Boston University
Medical Campus

Third Annual
John McCahan Medical Campus Education Day

Showcasing Educational Innovation and Scholarship at the Boston University Medical Campus

June 18, 2008

BOSTON UNIVERSITY

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Boston University Medical Campus

Welcome to
THE THIRD ANNUAL JOHN McCAHAN MEDICAL CAMPUS EDUCATION DAY

Dear Colleagues,

Welcome to the third annual John McCahan Medical Campus Education Day, a time for health professions educators from the Schools of Medicine, Dentistry and Public Health to learn, network with colleagues and find the inspiration to enrich our curricula, focusing on developments in educational innovations, scholarship and research.

Our trainees' success in Medicine, Dentistry and Public Health depends on how we, as educators, integrate science and human interaction into a consistent clear curriculum for delivery in lectures, small groups, clinics, hospital wards and via laptops and podcasts. The diverse patients and populations our trainees will serve over a lifetime will reap the benefits of your efforts.

We hope you will enjoy the collegiality of the day, celebrating the contributions of our friend and former Associate Dean for Academic Affairs, Dr. John McCahan, who led the medical curriculum for three decades until his retirement in 2006.

Sincerely yours,

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

ACKNOWLEDGMENTS

John McCahan Medical Campus Education Day is an initiative of the Medical Education Committee (MEC), supported by Provost and 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 of this event:

The John McCahan Medical Campus Education Day Planning Committee:

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Robert Schadt, Ph.D.
Peter Shaw, Ph.D.
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Division of Continuing Education, BUSDM
Office of the Dean, BUSDM
Office of Continuing Medical Education, BUSM
Office of the Dean, BUSM
Office of Medical Education, BUSM
Office of the Dean, BUSPH
Office of Facilities Management and Planning
Educational Media Center/Instructional Services

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Dani Lund

XanEdu
Sean Poza

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Hiebert Lounge

SCHEDULE OF EVENTS

8:30-8:40 a.m.	**Welcome and Introduction to Panel of BUMC Academic Deans** Karen Antman, M.D. Provost, Boston University Medical Campus
8:40-9:15 a.m.	**Panel of BUMC Academic Deans: Curricular Innovations in 2008-09** Leonard Glantz, J.D., Associate Dean for Academic Affairs, BUSPH Aldo Leone, D.M.D, Assistant Dean for Academic Affairs, BUGSDM Sharon Levine, M.D., Associate Dean for Academic Affairs, BUSM
9:15-9:20 a.m.	Introduction to Keynote Speaker Subha Ramani, M.B.B.S., MMEd., M.P.H.
9:15-10:00 a.m.	**Keynote Lecture** "Transforming Educational Activities Into Scholarship" Janet Hafler, Ed.D. Professor of Pediatrics, Tufts University School of Medicine, Lecturer Harvard Medical School, Educational Consultant
10:30-12:00 p.m.	**Workshop Session I** See workshop listing on page 8 for location
12:00 p.m.-1:00 p.m.	**Poster Presentations** Lunch

1:00-1:45 p.m.

Award Presentations
Subha Ramani, M.B.B.S., MMEd., M.P.H.

Best Faculty Abstract: Alexander Bendayan, D.D.S.
Best Resident/Fellow Abstract: Katherine Johnston, M.D.
Best Student Abstract: Pauline Mulleady, BUSM 2009

Oral Presentations

Pauline Mulleady, B.A., "The Oncology Education Initiative: Successful Incorporation of Multidisciplinary Oncology Education into the Core Radiology Clerkship" abstract #19

Katherine Johnston, M.D., "Lost Opportunities: Resident Feedback on Medical Student Clinical Performance" abstract #14

Alexander Bendayan, D.D.S., "Use of Podcasting to Improve Student Performance" abstract #23

2:00-3:30 p.m.

Workshop Session II
See workshop listing on page 9 for location

9:00-3:30 p.m.

Educational Vendors
Vendor representatives will be available throughout the day in L1403.

John F. McCahan, M.D.

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

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

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

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

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

Janet Hafler Ed. D.

Professor of Pediatrics, Tufts University School of Medicine, Lecturer Harvard Medical School, Educational Consultant

Promoting, influencing and nurturing a climate in which faculty, residents and students can teach — and learn — has been foremost among Dr. Hafler's career objectives.

Dr. Hafler led the faculty development program at Harvard Medical School for over 15 years and was Dean for Educational Development at Tufts University School of Medicine (TUSM) until this spring. She currently works in the Center for Learning and Teaching at Tufts University and consults on educational projects. She teaches faculty, residents, and students about curriculum, teaching, and evaluation. She has offered medical education courses to Harvard and TUSM medical students and has led many innovative efforts to develop, implement and evaluate on-going resident teaching programs. Dr. Hafler has published book chapters, curriculum materials and original articles in medical education and clinical journals. She has served as visiting professor internationally and has been invited to present regularly at regional and national professional meetings.

Dr. Hafler runs an active research program applying qualitative research methods in medical education. She collaborates with and mentors faculty on the elements of qualitative research in the field of medical education and medical care. In turn, mentored faculty members have learned to develop and demonstrate the tools necessary to effectively teach and lead others. A further aspect of her mentoring is providing educational consultation to individual faculty members and course planners as they develop and select teaching strategies, develop curriculum and evaluate the students.

Dr. Hafler received her Masters in Education from Columbia University Teachers College, specializing in maternal and child health, and her Doctorate in Education from Harvard University Graduate School in Education.

WORKSHOP TOPICS AND LOCATIONS

SESSION I 10:30 A.M. – 12:00 P.M.

Location L 211

Building an Academic Portfolio to Support Annual Faculty Evaluation and Promotion, Deborah M. Fournier, Ph.D., Sharon A. Levine, M.D., Robert Schadt, Ed.D.

The Academic Portfolio is an important tool for a faculty member to document one's achievements in teaching, research, service, and administrative leadership. It enables one to learn and grow as a teacher by reflecting on how one has developed and changed over time. Participants will examine how to: 1) think about different aspects of faculty work, 2) use different types of evidence, 3) outline a framework best tailored to one's responsibilities, and 4) write a teaching philosophy statement. Facilitators will engage participants in grappling with the appropriate use of course evaluation reports, seeking peer evaluation summaries, and ways to define faculty work. Literature and samples provided.

Location L 1109B (Library Computer Lab)

How to make formatting citations quick and easy using Endnote, Megan Bresnahan, M.S.I., David Flynn, M.S. (LIS), Kate Bronstad, M.S.I.S.

Have you ever been frustrated with the amount of time required to properly format citations? When you have spent months or even years conducting research, analyzing the results, and finally writing an article, the last thing you want to do is spend time tediously formatting citations. This workshop is designed to teach participants how to use Endnote, a bibliographic management program that allows researches to collect, organize, and format citations. Upon completion of the session, participants will be able to create and search citations records within Endnote, import citations from databases such as Ovid MEDLINE and PubMed, and insert citations into Microsoft Word documents.

Location R 110

SPECIAL WEAPONS AND TACTICS: The Art of Using the Audience Response System, Deborah W. Vaughan, Ph.D., Wayne W. LaMorte, M.D., Ph.D., M.P.H., Robert Schadt Ed.D., Kate Speech Ed.M., Louis Toth, Ph.D.

This workshop will introduce participants to the Turning Point(TM) ARS. Presenters include faculty who have successfully incorporated ARS into small group teaching as well as large lecture classes, using both the anonymous recording mode and the student-identified mode for administrating quizzes and tracking performance. Participants will be issued 'clickers' and experience an actual learning session. Types of ARS questions and how to incorporate them into a lecture will be discussed and illustrated. BUMC faculty and designated Educational Media support personal will participate and thereafter be recognized as available for assistance to any faculty who chooses to incorporate ARS into their teaching.

Location L 301

Effective Pedagogy: Simple Ways to Improve Your Teaching, Ann Zumwalt, Ph.D., Todd Hoagland, Ph.D.

The primary goal of this workshop is to explore techniques to increase one's effectiveness in the classroom. First we will explore basic but rarely discussed approaches that lead to teachers' success or inadvertent failure in the classroom. We will then watch a short video of a lecture and use peer evaluation methods to critically evaluate the lecturer's technique. Peer evaluation contributes to the success of both the observed teacher and the evaluator by spotlighting a teacher's effective and ineffective classroom choices. We anticipate that the process of critical evaluation will improve workshop participants' own self-awareness during teaching.

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

SESSION II 2:00-3:30 P.M.

Location L 211

Partnering Faculty with Students to Create Effective Online Educational Materials, Jodi Abbott, M.D., Gail March, Ph.D., Nanette Harvey, M.D.

The creation of online educational materials to supplement coursework is often daunting for faculty with myriad demands on their time. A 4th year student elective that enables students to develop instructional projects with faculty supervision and add them to the medical school curriculum is now available. Faculty may be reluctant to agree to precept due to concerns of technical requirements or resources. This workshop is designed to facilitate faculty and student awareness of a process and available resources to encourage student and faculty development of online educational materials such as virtual cases, online quizzes, standardized patient videos and CourseInfo presentations.

Location R 123

Natural History of Disease; A Framework for Developing Competency-Based Objectives, Ascher Segall, M.D., Dr.P.H., Hannelore Vanderschmidt, Ph.D., John Bernardo, M.D., Claire M. Murphy, R.N., M.S.N., N.P.

This workshop is designed for members of the BU medical campus community interested in exploring how the natural history of disease paradigm can be used to develop competency-based objectives. The paradigm refers to the course of a disorder over time; exposure to risk. biological onset, clinical horizon and progression to recovery, chronicity or death. The focus will be on developing competency-based learning objectives that reflect the role and responsibilities of physicians at successive stages of selected conditions using tuberculosis as an example. It is anticipated that participants will become more aware of the paradigm and how it can be used as a template for developing competency-based learning objectives.

Location R 110

SPECIAL WEAPONS AND TACTICS: The Art of Using the Audience Response System, Deborah W. Vaughan, Ph.D., Wayne W. LaMorte, M.D., Ph.D., M.P.H., Robert Schadt Ed.D., Kate Speech Ed.M., Louis Toth, Ph.D.

See Listing in SESSION I

Location L 301

Effective Pedagogy: Simple Ways to Improve Your Teaching, Ann Zumwalt, Ph.D., Todd Hoagland, Ph.D.

See Listing in SESSION I

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

ABSTRACT THEMES FOR POSTER PRESENTATIONS

Education Innovation and Research (Abstracts 1-22)

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

Educational Technology (Abstracts 23-29)

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

Education Innovation and Research

IMPLEMENTATION OF A BREAST AND PELVIC PRACTICUM EXPERIENCE FOR SECOND YEAR MEDICAL STUDENTS WITH GYNECOLOGIC TEACHING ASSOCIATES 1

T. CHENG[1], L. STANFIELD[2], K. FREUND[1], J. ABBOTT[3]
[1]Section of General Internal Medicine, Department of Medicine, Boston Medical Center, Boston University School of Medicine [2] Office of Medical Education, Boston University School of Medicine, [3] Obstetrics and Gynecology, Boston University School of Medicine and Boston Medical Center

Problem: Prior to this year, second year medical students did not have the opportunity to learn breast exams on patients before their third year clerkships. Pelvic exams were also taught on a limited number of standardized patients. To meet the demand of improving breast and pelvic teaching as well as the expansion of the medical school class, BUSM has incorporated standardized patients called gynecological teaching associates (GTAs) into the breast and pelvic trainings.
Objectives: Students will learn to perform a thorough breast and pelvic exam sensitive to the patient's comfort.
Description: In the winter of 2008, ten GTAs assisted in teaching the breast and pelvic practicum to second year medical students. Medical students were divided into groups of three and worked with GTA's individually in the Clinical Skills Center. Prior to the practicum session, students were asked to prepare for the sessions with materials posted on Course Info on the breast and pelvic exam. A NEJM pelvic video was also posted. After the session, medical students submitted a write up of the breast and pelvic examination findings. Medical students were able to practice the breast and pelvic exam on GTA's who have a high degree of comfort with their bodies and the exam process. They also practiced and received feedback on the communication skills essential to a quality exam.
Evaluation: Post session evaluations were completed by each student.
Overall, the feedback by medical students was overwhelmingly positive.
They expressed a higher level of comfort with the breast and pelvic exam after the practicum.
Future directions: Continue to recruit and retain a group of GTAs who could provide high quality training and feedback to medical students. Develop measures of objective evaluation of breast and pelvic exam competency.

DEVELOPMENT OF A CASE-BASED CURRICULUM EXERCISE FOR A DIVERSE LEARNING COMMUNITY 2

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

As the teaching arm of the Boston City Hospital and Boston Medical Center, Boston University School of Medicine (BUSM) has a strong historical commitment to diverse patient populations. The faculty and student bodies are similarly diverse in ethnic, social, economic, academic, and other variables. Institutionally, our commitment to teach and support our diverse community is an integral facet of our educational philosophy. We believe that a commitment to diversity enables us to make important contributions to the health care professions, including teaching cultural competency and transforming the health care workforce to mirror the patients they serve.

As course manager for the first year Medical Genetics course at BUSM, implementation of these principles, particularly in the context of our small group sessions, is a priority. These sessions are highly collaborative in nature and therefore are an ideal place to tap into the wide range of experience of our students. Moreover, most other courses in our medical school utilize some form of small group teaching, so these strategies could be expanded to globally strengthen our commitment to our diverse student body.

A new case study, based on the experiences of an African American medical student, has been developed for use in the Medical Genetics course. The case also includes elements designed to resonate with individuals of European descent, and it covers universal genetic principles important to medical professionals in a variety of specialties. Further, the small groups themselves were created upon the foundation of existing advising groups to maximize student diversity in terms of pathway of admission and Myers-Briggs type indicator. Analysis of small group performance through a quiz and small group dynamics through course surveys and interviews was conducted.

EVALUATION OF THE SPIDER CHART AND CARIOGRAM AS EDUCATIONAL TOOLS FOR TEACHING DENTAL STUDENTS CARIES RISK ASSESSMENT 3

A. DESHMUKH, F. HAINS, J. JONES,
Department of General Dentistry, Boston University School of Dental Medicine

The purpose of the project was to determine the usefulness of a newly developed BU spider chart and the existing cariogram as educational tools for carrying out CRA by dental students. After BU IRB approval was obtained, the project surveyed dental students who had completed treatment planning course and calibration in CRA in the academic year 2007-2008. The surveys were uploaded on the CourseInfo website for students to download and print. Data were entered, cleaned and analyzed using Microsoft Excel 2003. The response rate was 68% (78/114).

The respondents belonged to the DMD'08 class and included 56% males and 44% females. A majority (93%) of the students responded that the components of spider chart were easy to measure. 74% of the students responded that the spider chart was useful for carrying out CRA on patients, whereas 88% said that the cariogram was useful. While 22% responded that they needed more education on using the spider chart, 18% said that they needed more education about the cariogram. Most (81%) of the students responded that the spider chart was an important educational tool and 90% agreed that the cariogram was important educational tool.

Most (90%) of the students responded that the combination of lectures and laboratory exercises were useful in carrying out CRA on their patients followed by 88% who agreed the laboratory exercises were useful, 86% of students agreed that the clinical exercises were useful and 76% responded that the lectures were useful in conducting CRA. The results indicate that the BU spider chart was deemed as a useful educational tool and easy to use as the cariogram. The incorporation of CRA within the curricula will add valuable insight as to a patient's risk for disease.

THE DEVELOPMENT OF A SMOKING CESSATION TRAINING PROGRAM IN A DENTAL SCHOOL SETTING 4

B. HEATON
Department of Health Policy and Health Services Research, Boston University School of Dental Medicine

Survey results published in JADA [2005] reported that more than half of the general dentists viewed smoking-cessation activities as peripheral to dentistry-a view likely associated with the lack of smoking-cessation curriculum experienced during their formal education.
Following the Prevention and Cessation Education [PACE] program model implemented at BUSM and medical schools nationwide, the goal of this project was to evaluate what smoking-cessation curriculum and training existed at BUGSDM and to determine students' knowledge, attitudes and practices in regard to smoking-cessation counseling with the ultimate aim of developing, implementing and evaluating an integrated curricular approach to smoking cessation.
Pre-doctoral students (n=362) participated in the PACE-adapted survey during Fall 2006. In Spring 2007, course directors (n=29) reported information regarding tobacco related content in their courses, including the method of delivery, evaluation and materials used.
53% of all respondents and 69% of fourth-year students intended to enter General Practice. With respect to tobacco-related knowledge, approximately one-third of students reported knowledge of smoking trends, percentage of smokers seen by a dentist annually, and identified the health benefits of cessation. Knowledge of FDA and Public Health Service-recommended treatments was generally lacking and minimal to no skill with respect to the 5 A's of tobacco counseling was reported. Reported observations of smoking cessation activities conducted by a dentist were also relatively low. Many students reported having never seen a dentist take a smoking history, including 33% of fourth-year students. Students did, however, report favorable attitudes towards engaging in smoking-cessation activities.
From participating course directors, a total of 495 minutes, 8.25 hours of tobacco related content was reported in the pre-doctoral curriculum.
Tobacco related content primarily included information related to local and systemic effects on oral health. Discussions regarding curriculum planning and integration are currently underway.

THE PATH TO OPEN ACCESS INFORMATION: FROM NIH PUBLICATIONS POLICY TO INSTITUTIONAL REPOSITORIES 5

M. BRESNAHAN, K. BRONSTAD, K. JEFFERY, D. GINN
Alumni Medical Library, Boston University School of Medicine

"Open access" refers to online content that is free for everyone to view. There is a growing movement among universities, researchers, and educators to allow open access to scholarly information, which traditionally has been published in print journals with restricted access. The open access movement gained traction due to the continuous and prohibitive rise of journal subscription costs. Access becomes limited as prices increase, and with limited access, researchers and educators worry their work will not be as widely read or cited. Further, users are increasingly accustomed to communicating online and are willing to look beyond traditional journal sources for scholarly information. As a result, researchers and educators are a ready audience for open access sites.

Initiatives such as the recent National Institute of Health (NIH) funding requirements and the emergence of institutional repositories create the need for medical educators to take more active roles in open access. Arguing that the public has a right to view publicly funded research, the NIH, the largest funder of medical research, has mandated that all researchers receiving NIH funding must deposit his or her corresponding published work in PubMed Central, the National Library of Medicine's open access repository, within 12 months of acceptance. Noncompliance results in a ban on future funding. The primary investigators and institutions are responsible for ensuring compliance with this mandate. Additionally, an increasing number of Universities are building institutional repositories, and encourage or even mandate that all researchers and educators submit their research and educational materials for future use, allowing the institution to preserve and provide access to information created under its auspices.

Since open access is becoming more of a concern to researchers and educators alike, it is important to inform on the issues of open access and the new policies among financiers, research bodies, and educational institutions that will affect them. The Library strives to provide education on open access issues in order to support the missions of BUMC. The goal of this education is to assist the academic medical community in developing a greater understanding of, and the ability to navigate, the new regulations and institutional trends of open access, as well as the significant benefits of these initiatives for individual researchers, educators, and ultimately the overall health care system.

DESIGNING, IMPLEMENTING AND TEACHING THE COURSE: INTRODUCTION TO BIOMEDICAL INFORMATION 6

L. MAGGIO, M. BRESNAHAN, D. FLYNN, J. HARZBECKER, M. BLANCHARD, D. GINN
Alumni Medical Library, Boston University School of Medicine

Statement of Problem: In 2006, the Division of Graduate Medical Sciences (GMS) requested that the Alumni Medical Library (AML) create and teach a graded course to support student information needs related to their theses.
Description of the Program: In academic year 2007-2008, AML librarians designed, implemented and taught the fourteen-week, two-credit course, Introduction to Biomedical Information. Enrolling 186 first-year students in the Master of Arts in Medical Sciences program, this course was designed to teach students how to locate, manage and ultimately contribute to the health sciences literature.
Methods: Taught as a combination of small group hands-on sessions and large lectures, this course covered topics including database searching, controlled vocabularies, ethical information use and open access. To communicate these topics, librarians integrated several educational techniques and utilized online web forms and familiar Web 2.0 technologies. For example, to introduce controlled vocabulary, the librarians created a Web 2.0 tagging exercise that helped students understand the merits of this complex topic through a familiar and dynamic Web 2.0 lens. Guest speakers addressed topics such as informatics, publishing trends and additional relevant topics. To further support the course, students submitted weekly assignments and a final literature review on a potential thesis topic.
Findings to Date / Evaluation: Students were subjectively surveyed four times to gauge their reactions to individual sessions and the course as a whole. Analysis of this subjective data indicates that students were satisfied with their experience in the course.
Key Lessons Learned: The AML can be a key partner in supporting the GMS thesis requirement.
Future Directions: The AML will apply lesson plans and teaching techniques introduced in this course to its entire education program. The AML also hopes to track the course's efficacy by comparing the theses of student in this course with the theses of their predecessors.

COMPLICATION RATES IN RESIDENT CATARACT SURGERY AT THE BEGINNING VERSUS THE END OF THE THIRD YEAR OF RESIDENCY 7

C. AMENT[1], M. DALY[1], J. RIZZO[2]
[1]Department of Ophthalmology, Boston University School of Medicine and Boston Medical Center, [2]BUSM III

Objective: This study compares complication rates for resident cataract surgery occurring at the beginning of the third year of residency with those occurring at the end. The results will be analyzed to improve the surgical training of ophthalmology residents and increase patient safety.
Research Design: Retrospective cohort.
Methods: Complication rates for residents will compare surgeries during the first three months versus the last three months and the first six months versus the last six months. Complication rates will be computed for each of the two residency programs at the hospital.
Institutional setting: BHS JPVA campus with resident surgeons from Boston University and the Massachusetts Eye and Ear Infirmary.
Inclusion criteria: Cataract surgeries classified Level B and performed by senior residents between July 1, 2006, and July 1, 2007.
Data gathered: Operative notes will be reviewed for evidence of complications including posterior capsule rupture, vitrectomy, anterior capsular rent, Descemet membrane tear, dropped lens fragments, zonular dehiscence, placement of intraocular lens outside the capsular bag, iris sphincter tear, iris incarceration or damage, and increased post-operative visits.
Data Analysis: The statistical significance of the complication rates during each time interval will be determined using a 95%CI. Odds ratios will be calculated to determine risk for surgical complications based on the time interval. A stratified analysis will evaluate possible confounding and interaction. Multiple logistic regression will reveal whether particular variables affect the probability of complications.
Significance: Senior ophthalmology residents perform more than 95% of cataract surgeries at the Boston VA Healthcare System. Surgical complications can limit patients' final visual outcome or require additional postoperative visits, medications, and procedures. Additional interventions compromise patient quality of life and increase cost to the VAHCS. Assessing resident surgical outcomes will increase understanding of surgical education.

VERTICAL INTEGRATION OF NUTRITION AT BOSTON UNIVERSITY SCHOOL OF MEDICINE 8

C. LENDERS[1], G. RAO[2], C. APOVIAN[3], A.E. ROGERS[4]
The Nutrition Group Boston. [1]Department of Pediatrics, Boston University School of Medicine and Boston Medical Center, [2]Boston University School of Medicine, [3]Department of Medicine, Boston University School of Medicine, Boston Medical Center,[4]Department of Pathology, Boston University School of Medicine, Boston Medical Center

Statement of the problem: The Healthy People 2010 and the US Preventive Services Task Force recommend that physicians provide nutritional assessment and counseling to their patients, however less than 10% of 4th year students at BUSM feel well prepared.
Objectives of the Intervention: To include nutrition at each year of training from pre-clerkship to clerkship years focusing on knowledge, attitude, and skills. To enhance nutrition-related clinical skills through interactions with faculty and medical students committed to nutrition, and to pursue these efforts in post-graduate training.
Description of the Intervention: A review of the nutrition content of the medical school curriculum was performed, a set of competencies and objectives defined, and integration of nutrition-related cases initiated. For example, students use case-based learning tools (ICM) to develop assessment skills in obesity and related complications; they improve their knowledge, attitude, and skills in Integrated Problems (IP); and, revisit a case with more advanced focus on physical exam findings, laboratory tests, and treatment options during core conferences and nutrition electives.
Methods: A group was appointed by the Associate Dean for Academic Affairs, ad interim, Dr. Adrianne Rogers, including faculty, dieticians, and medical students to identify areas for improvement in nutrition at the Medical School, integrate material, and elicit feedback.
Future Directions: We plan to: 1) Continue to vertically integrate nutrition material throughout the medical school curriculum; 2) Evaluate medical students' nutritional assessment and counseling skills; and, 3) Sustain this project with help from medical students.
Support from the American Society for Nutrition: The Physician Nutrition Specialist Award and The New Balance Foundation to Dr. Lenders, and the Clinical Nutrition Internship Program Award to Gita Rao.

AN INNOVATIVE INTERNATIONAL FACULTY DEVELOPMENT PROGRAM IN FAMILY MEDICINE 9

E. G. HENRY, J. MARKUNS, A. MONTEGUT
Department of Family Medicine, Boston University School of Medicine and Boston Medical Center

Improved primary health care is correlated with improved health of populations. Vietnam's generalist physicians lack post-graduate training and sufficient skills in primary care. To address this, the Ministry of Health established Family Medicine (FM) as a new medical specialty. To develop FM training programs in Vietnam, core faculty from many specialties must be trained in FM education.

Our International FM Faculty Development course is designed to prepare physicians to teach FM in their home academic institutions around the world. Graduates should be able to understand the principles and practices of FM applied to educational and clinical settings, and develop basic academic skills to become effective faculty members and leaders in FM.

As part of a project funded by The Atlantic Philanthropies, two groups of six physicians from various specialties were selected by their institutions for one month of training in each of the core topics of FM education, through small group didactics and observerships. Participants observed family physicians in outpatient practice, inpatient teaching, and outpatient resident precepting. Participants designed individual teaching modules for FM based upon specific content areas. Participants used the critical incident method to present weekly reflections.

All components of the course and small group topics were rated highly on a 5 point Likert scale, with averages ranging from 4.3 to 5, and a consistent mode of 5. Common reflections focused on the breadth of knowledge necessary in FM and equal respect between teachers and learners in precepting. All modules developed by participants incorporated components from the course. Follow-up on-site evaluation in Vietnam found participants actively restructuring their local FM curriculum using course principles.

This course provided significant benefit to Vietnamese faculty in the development of new FM training. Future courses should continue using didactics and observerships, with additional evaluation methods to measure long-term behavioral changes in participants.

EXPECTATIONS FOR ORAL PATIENT PRESENTATIONS BY CLINICAL CLERKS: OPINIONS OF INTERNAL MEDICINE CLERKSHIP DIRECTORS 10

W. HERSHMAN[1], E.H. GREEN[2], S. J. DURNING[3], L. DeCHERRIE[4], F. J. FAGAN[5], B. SHARPE[6]
[1]Department of Medicine, Boston Medical Center, Boston University School of Medicine [2]Albert Einstein College of Medicine, [3]Uniformed Services University of Health Sciences, [4]Mount Sinai School of Medicine [5]Brown Medical School, [6]University of California, San Francisco School of Medicine

The oral case presentation is an important tool for the evaluation of trainees by their teachers. However, little is known about the expectations of leaders of undergraduate internal medicine education for case presentations by third year medical students.
Objectives: To determine whether there is consensus regarding expectations for student patient presentations.
Methods: We included 20 questions relating to the oral case presentation on the Clerkship Directors of Internal Medicine (CDIM) annual voluntary survey to its 110 US and Canadian members. We asked about the relative importance to the respondents of 18 potential attributes in a third year medical student oral case presentation using a 5 point Likert scale (1= not important, 5= very important) as well as their expectations for the length of a new patient presentation. Analysis was done using chi-squared.
Findings: The CDIM received 82 of 110 surveys from institutional members (response rate = 75%). Some aspects of the oral presentation were more important than others ($p < 0.001$). Eight items, including elements of the history of present illness, organization according to conventional standards, and a physical exam, assessment and plan guided by clinical reasoning, were rated as important by > 50 % of respondents.
Lessons Learned: Undergraduate medical education leaders from a diverse group of North American medical schools share common expectations for oral case presentations. They expect students to combine a comprehensive report of the history of the present illness with a reasoned problem list, assessment and plan in an ordered monologue. Respondents expected the OCP to last 8 ± 4 minutes. Thus students are expected to be master "reporters" with some facility at "interpreting" clinical data.
Future Directions: Future efforts at instructing students in oral case presentation as well as clinician-teachers in evaluating oral case presentation can utilize these commonly held beliefs.

AN INCREASE IN MEDICAL STUDENT KNOWLEDGE OF RADIATIONONCOLOGY: A PRE-POST EXAMINATION ANALYSIS OF THE ONCOLOGY EDUCATION INITIATIVE **11**

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Introduction: The Oncology Education Initiative was created to advance oncology and radiation oncology education by integrating structured didactics into the existing core radiology clerkship. We set out to determine whether the addition of structured didactics could lead to a significant increase in overall medical student knowledge about radiation oncology.
Methods: We conducted a pre and post test examining concepts in general radiation oncology, general oncology, and breast and prostate cancer. The 15-question, multiple choice exam was administered before and after a 1.5 hour didactic lecture given by an attending physician in Radiation Oncology. The test was administered on the first and last day of the month long rotation. The questions on the pre and post exam were identical, with the exception of changes in the order of questions and answer choices to sufficiently decrease recall bias. Individual question changes, overall student changes and overall categorical changes were analyzed. All hypothesis tests were two-tailed with significance level 0.05.
Results: Of the 95 fourth-year students who have rotated through the radiology clerkship to date, all 95 (100%) have taken the exam. For the entire cohort, overall improvement was seen in all questions except those related to rates of cancer death and clinical vignettes involving correct identification of TNM staging. Significant improvement ($p<0.03$) was seen in questions regarding acute and late side effects of radiation, brachytherapy for prostate cancer, delivery of radiation treatment, and management of early-stage breast cancer. The average test grade improved from 62% to 72%, representing an absolute improvement of 10% ($p=0.007$).
Discussion: Addition of didactics in oncology and radiation oncology significantly improves medical students' knowledge about these topics. Of the questions that showed significant improvement, 80% were on radiation oncology. Despite perceived difficulty in not only teaching the advanced principles of this challenging topic but also the assumption that it is beyond the scope of reasonable knowledge for medical students, we have shown that even with one dedicated lecture in radiation oncology, students can learn and absorb general principles regarding radiation oncology.

STRUCTURED OBSERVATION OF CLINICAL SKILLS (SOCS): AN INITIATIVE TO IMPROVE FREQUENCY AND QUALITY OF STUDENT FEEDBACK 12

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QUESTION: Can a formative assessment tool increase the frequency of direct observation and feedback for medical students on clinical rotations?
Objective of Program/Intervention: To increase the frequency and quality of direct observation of medical students on clinical rotations
BACKGROUND: There is a general lack of feedback based upon direct observation of clinical skills for medical students. Optimal feedback is timely to a directly observed encounter and describes specific behaviors.
We designed a Structured Observation of Clinical Skills (SOCS) card in an attempt to facilitate this process.
METHODS: Brief observations of student clinical skills with feedback by resident or attending physicians were to occur in the context of daily patient care. SOCS cards were created to facilitate and record comments on the observation. The cards listed observable behaviors on one side, while evaluators were asked to list behaviors done well and/or needing improvement on the other. Third-year students were asked to submit five completed SOCS cards during their medicine clerkship. Preliminary evaluation is based upon a student survey and information taken from the SOCS cards. Qualitative assessment was performed by coding and categorizing all documented comments on the cards by two investigators.
Themes were reviewed through an iterative process.
RESULTS: 151 students submitted 512 cards. 52% completed by attending physicians. Specific behaviors were described on 61%. 100% of cards documented praise, 42% of which described specific behaviors. 79% of cards documented advice, 45% of which included specific behaviors. 5% of cards documented, "Student will improve with time" rather than advice.
CONCLUSIONS: Through implementation of the SOCS program, we believe we significantly increased the frequency of direct, structured observation of student clinical skills. The SOCS card is a feasible tool that facilitated observation of clinical skills and documentation of feedback. Targeted training may improve the quality and utility of the SOCS initiative.

QUALITY OF FEEDBACK TO STUDENTS DURING MEDICINE CLERKSHIPS: THE IMPACT OF GENDER **13**

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OBJECTIVE: To assess whether medical student gender, an observing physician's gender, or their gender concordance affect the content or quality of written feedback given to students on internal medicine rotations
BACKGROUND: Feedback on clinical performance is critical to medical student skill development. The effect, if any, of gender on feedback in medical education is not known.
METHODS: We implemented an intervention with structured observation of clinical skills (SOCS) cards used to formatively assess medical students.
Third-year students were encouraged to ask physicians observing them to complete the cards as an additional feedback opportunity during clinical rotations. Written comments were coded by two investigators. Categorical themes were explored through the constant comparisons method and reviewed through an iterative approach. Data were examined through bivariate analyses to examine differences in written feedback according to gender.
RESULTS: 151 students submitted 512 cards. Bivariate analysis of student gender revealed female students were more likely to have a resident physician complete the card (53% vs. 42% for male students, p=0.01), and were more likely to have cards documenting advice on interpersonal skills (66% vs. 61% for male students, p=0.03). Analysis of gender concordant pairs (242 cards) revealed less documented advice (75% vs. 83% for gender discordant pairs, p=0.02).
CONCLUSIONS: This is the first study to examine gender differences in written feedback provided to students through multiple, brief, and structured observations of clinical skills. When comments were documented in gender concordant pairs, fewer recommendations for advice were found. It is unclear how gender may mediate the effect of recommending advice and guiding formative assessment. Further data need to be collected to determine confidence in the gender effect on quality of feedback and if true, may impact guidance and training of evaluators.

OPPORTUNITIES: RESIDENT FEEDBACK ON MEDICAL STUDENT CLINICAL PERFORMANCE **14 (ORAL*)**

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OBJECTIVE:
We sought to examine whether the quality of written feedback differed according to academic status of observing physicians: resident versus attending.
BACKGROUND:
Feedback that identifies specific modifiable behaviors is invaluable to students´ development on clinical rotations. It is not known whether written feedback documented by residents differs from that of attending physicians.
METHODS
We designed a structured observation of clinical skills (SOCS) intervention. Pocket cards were used to guide feedback delivery in brief observations of history-taking or physical examinations. Residents were oriented to the initiative through three, one-hour sessions and e-mail, while attending physicians were sent two e-mails describing the project goals. Categorical themes were explored through the constant comparisons method. Data were examined through bivariate analyses to determine differences in written feedback according to academic rank.
RESULTS
151 students submitted 508 cards: 246 from residents and 262 from attending physicians. Cards completed by attending physicians more often described specific behaviors overall (67% vs. 56% for residents, $p=0.008$), and more often had advice describing specific behaviors (55% vs. 34% for residents, $p<0.0001$). When cards documented the two or more comments in a category, residents more often documented two or more praise comments (96% vs. 88% for attending, $p=0.002$); whereas attending physicians more often documented additional recommendations for improvement (47% vs. 30% for resident physicians, $p<0.0001$).
CONCLUSIONS
Despite a modest, but more intensive orientation to formative assessment and our structured evaluation tool, resident physicians were less likely to document specific behaviors or provide clear advice to medical students on our structured feedback cards compared to attending physicians. Further assessment of the SOCS intervention needs to identify the training needs of all evaluators: resident and attending, as well as barriers to the structured feedback process in order to enhance the efficacy of our program.

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

TEACHING MEDICAL STUDENTS HOW TO PERFORM SCREENING AND BRIEF INTERVENTIONS FOR UNHEALTHY SUBSTANCE USE. **15**

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Background: Substance use disorders (SUD) are seldom identified or addressed in general healthcare settings. Physician education regarding identifying the spectrum of SUD and skills to perform brief intervention counseling is lacking.
Objective: Create a medical student elective to teach SUD screening and brief intervention (SBI) skills as part of a federally-funded Massachusetts Screening Brief Intervention, Referral and Treatment (MASBIRT) program.
Program Description: The elective was designed for 2nd-year medical students during pre-clinical years prior to potential exposure to negative attitudes towards patients with SUD during their clinical years. Students receive 16 hours of training with the following learning objectives: 1) to identify patients with unhealthy alcohol and drug use using validated screening instruments; and 2) to perform brief interventions using motivational interviewing. Upon completion of the elective, medical students receive a certificate of completion for inclusion in their residency program applications.
Program Evaluation: Fifteen 2nd-year medical students have participated in the elective. Evaluation included pre- and post elective, standardized written surveys measuring attitudes and knowledge about SUD and brief interventions. Future evaluation with students during their 3rd year of medical school will assess whether SBI skills are used in patient encounters.
Conclusions: This elective offers an innovative way to teach SBI skills to medical students in the pre-clinical years with the goal of having a positive and lasting impact on attitudes and clinical performance. Additionally, learning alcohol and drug SBI skills may be useful in advancing medical students' knowledge about facilitating behavior change in non-addiction related areas.

INTEGRATION OF CASE-BASED PROBLEM SESSIONS INTO THE TEACHING OF PHYSIOLOGY TO FIRST YEAR DENTAL STUDENTS. **16**

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Background: As part of the Dental School's effort to develop critical thinking skills of First Year Dental (DMD1) students, the Department of Physiology & Biophysics has introduced an evidence-based learning component into our Dental Physiology Course (MD514). We devote approximately 20% of class time to case-based "IPS" (Integrated-Problem) sessions, with the remaining sessions devoted to lectures. The two year-old IPS program provides a small group discussion format in a large group setting. It therefore is cost effective and straightforward to administer.
Logistics: Students are assigned to one of twelve groups (~10 to 15 students/group) and each group is assigned to discuss one or two case histories from a set of medical and dental cases related to lecture topics. During the course, each group makes one presentation to the rest of the class. The student audience is responsible for the material presented and for seeking clarification when necessary. Presentations are entirely student-driven, with one faculty member acting as a facilitator per session.
Format: Students meet as a study group and prepare a joint PowerPoint slide-set for presentation. The group picks a leader who begins an IPS session by outlining the key elements of a particular case. A second student is chosen to detail the obvious conclusions drawn from the facts provided. The remaining group-members are assigned to answer specific questions listed in the problem set. Finally, the leader summarizes the case.
Success of the model: (1) IPS sessions are well-prepared and delivered. (2) Students are very engaged. (3) Presentations are carried-out professionally. (4) Students enjoy the experience. (4) Faculty facilitators are impressed by the student sophistication and enthusiasm. Ancillary benefits of the model: (1) Course exam scores have increased (despite fewer lecture hours). (2) Student communication skills are developed. (3) A cooperative spirit is fostered.
(4) Student morale is high.

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PATIENTS TEACHING STUDENTS: PILOT PROGRAM OF THE STUDENT ONCOLOGY SOCIETY AND THE OVARIAN CANCER NATIONAL ALLIANCE SPONSORED "SURVIVORS TEACHING STUDENTS: SAVING WOMEN'S LIVES" PROGRAM TO TRAIN MEDICAL STUDENTS IN CANCER SURVIVORSHIP

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Purpose: The Ovarian Cancer National Alliance is sponsoring an innovative educational program, "Survivors Teaching Students: Saving Women's Lives", to train future healthcare professionals. The aim is to increase understanding of ovarian cancer symptoms and risk factors so that they can diagnose the disease in the earlier stages. The Survivors Teaching Students program brings ovarian cancer survivors into medical school classrooms to share their stories and key information about the disease. The program is now in more than 50 medical schools around the country. We are introducing this program to Boston University School of Medicine through the Student Oncology Society.
Materials and Methods: Each one-hour presentation consists of several ovarian cancer survivors, many of whom were diagnosed at an advanced stage, telling their stories to illustrate the difficulty of early diagnosis and the resulting extended and recurring treatment, thereby putting a face and voice to the disease. At Boston Medical Center, there are ten ovarian cancer survivors who are planning to participate in this program. The format of the program with the medical students is as follows: 1) Each survivor describes her cancer history for 6-7 minutes to the group. 2) Interactive dialogue between the survivors and the students occurs. 3) At the end there is a brief questionnaire that the students are asked to answer regarding the perceived educational benefit.
Results: The expected results based on previous medical student participants include gaining insights into listening to patient concerns and become sensitized to the psychosocial aspects of ovarian cancer as well as the need for early detection. Survivors and students directly interact to continue the students' learning. Students are surveyed to assess their understanding of the disease and the presentation's value. A faculty preceptor is present to add clinical information.
Conclusions: Nationally, medical students' reactions and written evaluations have been extremely positive. We believe that this will be an extremely successful program at Boston University School of Medicine and is an additional opportunity to teach students as future healthcare providers about the importance of early cancer detection.

EFFECTIVENESS OF USING CT SCANS OF CADAVERS IN THE ANATOMY LABORATORY TO ENHANCE THE UNDERSTANDING OF ANATOMICAL SPATIAL RELATIONSHIPS **18**

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Knowledge of anatomical structures and their spatial relationships is imperative in clinical practice. The purpose of this pilot study is to determine the effect of having CT scans of cadavers being dissected in the anatomy laboratory on students' knowledge of anatomical spatial relationships. We hypothesize that students exposed to cadaver specific CT scans in addition to the basic radiology lectures already in the anatomy curriculum will perform better on radiologic and spatial relationship specific anatomy exam questions than students only exposed to basic radiology. This was assessed by the students' success in identifying anatomical structures on radiographic images and cross sections, answering multiple-choice questions about radiology and structural spatial relationships, and completion of surveys. Thirty-two randomly selected students dissected cadavers with full body CT scans and were compared to a control group of 32 randomly selected students that dissected cadavers that were not scanned. Students in both groups were able to scroll through the full body CT axial, sagittal, and coronal images on computers located equidistant from the dissection tables. Quantitative results show that there were no significant differences between the two groups in the assessments. Within the experimental group, greater than 70% of the students answered radiology specific written, spatial relationship written and spatial practical exam questions correctly. Qualitative results show that students gained a better understanding of how to interpret CT images and were able to correlate anatomic abnormalities in the scans with potential sites of pathology in the cadavers, demonstrating a practical use of the course learning objectives. Small sample size and lack of compliance were noted as problems with this study, and these issues will be addressed as the study continues. Further study will also include development of group sessions on image interpretation and equipping the anatomy lab with CT atlases.

THE ONCOLOGY EDUCATION INITIATIVE: SUCCESSFUL INCORPORATION OF MULTIDISCIPLINARY ONCOLOGY EDUCATION INTO THE CORE RADIOLOGY CLERKSHIP **19 (ORAL*)**
POSTERTYPE: INNOVATION

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Introduction: Given the prevalence of cancer in the United States, it is clear that medical students need education in basic oncologic principles. What remains unclear is where in the medical school curriculum this instruction should come. Due to the critical role that imaging plays in diagnosing cancer and planning radiation fields, we incorporated structured didactics by an attending radiation oncologist into the curriculum of the core radiology clerkship as part of a broader Oncology Education Initiative.
Methods: We conducted a cohort study of fourth-year medical students rotating through the 2007-2008 radiology core clerkship. Students completed an IRB-approved anonymous questionnaire measuring perceived quality of oncology education.
Results: Of the 153 students, 95 (62%) have completed the clerkship to date. While 95/95 (100%) and 87/95 (92%) of students believe that oncology and radiation oncology, respectively, are important components of medical education, 62/95 (65%) reported knowing nothing about radiation oncology prior to the Initiative. Only 40 of 95 (42%) felt there was adequate cancer education in the preclinical years. Forty-six of 95 (48%) felt there was unsatisfactory exposure to cancer patients in the clinical years. Thirty-six of 95 (40%) now feel more comfortable managing cancer patients, and 84/95 (90%) report a better appreciation of multidisciplinary cancer management. Ninety-one of 95 (96%) felt the radiology clerkship was an opportune time to receive radiation oncology teaching and 56/95 (59%) spent their elective time in the radiation oncology department.
Discussion: Level of interest in oncology and radiation oncology does not correlate with the amount of structured didactic education on these topics. Due in part to the success of this Initiative, two significant curricular changes are being implemented: firstly, the core radiology clerkship is moving into the third-year required curriculum. Secondly, a structured oncology block is being added to the second-year curriculum.

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

RESIDENT HEALTH ADVOCATES ON THE MOVE: COMMUNITY-BASED APPROACH TO PROMOTING HEALTH SCREENING IN PUBLIC HOUSING DEVELOPMENTS **20**

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Community intervention strategies are needed to increase the number of individuals who receive preventive services and reduce the morbidity and mortality associated with racial and ethnic health disparities. Promoting screening for diabetes and hypertension is a key strategy for achieving the objectives of Healthy People 2010. This is particularly true in high-risk areas such as public housing.
Objectives: This study tests a Resident Health Advocate (RHA) intervention in public housing developments to increase health screening visits on the Boston Public Health Van and to measure the number of appointments with primary care physicians kept by participants with positive screening results.
Methods: This trial involved four housing developments with paired characteristics. At two intervention sites, RHAs recruited residents with fliers and personal contact. At the control sites, fliers were left with the development manager as this was the standard procedure. The Health Van measured blood pressure, cholesterol levels, diabetes risk, and oral health. We calculated the number of people at intervention and control sites who used the van, their presumptive diagnoses, and referral-seeking practices with PCPs and dentists.
Results: RHA outreach strategies led to increased use of the van among residents at intervention sites; 100 residents came from intervention sites compared to 47 residents from the control sites (RR=1.37, CI=0.98, 1.92). We also discovered problems residents encountered when making appointments with community health centers and keeping their appointments.
The results of this research will be used to improve the RHA training process and inform other projects that enlist community health workers.

USE OF DATA-DRIVEN COURSE EVALUATIONS AT GSDM **21**

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Curriculum management in medical education involves a course review and improvement process that relies, in part, on course evaluations. During annual faculty evaluation and promotion, academic portfolios used by faculty during to document teaching efficacy include findings from course evaluation reports.
Meaningful course evaluations are purposefully designed to be data-driven.
At the Goldman School of Dental Medicine, course evaluations are collaboratively designed with course directors to be linked to four sources of data: 1) Research on what is known to date about the characteristics of effective college teaching that are related to higher, positive student evaluations; 2) Curricular goals and objectives being pursued by the academic dean and curriculum committee; 3) Previous years'
data from course evaluation reports; and 4) Specific needs and interests of individual course directors regarding modifications to existing instructional delivery such as the pilot testing of new teaching methods, application of new strategies, and/or experimenting with technology. This results in course evaluation surveys that include both standardized and tailored survey items/questions that are integrated with the needs and pursuits of administrators and faculty, as well as educational research.

The poster presentation will summarize the sources of data-driven course evaluations used at GSDM, the various uses of course evaluation by administrators and faculty, and measures of teaching effectiveness used in academic portfolios. Emphasis will be on one aspect of data-driven course evaluations, namely the characteristics of effective college teaching. The findings on various models of effective college teaching will be presented and linked with the findings from GSDM dental students. Implications for curriculum management and faculty evaluation and development will be discussed.

FAMeS: A PIPELINE PROGRAM IN FAMILY MEDICINE 22

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Background: There is an increasing need for primary care physicians in the United States. Despite the fact that many communities are underserved and lack access to primary care physicians, the rates of graduating students choosing careers in primary care are low. We hypothesized that part of the reason for this may be due to lack of exposure to primary care physicians in medical school, a sense that primary care physicians lack mastery of certain topic areas, and a lack of support for individual students'
interest in primary care.
Methods: We developed a pipeline program called FaMeS (Family Medicine Student Track), which is now in its third year. FaMeS consists of curricular elements (students have a family physician as faculty for ICM and/or IP in the first and second years), extracurricular elements (monthly workshops geared toward gaining expertise in the physical exam, learning about certain opportunities available in primary care, and other topics determined by student interest), and summer opportunities (students receive priority in the lottery for spots in the Family Medicine Summer Externship).
Results: While the program is still too young to track a clear effect on the numbers of students applying in family medicine and other primary care specialties, we can report that enrollment in FaMeS has increased every year, and the current fourth year class (which, though it predates FaMeS, has benefited indirectly from the increased activities in the department due to FaMeS) matched almost triple the number of students in family medicine, compared to previous years.
Conclusion: Pipeline programs that begin during the preclinical years may be an effective way to increase and retain student interest in primary care. While grant funding can support development and initiation of such programs, formal support and incorporation into medical school curricula and activities will ensure sustainability.

Educational Technology

USE OF PODCASTING TO IMPROVE STUDENT PERFORMANCE **23**
(ORAL*)

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Statement: Course evaluations two courses taught at Boston University School of Dental Medicine Department of General Dentistry where used to determine the efficacy of podcasting to improve student performance.
Objectives: To determine if podcasting:*Increased student participation in class by decreasing note taking during class *Improved students understanding by having recorded lectures *Improved students performance in combination with reference material provided.
Description: Podcast is a series of digital-media files which are distributed over the internet (in this case posted on courseinfo) using syndication feeds for playback on portable media players and/or computers.
Method: A class representative was assigned the task of recording the podcast using a laptop computer equipped with a microphone and a webcamera. The lectures were recorded synchronizing the powerpoint slides with the audio, then posted on the Courseinfo Website. Lectures were given for the course of Occlusion and Fixed Prosthodontics. Students were given course evaluations prior to their final exam. A total of 154 out of 188 submitted their course evaluations for the Occlusion course and 113 out of 188 for the Fixed Prosthodontics course. All the students where asked questions to determine if the use of pod casting was considered effective and useful to study for midterm and final examinations.
Findings: The response rate for the evaluation was high. For the Occlusion course the overall responses are positive. For the Fixed Prosthodontics course the majority indicated that their approach to note taking and learning did not change. Although the pod castings were available the students preferred to take notes during class.
Lessons learned/Questions/future questions: Even if podcasts are provided, enough time should be given to the students to study the material, review notes and listen to recordings.
Faculty members should listen to their lecture recordings. Podcasting is a useful tool but will not replace classroom interaction.

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

ENVIRONMENTAL HEALTH TOOLS FOR ASSESSMENT AND REDEVELOPMENT OF CONTAMINATED PROPERTY **24**

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One of the core competencies for the Masters of Public Health (MPH) degree as designated by the American Schools of Public Health for Environmental Health is to “specify current environmental risk assessment methods.” Meeting this competency is difficult in light of the time allotted for EH education in the MPH curriculum. The web-based module developed and implemented by an interdisciplinary team of faculty enables students to work outside of class to engage in application of the risk assessment methods while learning fundamental concepts in a relevant and engaging manner. The approach utilizes a case-based approach in which the remediation of a former contaminated military installation is used to present the multiple environmental health issues similar to those faced by communities across the world in cleaning up and reusing contaminated sites in a productive and health-protective manner. This online module enables the student to identify the hazards, to estimate disease rates associated with these hazards, to quantify exposures and health risks and to identify the issues associated with redevelopment of land, e.g. water use, urban sprawl and on-going health concerns. The module provides an interactive environment which features a number of learning elements including access to high quality information resources, streaming video clips, immediate feedback and the opportunity to work with raw data to analyze and use to solve problems. The program is still in development; however, it was tested with a small number of MPH students who recommended minor modifications. We are encouraged about its utility for large numbers of MPH students.

DIFFERENCES IN PERFORMANCE USING AN OPHTHALMIC SURGICAL SIMULATOR BETWEEN SUBJECTS WITH DIFFERENT LEVELS OF SURGICAL EXPERIENCE 25

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Purpose: Surgical simulators available for other types of surgery have shown faster adaptation to the psychomotor and perceptual skills, and improved learning curves. For many reasons, including restriction of residency work hours and privatization of medicine, the "learning by doing" model is no longer realistic for many training programs as the only method for surgical training. The purpose of this study is to evaluate the performance of different grades of surgeons on the continuous curvilinear capsulorrhexis (CCC) module of the VRmagic EYESI simulator.
Methods: This is an unmasked prospective randomized cohort study comparing the performance of different grades of surgeons (medical students, ophthalmology residents and fellows, attendings) on the specific CCC module.
Results: Overall performance correlated with level of surgical experience.
Conclusion: Surgical simulator performance correlates with previous surgical experience. The VRmagic EYESI simulator can be an effective method for teaching and evaluating specific ophthalmic surgical tasks to novice surgeons. Additional research will have to be done to evaluate if skills learned in a virtual reality environment translate to improved surgical technique and fewer surgical complications.

CLOCK DRAWING TESTS SCORING BY NEUROLOGISTS/NURSE PRACTITIONERS 26

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Objective: To study subjective scoring of clock drawing test (CDT) by neurology clinicians and to determine inter-rater reliability and compare this to objective CDT scoring systems.
Background: CDT has been advocated over MMSE as an office screening test for dementia. CDT is also recommended by guidelines of American Medical Association (AMA) and Canadian Medical Association for the assessment of fitness to drive. CDT use by neurologists has however not been validated.
Design/Methods: We conducted a randomized control trial of clock scoring by dementia specialists. We randomly selected 25 clocks from each of six predetermined groups based on consensus diagnosis (controls, subjects with a memory complaint but with normal neuropsychological testing, MCI and possible MCI with no memory complaints and abnormal neuropsychological testing, possible and probable AD) to dementia specialists for blinded scoring using a binary yes/no system and a 0-10 scale. We analyzed inter-rater reliability, sensitivity and specificity for consensus diagnosis of control, MCI and AD. Results: We found excellent intra-rater reliability and moderate to good inter-rater reliability. The 0-10 rating scale for CDT was performed better than the binary abnormal scale.
Sensitivity and specificity of neurologists clock scoring was comparable to the existing clock scoring systems.
Conclusions/Relevance: CDT scoring by dementia clinicians had good inter-rater reliability and moderate correlation to existing scoring systems and consensus diagnosis.
Study supported by: This research was supported by NIH grants P30-AG13846 (Boston University Alzheimer s Disease Core Center), M01-RR00533 (Boston University General Clinical Research Center) Center).

PSYCHIATRIST-LED INTERDISCIPLINARY PROGRAM FOR REDUCING DELIRIUM IN INPATIENT ELDERS 27

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Introduction: Delirium is a common, serious, and potentially preventable source of morbidity and mortality in hospitalized older patients. The goal of this project is to improve the existing quality of inpatient care for the elderly with delirium at Boston Medical Center. The recent literature continues to share that delirium is under-diagnosed and under-treated.
Systematic multi-component interventions and assessment tools been shown to help in the prevention, diagnosis and management of this disorder.
Objective: The goal of this project is to develop a multi-component intervention to encourage inter-disciplinary teamwork and improve the diagnosis and management of delirium in inpatient elders (>70 years) at Boston Medical Center.
Methods: This intervention has 3 main components: 1) Building a website (reducingdelirium.org) to serve as an information resource for interns, residents, attending physicians, physician assistants, nurse practitioners, nurses, patients, and patients' families. Developing Individualized portals for those involved to share experiences and perspectives on delirium; 2) Creating resident-run workshops to teach medical and surgical interns how to appropriately diagnose and manage acute delirium. 3) Implementing the use of an interactive web-based systematic checklist for the thorough assessment of risk factors for delirium with suggestions for evidence-based intervention.
Results/Projected Outcomes: The workshop and website curriculum have been created and we are preparing to pilot both with a sample of interns and psychiatry residents. We hope to include this workshop in this coming year's general intern training through the department of medicine and surgery. Ongoing process evaluation will be beneficial to ensure program adherence. The website and the checklist will continue to be developed and refined using formative evaluation techniques. The improved inter-disciplinary care and increased adherence to proven diagnostic and management tools is hypothesized to help lower the incidence and severity of delirium in elderly inpatients at BMC. Outcome evaluation will eventually be helpful in determining program efficacy.

TEACHING HISTOLOGY WITH INTERACTIVE TECHNOLOGY: VM AND ARS 28

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Statement of Problem: Our collection of microscope slides was deteriorating, class size was growing, faculty and support staff were becoming less available. School administrators were urging student self-directed and collaborative study. Faculty were expected to provide more small group interaction and less contact time.
Intervention: By introducing both virtual microscopy (VM; Bacus) and an Audience Response System (ARS; Turning Point), we completely changed our traditional approach to histology laboratory study.
Methods: Students completed VM laboratory exercises with a partner in advance of each 75-minute interactive discussion session. To assure that students were adequately prepared, each small group session began with a three-question quiz using the ARS and images from the assigned VM laboratory exercise. The quizzes contributed 10% to the final course grade.
Findings: Students quickly learned to complete the exercises before their assigned discussion session. The ARS quiz assured that the students kept up with the laboratory assignments.
The ARS quiz results allowed for the identification of students in difficulty as early as three laboratory sessions into the course, rather than after the first practical exam, six weeks into the course.
Our first VM practical exam replicated the first light microscope exam of the previous fall. Class performance on this exam was nearly 16 percentage-points higher than the mean of any first exam we have given with glass slides and microscopes.
The students' responses to both the VM and to the ARS are universally positive and enthusiastic.
Future Directions: We are extending ARS into the lectures of the histology course. We are improving the design of the interactive discussion sessions to better meet the needs and preferences of the students.

MENTORING STUDENTS THROUGH THE CREATION OF ONLINE EDUCATIONAL MODULES 29

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Statement of Problem Faculty have limited time to develop instructional materials to supplement their courses and students have creative ideas, but they need preceptors to mentor them through the content and composition of the instructional materials.
Objectives of Program The purpose of the instructional project elective is to allow the 4th year student to learn the process of developing educational content suitable for the curriculum, while working in a close mentoring partnership with faculty.
Description of Program In four weeks, students will meet with their preceptors and educational advisor to complete specific assignments that will become the instructional project. For faculty, this is an opportunity to use mentoring skills, and supplement course content while adding to their educational portfolio. Students will learn in depth about the project's topic and how to compose instructional materials. The 4th year Instructional Project elective provides the opportunity for a student to partner with faculty as a content expert to create together instructional materials and meet the 4 week deadlines.
Methods

1. Student locates Preceptor and they agree upon the project's topic
2. Student meets with educational facilitator to review process
3. 1st week's assignment: the student prepares title, a review of literature and selects instructional method
4. 2nd week's assignment: the student writes the project's goal, learning objectives, content outline, and evaluation strategy
5. 3rd week's assignment: student prepares draft presentation
6. 4th week's assignment: after receiving feedback from preceptor and beta class, the student makes revisions and completes the project.

Findings to Date 10 OB/GYN Projects: Anatomy Pregnancy Project
ICM-1 Pediatrics Project
Key Lessons Learned Student and perception must select a project topic that can be completed in 4 weeks. Student must complete the final project in order to receive a grade.
Future Directions More preceptors will to spend some time with a 4thstudent to complete an instructional project.

TEACHING AWARD RECIPIENTS 2007-2008

David Atkinson, Ph.D., Boston University School of Medicine, Department of Physiology and Biophysics
Proctor & Gamble Award for Excellence in Teaching Preclinical Sciences, Boston University School of Dental Medicine

James Chengelis, M.D., Boston University School of Medicine, Division of Psychiatry
Committee on Faculty Affairs Educator of the Year Award for Clinical Sciences, Boston University School of Medicine

Timothy Heeren, Ph.D., Boston University School of Public Health, Department of Biostatistics
Norman A. Scotch Award for Excellence in Teaching, Boston University School of Public Health

Douglas Hughes, M.D., Boston University School of Medicine, Department of Psychiatry
Committee on Faculty Affairs Educator of the Year Award for Preclinical Sciences; Stanley L. Robbins Award for Excellence in Teaching, Boston University School of Medicine

Shiro Kamachi, D.M.D., Boston University School of Dental Medicine, Department of General Dentistry
Proctor & Gamble Award for Excellence in Teaching Clinical Sciences, Boston University School of Dental Medicine

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

Jarrett Rushmore, Ph.D., Boston University School of Medicine, Department of Anatomy and Neurobiology
Committee on Faculty Affairs Educator of the Year Award for Graduate Medical Sciences, Boston University School of Medicine

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Objectives:

At the conclusion of this educational activity, participants will be able to:

- incorporate specific instructional techniques into their teaching
- identify key research questions in educational innovation and scholarship
- identify new approaches to educational innovation and scholarship

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Boston University School of Dental Medicine Division of Continuing Education will provide 4 hours of continuing education credits for verification of participation in the full event. Two hours worth of credits will be provided for half day participation

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