationship to the 6 core competencies, including the resources and training experiences available during residency training was implemented. This occurred at a 24 hour retreat for PGY-1 internal medicine residents. Other activities focused on team building with some socialization time. **Study Method:** A self-administered, pre-post retreat questionnaire used Likert scales to assess perceived importance of each competency to their training; the level of expertise in each competency; and their perception of how much the training elements or their personal efforts were responsible for development of the competencies. **Results to Date:** Pre-retreat, the importance of each competency was rated in descending order as: patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism, and systems-based practice. Post-retreat, there was a non-significant trend of lowering the importance of interpersonal and communication skills and increasing the importance of professionalism. Pre-retreat, residents ranked in descending order of competence: interpersonal and communication skills, professionalism, medical knowledge, patient care, practice-based learning, and systems-based practice. Post-retreat, residents reported increased competence in practice-based learning and decreased in medical knowledge. There was no change in resident perception of personal responsibility for competency acquisition.
Conclusion: This retreat improved PGY-1 Residents' self report of competence in practice-based learning but otherwise did not significantly impact their perception of professional development. Further improvement is needed in the understanding of the systems-based practice competency.

USE OF A WEB-BASED SURVEY TOOL TO ACQUIRE MEDICAL STUDENT OPINION FOR
FIRST-YEAR CURRICULUM PLANNING

C.HSU[1,2], R. GROCHOW[1,3] and C.T. WALSH[1,4], [1]Preclinical Curriculum Subcommittee, [2]BUSMMD/PhD, [3]BUSM2008, [4]Department of Pharmacology, Boston University School of Medicine.

To assist planning by the Preclinical Curriculum Subcommittee (PCS), student representatives conducted two web-based surveys, using SurveyMonkey.com, to solicit student opinion on the first-year MD curriculum. SurveyMonkey is free software that easily enables creation of online surveys. Requests for completion of the first and second surveys were distributed by email in November-December 2004 to the classes of 2005, 2006, and 2007 (including MD/PhD students) and the class of 2008, respectively. 136 students responded to the first survey, and 87 to the second, indicative of the user-friendly format of this tool. The first survey addressed the structure of the first-year curriculum, such as opinions on the sequence and integration of courses. Students were asked to rank agreement or disagreement with statements on a scale of 1-4 and provide open-ended comments on the first-year curriculum and two of its courses, Integrated Problems and Introduction to Clinical Medicine. Statements that elicited the most agreement (>70% of respondents) included the importance of Gross Anatomy at the beginning of the MD curriculum, the need for improved coordination of teaching in Biochemistry and Genetics, and the value of first-year learning to the second-year curriculum. The second survey concerned the start time of the first-year curriculum. 85% of respondents indicated that a mid-August start time would not have negatively influenced their decision to matriculate at BUSM. The survey results were presented to the PCS for 2005 planning initiatives, including a proposal for a more integrated first-year curriculum.

MEDICAL ERROR: FACTORS ASSOCIATED WITH DISCLOSURE AMONG RESIDENTS

AC. KRONMAN [1,2], JD. ORLANDER [1,3], M PAASCHE-ORLOW [1,2], R LEW[3,4] Section of General Internal Medicine, Boston University School of Medicine [1],Boston Medical Center[2], VA Boston HealthCare System[3], MAVERIC and the BU School of Public Health[4] all in Boston, MA

Question/Problem: Although the professional medical environment is hypothesized to lead to underreporting of medical errors, few studies have elucidated which aspects of residents' learning environment foster disclosure of errors to patients.
Objective: To examine the relationship between disclosure of error and the Learning Environment of residents.
Methods: Anonymous, self-administered surveys were distributed to Medicine and Surgery residents at a BMC. Residents answered questions about their most significant medical error. Learning Environment was measured with 3 aspects of organizational culture: 1) Team Psychological Safety (sense of safety for interpersonal risk taking among team members); 2) Program Error Orientation (attitudes of error within residency program); and 3) Safety Climate (commitment to patient safety on the clinical unit). Chi Square and Wilcoxon rank sums evaluated differences between disclosure status and the independent variables.
Results: Of109 surveys distributed, 99 residents returned surveys. Two residents were excluded because they reported no mistake. While 31% (30/97) reported apologizing to patients and/or their family about the error, 17% (17/97) reported disclosure. There was a trend of association between disclosure status and 2 of the Learning Environment scores (P=.07). 24% (9/38) of the Surgery residents disclosed their mistake, compared to 14 % (8/59) of Medicine (p = .21). Surgery residents had higher scores for Program Error Orientation (P=.01) and Safety Climate (P=.02). More male residents disclosed (25%, 14/57) than females (3%, 3/38, P=.04).
Lessons Learned: Elements of the Learning Environment associated with disclosure of medical error can be identified and measured.
Future Directions: Further research is needed to explicate gender-related factors, and identify educational interventions that promote disclosure of medical error.

THE REQUIRED USE OF OSCES FOR PROMOTION, REMEDIATION, AND GRADUATION IN US
MEDICAL SCHOOLS IN 2005.

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

Purpose. This study surveyed US Medical Schools to determine how Objective Structured Clinical Exams (OSCE) and other OSCE-type exams were currently being used for promotion, remediation and graduation.

Method. An on-line survey on the use of OSCE-type exams was sent in the Spring of 2005 to all 125 allopathic medical schools in the United States and 106 replied. Respondents were asked whether school-wide OSCEs were conducted, what year students were required to take OSCEs, whether remediation was mandatory, and whether passing the examination was a condition of promotion, graduation, or both.

Results. Of the 106 responding schools, 71% require OSCEs. Passing an OSCE was required in 37% of the schools for a second-to-third year promotion and in 36% from third-to-fourth year promotion. A majority of schools (74%) expected remediation after an OSCE and 58% required passing a summary OSCE for graduation.

Conclusions. Seventy-five U.S. medical schools in the study require students to take and pass an OSCE. A significant number (44%) of the study's respondents use OSCEs for promotion, and the most common use is to assess competence and serve as a promotion criteria from the 3rd-4th years. For all the schools using OSCEs, remediation is mandatory if a standard of competence is not met. The findings of this survey were relevant in deciding to require the passing and remediation of the third year OSCE at Boston University School of Medicine. We will repeat the study this year to document the changes in the use of OSCEs nationally.

A QUALITATIVE NEEDS ASSESSMENT OF PREPARATION FOR COMMUNITY HEALTH CENTER
CLINICAL LEADERSHIP

J.MARKUNS, Department of Family Medicine, Boston University Medical Center

Context: Community health centers (CHCs) are facing a shortage of primary care physicians at a time when government plans call for expansion of the number of CHCs. To accomplish this expansion, CHCs will require additional well-trained physician leadership.

Objective: To ascertain knowledge and leadership skills important to CHC medical directors, where and how they learn these skills, and preferred methods and venues for future training programs. **Design:** Up to 15 individual interviews and focus groups with CHC medical directors using open-ended interviews until data saturation. Qualitative methods were used to identify patterns and themes through cross-case content analysis of transcripts.

Outcome Measures: Identification of necessary skills, previous training experiences, and desirable future educational interventions.

Results: Initial findings revealed that CHC medical directors believe interpersonal and human resource issues are among the most important skills needed for success as a CHC leader. Other significant skills specific to CHC practice related to communication, collaboration, finance, and clinical care. Leadership training experiences ranged from 1 to 5 day conferences to formal management degree programs. With additional data, we plan to further clarify the relative importance of identified skills and a preferred training curriculum.

Conclusions: There are limited training opportunities specifically for medical directors of CHCs. The development of a hierarchy of needed skills and identification of desirable training mechanisms will allow us to design and deliver targeted forms of CHC leadership education. Additional training opportunities for early and mid career CHC medical directors are needed to supply effective physician leadership for CHC expansion.

MEDICAL STUDENT KNOWLEDGE OF VASCULAR SUGERY, THE ROLE OF THE VASCULAR SURGEON AND CAREER CHOICE ARE INFLUENCED BY CLINICAL ROTATION ON A VASCULAR SURGERY SERVICE 41

A. OROPALLO[1], A. FARBER[1], P. COHEN[1], H. NGUYEN[2], K. COLLINS [1], J. WOODSON [1], P. SHAW[1] G. GIBBONS[1,3] [1]Department of Vascular Surgery, Boston Medical Center, [2] BUSM III, [3]CEO Quincy Medical Center

Introduction and Objectives: purpose of this study was to evaluate the influence of a structured, clinical two week vascular surgery rotation on medical student knowledge about the field of vascular surgery. We also assessed the effect of such a rotation on the likelihood of consideration of vascular surgery as a future career. **Methods:** A previously validated Vascular Surgery Knowledge Questionnaire (VSQ) was administered via internet to medical students at one medical school. This questionnaire contained fifty-seven questions which assessed knowledge of vascular surgery and factors related to potential future career choices. Students were divided into two cohorts: those who participated in the structured vascular rotation and those who did not. The clinical rotation was designed for third year medical students and included didactic teaching, interactive case conferences, and exposure to vascular patients in the clinic, operating room , and an endovascular suite. Statistical analysis of VSQ scores was then performed. **Results:** One hundred and forty two students responded to the survey. Mean student age was 23 years and 61% of students were female. Seventy two percent of students had no surgical experience before the vascular rotation. Thirty three students completed the vascular rotation. The students who participated in the vascular surgery rotation spent a mean on 14 days on the service. Those students who completed the vascular surgery rotation demonstrated increased VSQ scores about vascular surgery and the role of the vascular surgeon in treating vascular disease (76% vs. 61% respectively $p<0.01$).   Medical students who completed the vascular surgery rotation, compared to those who did not, were more likely to hold a belief that vascular surgery included complex decision making (57% vs 21% respectively $p<0.005$) and perceived that vascular surgery offered excellent future job opportunities (64% vs 34% respectively, $p<0.03$). **Conclusions:** A structured, clinical vascular surgery rotation increases medical student knowledge about topics important in vascular surgery and the role of vascular surgeon in treating peripheral vascular disease. It also improves medical student perception that vascular surgery is an attractive field. Establishing such rotations for medical students may be critically important in attracting more medical student and resident physicians into the field of vascular surgery.

RESIDENT REFLECTIONS ON A NEW COMMUNITY HOSPITAL ROTATION 42

S. PAGE[1], S.RAMANI,[2] B.FRASER[3] [1]General Internal Medicine, BUSM, [2]Department of Medicine, GIM, BUSM, [3]BUSEd.

Statement of problem: The BUSM / BMC Internal Medicine (IM) Residency Program required a new community hospital inpatient rotation to supplement the residents' university hospital experiences. It also wished to incorporate systems-based medicine teaching (an ACGME requirement) into the rotation.
Objectives: 1) To explore the opinions of IM residents on the structure and content of a newly designed community hospital rotation. 2) To use this resident feedback to revise the rotation.
Methods: Two residents rotate through the BMC-affiliated community hospital every month, each paired with a hospitalist preceptor. In addition to the clinical experience, they are given instruction on hospital finance and risk management. During exit interviews, 10 senior residents were asked their perceptions of the rotation, their thoughts on community medicine and hospitalist medicine, and their suggestions for improving the experience. Data from the interviews were analyzed for general themes using qualitative methodology and this information will be used to revise the rotation.
Results: We classified the major themes under headings of WORKING CLIMATE and TEACHING CLIMATE. Working climate issues focused on a perceived lack of resident autonomy. Residents view themselves as team leaders and directors of patient care, but in this rotation they took a subsidiary role to the supervising hospitalists. Teaching climate issues focused on insufficient teaching during the rotation. Residents were prepared to work hard but expect on-going daily educational experiences. The systems-based teaching sessions were well received but need to be expanded on.
Key lessons: 1) Residents have well-defined roles as both learners and care providers in the academic setting which have to be redefined in the community hospital setting. 2) Residents strongly value medical education. 3) Systems-based medicine discussions are well received by the residents.
Questions: 1) How can we reconcile needs for adequate supervision with increased learner autonomy? 2) How can resident feedback best be used for revision of curricula?

STRESS AMONG PATHOLOGY RESIDENTS - SURVEY RESULTS

L. JOSEPH[1], PF SHAW [2], and BR. SMOLLER[3] From Boston University School of Medicine, Department of Anatomic Pathology[1] and Family medicine[2] and University of Arkansas for Medical Sciences[3]

This study was undertaken to provide pathology residency program directors, who deal with a specialty that is unique in many ways, objective data to work with as they deal with various ACGME concerns as well as the "wellness" of their own residents.

The survey was conducted by sending an e-mail to all pathology residency program directors who are subscribers to the listserv maintained by the Program Directors section of the Association of Pathology Chairs.

SOURCES OF RESIDENT STRESS AS THEY APPEARED ON THE SURVEY SITE	
Inattentive/non-supportive program director	Inadequate feedback from faculty
program coordinator	Poor orientation to responsibilities and role
chief resident	Poor communication of evaluation criteria
A disorganized program	Fairness of performance evaluation system
Lack of regular forum to discuss concerns	Work overload inhibits learning
Insufficient support from peers	Variability in faculty expectations
Poor faculty mentoring of residents	Pressure to teach/do "extra" projects
Inadequate supervision of residents	Inadequate elective time
Faculty favoritism, bias	Other:

Thirty six pathology residency program directors (24% of pathology programs in the country) and 148 pathology residents responded to the survey. Every item listed on the survey was identified as a significant stressor (score of 5) by a variable number of the participants.

Stress exists among pathology residents. Perceptions of stressors vary among residents and program directors. Major stressors include work overload that inhibits optimal learning, faculty bias and favoritism, variable faculty expectations and a disorganized program.

A CROSS-SECTIONAL MEASUREMENT OF STUDENT EMPATHY AT BUSM

D. CHEN[1],R. LEW[2], and J. ORLANDER[1], [1]Section of General Internal Medicine, Boston Medical Center; [2]VA Boston Health Care System.

Background: Physician empathy is associated with increased patient satisfaction outcomes, but may decline with clinical training. Among practicing physicians, technologically-oriented specialists have lower empathy scores than non-technologically-oriented clinicians. Our study examines empathy during medical school.

Methods: This cross-sectional cohort study of medical students at BUSM in 2006 targets entering students plus each class near the end of the academic year. The survey is self-administered and anonymous. Our primary outcome measure is the 20-item, validated Jefferson Scale of Physician Empathy (JSPE) which uses 7-point Likert scales. We also queried age, gender, future career interest, and debt burden. Data was analyzed using ANOVA and pair-wise comparisons.

Results: The survey was administered to the end of the second (n=148), third (n=167), and fourth (n=154) year classes. Response rates were 95.9%, 62.9%, and 61.5%, respectively. Empathy is higher in the second year class when compared to the third year class (JSPE adjusted means score of 114.3 vs. 109.7, $p<0.03$). Empathy remains the same between the third and fourth years (109.7 vs. 110.0, $p = NS$). Among all respondents, females had higher empathy scores than males (113.1 vs. 109.5, $p<0.004$) and students interested in non-technological specialties have higher empathy scores compared with those interested in technological specialties (113.4 vs. 106.8, $p<0.006$)

Conclusions: The first full year of clinical training has a negative impact on medical student empathy. Future research needs to determine whether clinical training inevitably impacts negatively on physician empathy or whether training interventions can mitigate this observation.

WEB-BASED VS. FACE TO FACE LEARNING OF DIABETES MANAGEMENT: THE RESULTS OF A COMPARATIVE TRIAL OF EDUCATIONAL METHODS

45
(oral)

J. WIECHA[1], VK CHETTY[1], PF SHAW[2], [1]Department of Family Medicine, [2]Office of Medical Education; Boston University School of Medicine.

Background and Objectives: Relatively little is known about the effectiveness of web-based learning (WBL) in medical education, and how it compares to conventional methods. This study examined the impact of an interactive, online curriculum in a 3rd year medical school family medicine clerkship on students' ability to create a management plan for a patient newly diagnosed with type 2 diabetes, and how the online curriculum compared to a conventionally taught method.

Methods: The online course included 3 integrated activities: 1) self-study modules; 2) a patient case-study; and 3) a moderated discussion board for posting and discussing patient care plans. The WBL curriculum was compared to small-group case-based sessions with a faculty facilitator. Students completed a test case pre and post clerkship.

Results: Among standard-of-care diabetic management interventions not ordered on the pretest, 38% were subsequently correctly ordered by WBL students on the post-test, vs. 33% by students in the comparison group (P<0.05). For 4 out of 5 subgroups assessed on the case write-ups, the gain from pre to post clerkship favored the WBL group.

Conclusion: Improvement among students learning online exceeded that of students learning in face-to-face groups. This suggests superiority of the online method, a finding consistent with other recently published, well-controlled studies.

MEDICAL EDUCATION SCHOLARS

Listed below are faculty and trainees who have submitted selected citations from their work in medical education. This list will be updated and posted on the Office of Medical Education website on a regular basis. Faculty and trainees are encouraged to submit their citations to Liz Rivera at erivera@bu.edu.

Estevez, Maureen, Ph.D., candidate, Department of Anatomy and Neurobiology

Poster: M. E. Estevez, T. Hoagland, P. Bergethon, J. Sandell, M. Moss. (2005) "The Carnegie Initiative on the Doctorate Update for Boston University School of Medicine, Department of Anatomy and Neurobiology". Carnegie Foundation for the Advancement of Teaching 2005 Summer Convening, Stanford, California.

Invited talk: "PhD Program Commonalities, Department of Anatomy and Neurobiology, Boston University School of Medicine" Carnegie Foundation for the Advancement of Teaching 2004 Winter Convening, Stanford, California.

Hoffman, Miriam, M.D., Family Medicine

Goldman L, Hoffman M, Wiecha J, Doyle J. An Innovative Hybrid Model of Teaching Geriatrics to Medical Students. STFM Annual Spring Conference 2006. San Francisco, California.

Hoffman M. Breastfeeding and Family Medicine: Past Perspectives and Future Directions. Grand Rounds, University of Massachusetts Worcester, Department of Family Medicine. January 31, 2006.

Bregman B, Irvine C, Hoffman M, Silenzio V. Creative Writing and the Practice of Medicine. STFM Annual Spring Conference 2003, Atlanta, Georgia.

Jalisi, Scharukh, M.D., Otolaryngology- Head and Neck Surgery

Jalisi S, Jalisi M. Textbook of Ear, Nose and Throat Diseases, 12th edition. New York, NY: New Scientific Publications; 2004.

Spiegel J, Jalisi S. Contemporary Management and Diagnosis of Head and Neck Cancer, Otolaryngology Clinics of North America, Philadelphia: ,Elsevier; February 2005

Jalisi S. Management of the Clinically Negative Neck in Early Oral Cavity Cancer. Otolaryngology Clinics of North America 2005; 38(1): 37-46.

Joseph, Lija, M.D, Pathology

Perceptions of Stress among Pathology Residents – Survey Results and Some Strategies to Address Them. Invited lecture to the resident forum of the National Meeting of the College of American Pathologists at San-Diego, Sep 10-13, 2006

Lenders, Carine, M.D., M.S., Pediatrics

Recipient of the ninth Physician Nutrition Specialist Award, a teaching award offered by the American Society for Nutrition 2006

"A Case-based Pediatric Ambulatory Weight Management Training Program for Primary Care Clinicians". Invited Speaker, Pediatric American Societies (PAS) meetings: Special Interest Group, San Francisco, CA, 2006

Lenders C and Willett W. Nutrition Epidemiology. In: Walker W, Watkins J, Duggan C, eds. Nutrition in Pediatrics: Basic Science and Clinical Applications, 3rd edition. B.C. Decker Inc; 2003: 205-218. This chapter is described as important and very useful in Hicks, Penni D.BS, RD; Abrams, Steven A. MD Nutrition in Pediatrics: Basic Science and Clinical Applications. JAMA. 2004;291(7):885-886.

Levine, Sharon A., M. D., Director of Education, Geriatrics Fellowship Program Director; Geriatrics Section, Dept of Medicine

Levine SA, Chao S, Brett B, Jackson A, Burrows A, Goldman L, Caruso L. Chief Resident Immersion in Geriatrics. J Am Geriatr Soc. 2006;54:S1

Levine SA, Caruso LB, Vanderschmidt HV, Silliman RA, Barry PP. Faculty development in geriatrics for clinician educators: a unique model for skills acquisition and academic achievement. J Am Geriatr Soc. 2005;53:516-521

Donald W. Reynolds Foundation-funded BUMC Comprehensive Geriatric Education Project ($1,995,000) The purpose of the Boston University Medical Center Comprehensive Geriatric Education Project is to strengthen the geriatric education of medical students, residents in internal and family medicine, surgery and related specialties, faculty and community-based practicing physicians. Extensive use is made of online teaching tools and Web-based curricula.

Ramani, Subha, M.B.B.S., M.M.Ed., M.P.H., Medicine

Program development: a. Faculty development in clinical teaching, b. Resident clinical skills curriculum, Department of Medicine, BUSM.

Publications: a. Ramani et al, Whither Bedside Teaching? A Focus-group Study of Clinical Teachers, Academic Medicine. 78(4):384-390, April 2003. b. Ramani, 12 tips to improve bedside teaching, Medical Teacher; 25, (2):112 - 115, March 2003

Faculty development workshops: Bedside teaching skills- Society of General Internal Medicine (SGIM) annual meeting 2003, Association of Medical Education in Europe (AMEE) annual meeting 2004, 2005, 2006.

Workshops on mentoring skills and designing mentoring programs- Ottawa international conference in Medical Education 2004, AMEE annual meeting 2005, AAMC annual meeting 2004, 2005.

Saitz, Richard, M.D., M.P.H., F.A.S.A.M., F.A.C.P., Medicine and Epidemiology, BUSM, BUSPH; Director, Clinical Addiction Research and Education Unit, Section of General Internal Medicine, Boston Medical Center

mdalcoholtraining.org

alcoholandhealth.org

Saitz R, Sullivan LM, Samet JH. Training community-based clinicians in screening and brief intervention for substance abuse problems: translating evidence into practice. Substance Abuse 2000;21(1):21-31.

Saper, Robert B., M.D., M.P.H., Family Medicine

Developing Evidence-based Complementary and Alternative Medicine Teaching Cases for Family Medicine Residency Curricula (Workshop at The Society of Teachers of Family Medicine Annual Meeting, 2006)

Saper, R. Overview of herbal medicine. In: UpToDate, Rose, BD (Ed), Waltham, MA, 2005.

Cullum-Dugan D, Saper R. An Integrative Approach to Obesity. In Integrative Medicine, 2nd ed. Rakel D, ed. Elselvier, Philadelphia, in press.

Siegel, Benjamin, M.D., Pediatrics

Siegel, B. A View from the Residents: Effective Preceptor Role Modeling Is In. (Commentary) Ambulatory Pediatrics. 2004;4:2-3.

Teaching Medical Students about Children with Developmental Disabilities. The Greenberg Lecture in Medical Education. The National Children's Medical Center and George Washington University Medical School Washington D.C. 12/21/05

Vaughan, Deborah, Ph.D., Anatomy and Neurobiology

Vaughan, D.W. A Learning System in Histology: A CD-ROM and Guide. Oxford University Press, New York, 2002

Walsh, Carol T., Ph.D., Pharmacology

Walsh, C.T. and Schwartz-Bloom, R.D. Levine's Pharmacology-Drug Actions and Reactions, 7th ed., Taylor & Francis, London, 2005.

Wiecha, John M., M.D., M.P.H., Family Medicine

Web-based vs. Face to Face Learning of Diabetes Management: The Results of a Comparative Trial of Educational Methods In Press, Family Medicine; John M. Wiecha, MD, MPH; Peter F. Shaw, PhD; Vk Chetty, PhD.

An Interactive Web-based Curriculum on Evidence-Based Medicine: Design and Effectiveness. K. Schilling, Ed.D; J. M. Wiecha, MD, MPH; S. Khalil, MPH Department of Family Medicine, BMC, Boston, MA Fam Med 2006;38(2):126-32.

Collaborative Online Learning: A New Distance Learning Method.WHO Essential Drugs Monitor, No. 33, 2003. John M. Wiecha, MD, MPH

TEACHING AWARD RECIPIENTS 2005-2006

Steven Borkan, M.D., Stanley L. Robbins Award for Excellence in Teaching, Boston University School of Medicine

William R. Cranley, M.D., J. O. Haller Teaching Award, Society for Pediatric Radiology

Donald Gair, M.D., Agnes Purcell McGavin Award for Distinguished Career Achievement in Child & Adolescent Psychiatry, American Psychiatric Association

Todd Hoagland, Ph.D., Educator of the Year Award, Preclinical Sciences, Committee on Faculty Affairs, Boston University School of Medicine

Angela Jackson, M.D., Robert Dawson Evans Special Recognition Teaching Award, Department of Medicine, Boston University School of Medicine

Carine Lenders, M.D., M.S., Ninth Physician Nutrition Specialist Teaching Award, American Society for Nutrition 2006

Sharon Levine, M.D., Robert Dawson Evans Special Recognition Teaching Award, Department of Medicine, Boston University School of Medicine, Outstanding Committee Member Award, Education Committee, American Geriatrics Association

Robert Lowe, M.D., Frederick Jackson Prize, Boston University School of Medicine; Educator of the Year Award, Clinical Sciences, Committee on Faculty Affairs, Boston University School of Medicine

Stephanie Oberhaus, Ph.D., Proctor & Gamble Award for Excellence in Teaching Preclinical Sciences, Boston University School of Dental Medicine

John F. O'Connor, M.D., J. O. Haller Teaching Award, Society for Pediatric Radiology

Katya Ravid, Ph.D., Educator of the Year Award, Graduate Medical Sciences, Committee on Faculty Affairs, Boston University School of Medicine

Sayon Roy, Ph.D., 2005 Mentor of the Year Award, Boston University Undergraduate Research Opportunities Program

Neil Ruderman, M.D., Albert Renold Award for Career Achievement in Mentoring, American Diabetes Association

Abdul Traish, Ph.D., The Metcalf Cup and Prize for Excellence in Teaching, Boston University

Deborah Vaughan, Ph.D., Thomas Robitscher Faculty Award for Excellence Teaching Preclinical Sciences, Boston University School of Medicine

CONTINUING MEDICAL EDUCATION

Boston University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Boston University School of Medicine designates this educational activity for a maximum of 4.5 *AMA PRA Category 1 Credit(s)*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

At the conclusion of this educational activity, participants will be able to: Incorporate specific learning skills into teaching activities, identify key research questions in medical education, discuss content of posters on medical education

Boston University School of Medicine asks all individuals involved in the development and presentation of Continuing Medical Education (CME) activities to disclose all relationships with commercial interests. This information is disclosed to CME activity participants. Boston University School of Medicine has procedures to resolve any apparent conflicts of interest. In addition, faculty members are asked to disclose when any discussion of unapproved use of pharmaceuticals and devices is being discussed.

 The Planning Committee Members and workshop presenters have nothing to disclose with regard to commercial support. Planning Committee members and workshop presenters do not plan on discussing unlabeled/investigational uses of a commercial product.

These materials and all other materials provided in conjunction with continuing medical education activities are intended solely for purposes of supplementing continuing medical education programs for qualified health care professionals. Anyone using the materials assumes full responsibility and all risk for their appropriate use. Trustees of Boston University makes no warranties or representations whatsoever regarding the accuracy, completeness, currentness, noninfringement, merchantability or fitness for a particular purpose of the materials. In no event will Trustees of Boston University be liable to anyone for any decision made or action taken in reliance on the materials. In no event should the information in the materials be used as a substitute for professional care.

Notes