Sixth Annual John McCahan Medical Campus Education Day

Showcasing Educational Innovation and Scholarship at the Boston University Medical Campus

June 8, 2011

BOSTON UNIVERSITY

Boston University School of Medicine

Welcome to

The Sixth Annual John McCahan Medical Campus Education Day

Dear Colleagues,

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

Our keynote speaker this year, Martha Stassen, PhD, is the Director of Assessment at the University of Massachusetts in Amherst, President of the New England Educational Assessment Network and a nationally known investigator and innovative leader in the field of institutional instructional effectiveness and learner assessment. She will address the participants with her talk "An Assessment Manifesto: Checklists, Rubrics…Insights?"

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

This day is an opportunity to consider your teaching ideologies, connect with colleagues, and dialogue with all members of the Boston University Medical Campus community.

Sincerely,

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:

Ann Zumwalt, Ph.D., chair
Jana Brady, M.S.
Katherine Bronstad, M.S.I.S.
Peter Cahn, Ph.D.
Tim Heeren, Ph.D
Ariel Hirsch, M.D.
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Andrea Maalouf, D.M.D.
Stephanie Oberhaus, Ph.D.
Hee-Young Park, Ph.D.
Rob Schadt, Ed.D.
Peter Shaw, M.D.

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

Division of Continuing Education, BUSDM
Office of the Dean, BUSDM
Office of Continuing Medical Education, BUSM
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Office of Medical Education, BUSM
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Educational Media Center/Instructional Services

The Planning Committee acknowledges with appreciation the support and participation of the following educational vendors:

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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
8:40-9:30 a.m.	**Panel of BUMC Academic Deans** Linda Hyman, Ph.D., Associate Provost for the Division of Graduate Medical Sciences, BUSM Judith Jones, D.D.S., Chair of the Department of General Dentistry, BUGSDM Sharon Levine, M.D., Associate Dean for Academic Affairs, BUSM Lisa Sullivan, Ph.D., Associate Dean for Education, BUSPH
9:30-10:30 a.m.	**Poster Session/Vendors/Networking**
10:40-10:45 a.m.	**Introduction to Keynote Speaker** Ann Zumwalt, Ph.D.
10:45-11:45 a.m.	**Keynote Lecture** *"An Assessment Manifesto: Checklists, Rubrics…Insights?"* Martha Stassen, Ph.D., Director of Assessment, Office of Academic Planning and Assessment, University of Massachusetts Amherst

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

12:45-1:45 p.m. **Award Presentations**
(See page 29 for descriptions)

Ann Zumwalt, Ph.D.

BUSM Voluntary Faculty Teaching Award

GMS Faculty Recognition Award

BUGSDM Award for Innovation in Education

BUSPH Educational Innovation Award

Abstract Awards – Oral Presentations

Best Faculty/Staff Abstract
Peter Cahn, Ph.D., "Multilevel Mentoring: Developing a Structured, Longitudinal Faculty Development Curriculum" See abstract listings page 14

Best Student/Resident Abstract

Mitchell Wice, BUSM, Graduate Medical Sciences Program. "How the Level of Familiarity With an Image Influences Visual Search Patterns"
See abstract listings page 26, abstract # 12

Best Faculty/Staff Abstract
Gouri Gupte,Ph.D, "Promoting Deep Learning in a Student Centered Classroom: A Case Study for Public Health"
See abstract listings page 21, abstract# 6

2-3:30 p.m. **Workshop Sessions**

See workshop listing p. 10-11 for locations

<u>Educational Vendors</u> will be showcasing their products in Hiebert Lounge and room L 1403 after 9:00 a.m. throughout the day

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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.

Martha Stassen, Ph.D.

Dr. Stassen has been at UMass Amherst since 1994 where she supports individual faculty members and departments in their efforts to implement course-based, department-based, and General Education assessment. She also directs a wide range of assessment initiatives at the University, including research into instructional effectiveness, analysis of the learning outcomes associated with diversity-related curricula, and the individual and institutional factors associated with student retention and success. She has published articles on faculty responses to racial and ethnic diversity, engaging faculty in learning assessment, the student outcomes associated with living-learning community participation and, most recently, a study of various definitions of "Critical Thinking" and standardized testing. She is also the lead author of two assessment handbooks used by a variety of higher education institutions across the United States.

Stassen helps promote educational innovations on her campus. She is Co-PI of a $274,000 Davis Educational Foundation grant to support implementation of the University's new upper-division Integrative Experience requirement and serves as Team Leader for the University's participation in the American Association of Colleges and Universities (AAC&U's) General Education for a Global Century initiative. She has also designed and directed evaluations for a number of externally funded instructional improvement initiatives. She is currently working with a multi-institutional team on a Ford and W.T. Grant-funded study of the impact of an Intergroup Dialogue curriculum on student learning and development.

Stassen is a featured speaker at national and regional conferences and serves as a workshop facilitator and evaluation consultant to higher education institutions. She serves as President of the New England Educational Assessment Network (NEEAN), a professional association that provides assessment support to individual faculty members and institutions of higher learning throughout the northeast, and teaches and advises graduate students in UMass Amherst's Higher Education Program.

Dr. Stassen holds a B.A. in English (Music Minor) from Macalester College in St. Paul, Minnesota and a Ph.D. in Higher Education Administration from the University of Michigan, Ann Arbor.

WORKSHOP TOPICS AND LOCATIONS

2:00 PM – 3: 30 PM

Join the e-portfolio revolution: Using digital media inside and outside the classroom

James Wolff, M.D.

One of the greatest challenges facing public health educators is documenting and accurately assessing the learning that takes place in the classroom. A digital portfolio (e-portfolio from digication.com) provides an exciting, new, and innovative way of reflecting on the learning experience in the classroom, documenting the competencies and skills acquired during a course, making learning visible by creating a permanent record of classroom activities, and assessing the progress and competence of students. It can also be used outside the classroom to provide an ongoing record of evidence of skills and competencies. In this workshop we will review the ways in which we have used e-portfolios inside and outside our classroom and discuss how e-portfolios might be incorporated into different types of educational activities. E-portfolio is available free to everyone with a bu.edu email address and we will provide a hands-on introduction to creating an e-portfolio in the computer lab.

Location: R 107 (Computer Lab)

Developing Online Training and Education: Lessons from an Integrative Medicine Curriculum Project

Steven Lin, M.P.H., Paula Gardiner, M.D.

During this workshop, we will share our experience and research on developing online teaching cases for residents. This workshop is for those who wish to develop online resources to facilitate medical student, resident, care-provider, and faculty education in evidenced-based medicine. We will share our experience and lessons learned about collaboratively planning, developing, implementing, evaluating, and disseminating web-based content. There will be a strong focus exploring the advantages and disadvantages of specific modalities, as well as interactive exercises to apply these concepts to participants' own educational interests.

Location: L 1109B (Library Computer Lab)

Mobile Medicine: Medical and Health Apps

Konstantin Starikov, M.A., David Flynn, M.S.

This interactive and hands-on workshop provides an overview of medical and health apps in the context of new mobile technologies and the evolving needs of BUSM/BUGSDM/BUSPH/ GMS students, residents, medical practitioners, and faculty at BUMC. In this workshop participants will learn about The Alumni Medical Library's subject guide portal to Mobile Devices, familiarize themselves with recommended medical, health, and productivity apps, discuss the review processes and walk away with a deeper understanding of the technical and philosophical issues related to the new and exciting world of mobile apps in the fields of medicine and public health.

Location: L 1105 (Library Computer Lab)

A Blended Approach to Develop Hierarchical and Critical Thinking Skills
Wayne W. LaMorte, M.D.

This workshop will describe an orchestrated series modifications to a course in epidemiology (20 minutes); these were designed to progressively develop increasingly complex analytical skills through a blend of didactic and active learning exercises that take place both in the classroom and outside. Technology was selectively used to provide advanced skill building which enhanced and extended classroom learning without consuming classroom time. The bulk of the workshop will be devoted an open discussion of alternative methods to promote critical thinking skills and hierarchical thinking in a variety of courses. We will also discuss barriers, limitations, and possible solutions to problems in fulfilling this goal.

Location: L 212

Virtually There: Engage Your Classroom with Remote/Online Guest Expert Professionals
Jean Maguire van Seventer, V.M.D., Davidson Hamer, M.D., Lucy Milne, M.Ed., Frank Furnari, M.B.A., Kirsten Martin

The goal of this workshop is to provide instructors with the information they need to develop and implement hybrid, face-to-face and online teaching strategies that will allow their students to engage, in a knowledgeable and meaningful way, with outside expert professionals in the online classroom. The workshop will be roughly divided into two parts. Part I will examine pedagogic issues and strategies involved in bringing online guests into the classroom. In Part II, the Medical Campus' Educational Media Center and Information will explain their role in supporting virtual solutions to bringing guest speakers into the classroom and provide best practice advice.

Location: L 214

Technology Enhanced Active Learning
Shoumita Dasgupta, Ph.D., Ann Zumwalt, Ph.D.

This workshop aims to provide participants a forum to explore two technologies that can be used to increase student participation in and out of the classroom. Discussion boards are supported through the Blackboard software that is used as a classroom information management tool, but they are not widely used. Twitter feeds have been used in other contexts to facilitate real-time audience feedback, but to our knowledge have never been implemented at BUSM. In this workshop, we will demonstrate how these tools can be used to support synchronous and asynchronous student discussions and feedback in real time in a lecture setting.

Location: L 1110 (Library Computer Lab)

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ABSTRACT THEME FOR POSTER PRESENTATIONS

Education Innovation and Research

The submissions are meant to showcase scholarship or ongoing research in education at BUMC. Projects can be presented prior to the completion of full evaluation. Examples of educational innovations include: course curricula, simulations, innovative educational collaborations, or the development, implementation, or evaluation of educational tools.

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

MULTILEVEL MENTORING: DEVELOPING A STRUCTURED, LONGITUDINAL FACULTY DEVELOPMENT CURRICULUM (ORAL*)

P.CAHN
Department of Medicine, Boston University School of Medicine

Problem: Academic medical centers can expect to lose nearly half of their faculty every decade. Studies suggest that new faculty who receive formal mentoring are more likely to remain at their institution than peers without mentors. At Boston University Medical Campus, 40% of faculty report receiving inadequate mentoring.
Objective: An interdisciplinary taskforce convened to design a structured, longitudinal mentoring program for early career faculty at the three schools.
Description of Program: The Early Career Faculty Development Program runs for nine months and provides 18 participants with mentoring at three simultaneous levels:
• Participants partner with a senior colleague to work on a scholarly project.
• Campus leaders deliver content related to academic advancement at twice monthly presentations.
• Mentees form learning teams to share progress on their goals.
Methods: To determine the curriculum, members of the taskforce convened focus groups, consulted outside experts, and administered a needs assessment survey to the accepted participants. A committee honed the learning objectives and created interactive exercises for each of the 18 sessions.
Findings to Date: Mentors convey that mentees have achieved significant progress on their projects. Evaluations at the end of each session indicate high levels of satisfaction with the interactive content. The learning teams have produced collaborations between faculty from different schools.
Key Lessons: Because their previous training rarely exposes new faculty to the hidden curriculum of academic success, faculty development programs must offer explicit instruction in professional as well as interpersonal skills.
Future Directions: Before the program began, the taskforce collected baseline information on the academic achievements and personal resiliency of both participants and a control group of nonparticipants. In 2012 and 2013, researchers will update the data to determine if the treatment group registers greater advances.

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

TEACHING MOTIVATIONAL INTERVIEWING IN AN AMBULATORY MEDICINE CLERKSHIP WITH SUPPORT FROM AN ONLINE WEB BASED ACADEMIC SITE 1

T.CHENG[1], J.CROSSON[1], W.HERSHMAN[1], T.BARBER[1], S.SARFATY[2]
[1]Department of Medicine, Boston University School of Medicine [2]Assistant Dean of Academic Affairs, Office of Enrichment, Boston University School of Medicine

Needs and Objectives: Much of health care today focuses on helping patients manage conditions whose outcomes can be greatly improved by behavior change. These conditions range from tobacco and alcohol cessation to control of chronic diseases such as diabetes and hypertension. Motivational Interviewing (MI) has been shown to be more effective than traditional advice giving in the treatment of a broad range of medical conditions. Previous efforts to incorporate MI into the curriculum of medical schools have focused mostly on knowledge and skill development. To promote a shift in attitudes and encourage understanding of the collaborative spirit of MI, we designed an experiential educational intervention to help medical students understand and articulate the challenges of behavior change. We believe this may facilitate empathy and increase understanding of the importance of the patient's perspective in health behavior counseling.
Setting and Participants: The MI workshop was one in a monthly series of workshops developed in academic year 2010 on advanced physician- patient communication as part of Boston University's Ambulatory Medicine Clerkship. Our goals in designing the curriculum included maximizing direct teaching time and effective use of senior physicians with advanced communication skills. Scarce instructional time would be reserved mainly for skills demonstration, practice and constructive feedback. Hence, we used an online web based academic site called Blackboard to post assigned readings and demonstration videos on MI technique prior to the workshop session in order to take full advantage of the classroom time to focus on clarification of concepts, discuss contrasting view points and allow extended time for role playing.
Description: A major difficulty with teaching MI is the tendency of health care professionals to under appreciate the challenges of adopting behavioral changes in the context of a patient's life. Toward this end, during the role plays incorporated into our workshop medical students are asked to work on a meaningful personal health behavior change. During the week, they are asked to post their reflections on Blackboard's Discussion Board, an online forum for non-simultaneous communication. Postings are grouped into threads that contain a main heading and all related replies. Fellow students are pre-assigned in class to respond to their small group members.
Our innovations for the workshop include the employment of the previously underutilized resource of Blackboard in clinical medicine rotations, use of experiential learning as a way of enhancing reflection on the challenges of behavior change, and the use of Discussion Board as a vehicle for sharing of reflections.
Evaluation: The MI curriculum has been in place since June 2010 and overall response has been positive. Acceptance and participation in this assignment was high. As groups of students interact during the course of the week and comment on each other's posts, it is clear that Discussion Board is instrumental in achieving our learning objectives of understanding and articulating the challenges of adopting behavior changes. Students have frequently commented that the challenges of behavior change were greater than they had originally thought. Postings by students reflect on how this helped them realize the difficulties their patients face when taking on health behavior change. In addition, students have been innovative with their use of Discussion Board, attaching pictures of themselves using a variety of exercise equipment as they work to get back in shape or posting additional information they have found while doing research on a behavior change.
Discussion/reflection/lessons learned: To our knowledge, online academic websites have not previously been used as a method of encouraging self-reflection for behavior change. The most frequent changes adopted by the medical students include healthier eating, exercise, taking vitamins, getting more sleep, and also less common ones such as reduction in online surfing time, more leisure reading, and getting organized.
It is unclear if the increased insight into the challenges of behavioral changes will translate into long term improvements in health care communication overall and in particular for MI. Whereas role plays have been used in other MI curriculum, this is the first time that we have used a student driven scenario. In contrast to what is often seen in other role play sessions, the students remained highly engaged during the sessions. In addition, by the end of the academic year we will have a rich repository of health behavior change reflections which we hope to analyze for content and themes.

DEVELOPING AND EVALUATING AN AMBULATORY COMMUNICATION SKILLS CURRICULUM FOR INTERNAL MEDICINE RESIDENTS 2

J.CROSSON
Department of Medicine, Boston University School of Medicine

Challenge/Questions: How to develop and evaluate a formalized ambulatory curriculum for communication skills for the internal medicine residents?
Background:
Effective doctor-patient communication is key to being able to provide good medical care.
Evidence demonstrates that communication skills affect patient satisfaction, the quality of the history obtained, medical compliance, health outcomes, and lawsuits (Stewart Can Med Assoc J 1995, Beckman Ann Int Med 1984, Dimatteo Health Psychololgy 1993, Hickson JAMA 1994).
Although doctor's communication skills are key to effective and efficient patient care, at this point adequate communication skills are taken for granted by many of our internal medicine residents who seem to give low priority to developing their skills to this critical dimension of care in their busy management of patients. Therefore communication curriculum should be formalized and evaluated. The body of literature on communication skills curriculum that exists focuses mainly on undergraduate medical students, and there is little literature about communication skills curriculum for graduate medical training or its evaluation.
Project: The Internal Medicine program at BU wants to meet its obligation to ensure our residents are receiving the training they need in communication skills and professional personal awareness. Communication skills entail effectively communicating and building relationships with patients and teams. Professional personal awareness entails reflecting on their practice, constantly seeking self- improvement, and developing skills to avoid burnout. The combination of these skills is critical for our trainees at BMC because our residents must have the skills to work with a diverse patient population which involves language and cultural differences, racial disparities, varied health literacy, multiple social stressors, high rates of drug use and depression/anxiety, in order to build trust and work more effectively to improve all our patients' health.
Methods: The Internal Medicine Residency Program at Boston University School of Medicine developed a communication skills curriculum during the ambulatory block which was mandatory for all residents. The curriculum was developed via input from the previous small communication skills seminars and a group of committed teaching attendings who identified the key skills handling emotions, demonstrating empathy, and listening to the patient. We focused on difficult conversations and end of life topics. Each workshop agenda included an ice breaker, small group reflection and sharing their own experience, a didactic on the evidence-based medicine of the topic and the skills components to do it well, a skills practice exercise in small groups using role plays of clinical scenarios and a skills trigger card.
The evaluation of the curriculum includes a survey immediately after each workshop and a self-reflective questionnaire a month after the completion of the workshop series. The post workshop survey asks residents to identify if the felt the workshop was at their level of training, and to assess their own knowledge of the components of the skills in the workshop and their confidence in being able to use these skills with patients and families. A month after the workshop series was completed, a questionnaire was distributed asking residents to reflect on their communication skills with patients.
The analysis was using overall ratings on a likert scale of 1-5 of self-assessment of competence knowing the skills and confidence doing the skills in practice. A qualitative analysis was done of the reflective questionnaire.
Results: All the internal medicine residents were trained in the key skills handling emotions, demonstrating empathy, and listening to the patient. The majority found the training at their level and rated their knowledge and confidence in their skills as above average after the workshops.
Discussion: Using input from faculty, a communication skills curriculum was developed and piloted which focused on listening to the patient, handling emotion and self-reflection on practice. The workshops centered around clinical cases using the topics Delivering Bad News, Leading Goals of Care Discussions and Discussing Errors with Patients and Families. All residents attended these mandatory workshops. The great majority of residents (interns, junior and seniors) stated the workshop was appropriate for their level of training. The majority rated their knowledge and confidence levels after the training to be 4 out of a Likert scare of 1-5. From the self-reflective questionnaire we saw the residents are using a number of the skills emphasized in their clinical practice.
Next Steps: We plan to expand the workshop series to include skills in patient education, counseling behavior change, history gathering, working with interpreters, and managing patients with chronic pain.
We also plan to use a new tool to evaluate residents communication skills with patients using behaviorally observable anchors. This evaluation tool will be used during a clinical observation and document if residents' communication skills are at the expected level preceptors will discuss their evaluation with residents thereby promoting increased reflection on their practice, and these evaluations will give us information on the impact of the workshop series. We will analyze the responses to modify and improve the curriculum.

MENTORING MEDICAL STUDENTS IN RADIATION ONCOLOGY AND OTHER CANCER-RELATED DISCIPLINES BY INTEGRATED TEAM-BASED LEARNING CASES

3

N.DENUNZIO[1], A.HIRSCH[2]
[1]Boston University School of Medicine, MD/PhD Program, [2]Department of Radiology Oncology, Boston University School of Medicine

Background: Significant proportions of men and women will be diagnosed with cancer in their lifetimes. Furthermore, treatments are commonly multifactorial with 60% of cancer patients receiving radiation as part of their prescribed regimens. This underscores the necessity of comprehensively training students to care for cancer patients. We propose a team-based learning (TBL) experience for second- and third-year medical students to expose them to, and nurture interest in, radiation oncology as part of the Oncology Education Initiative at BUSM.
Description: The intent of the TBL exercise is to reflect the multidisciplinary nature of cancer patient care. At the end of the second year, students have fundamental knowledge of the basic science of disease while at the end of the third year they have obtained a working understanding of some of the major areas of clinical practice. The format of TBL sessions would be to present one or two cases that may be discussed by faculty leaders from multiple oncology-related fields including those, like radiation oncology, that are traditionally underrepresented in the undergraduate medical curriculum. Furthermore, independent work may be pursued in the days immediately following the session to further develop understanding of specific fields discussed during the larger session.
Results: This program should stimulate interest in a variety of specialized but related fields that address cancer care, notably radiation oncology, as well as provide students with a conduit to these areas of study via discussion facilitators who are leaders in those fields. Simultaneously, these sessions will address seamlessly providing integrated cancer care among healthcare professionals.
Conclusions: Integrated TBL exercises may be employed by any multidisciplinary sect of the medical community where diverse professionals rely on one another for optimal outcomes. Ideally this paradigm will achieve the intended educational benefits as well as promote cohesion among colleagues as they discuss and research cases together.

IMPLEMENTING A PRECLINICAL ONCOLOGY CURRICULUM TO PREPARE MEDICAL STUDENTS FOR TREATING CANCER PATIENTS

4

N. DENUNZIO[1], A. HIRSCH[2]
[1]Boston University School of Medicine, MD/PhD Program, [2]Department of Radiology Oncology, Boston University School of Medicine

Purpose: It is estimated that over one third of women and a near majority of men in the United States will be diagnosed with cancer in the course of their lifetimes. To prepare future new physicians for this reality the authors have constructed a pre-clinical oncology curriculum that introduces second-year medical students to essential concepts and practices in oncology and that is based on a model that is currently employed by their home Institution. Its intent is to improve students' comfort with the material prior to seeing patients as well as improve their abilities to appropriately interact with these patients.
Methods: The authors compiled a list of subjects deemed important to educate students about after having consulted the oncology and medical education literature. Topics vary greatly, including basic science and clinical aspects of oncology as well as those that address patients' psychosocial needs, but all included areas fulfill at least one of the competencies prescribed by the Accreditation Council for Graduate Medical Education for structuring content in residency programs.
Results: The authors address practical considerations for curriculum implementation and non-traditional learning formats like self-studies and case discussions along with proposing a traditional but systematic lecture schedule. Other points of consideration are integration with a school's existing academic calendar, state-of-the-art concepts and technologies in cancer patient care, and providing institution-specific flexibility in discussing some topics.
Conclusions: The evolving oncology healthcare landscape necessitates that all (new) physicians be competent in holistically managing their cancer patients' conditions, regardless of area of specialization. Implementing a thorough and logically organized cancer curriculum for pre-clinical medical students, with inputs from the national medical community to improve it, should help achieve these aims.

CADAVER BIOPSY PROJECT: INTEGRATION OF BASIC SCIENCE INTO A CLINICAL CLERKSHIP

7

A.EISENSTEIN[1], L.JOSEPH[2], C.O'HARA[2], H. JOHNSTON-COX[3], A.GALLAN[4],B.WATSJOLD[4], S.HSU[4], A.GARG[4], P.ROMESSER[5], L.VAISMAN[6], K.SHAFFER[7]

[1] Boston University School of Medicine, MD/PhD program, [2] Department of Pathology and Lab Medicine, Boston University School of Medicine, [3] Boston University School of Medicine Class of 2015, [4]Boston University School of Medicine, Class of 2013, [5]Boston University School of Medicine, Class of 2011, [6]Boston University School of Medicine, Graduate School of Medical Sciences [7]Department of Radiology, Boston University Medical School

Problem based and small group learning formats provide a more engaging environment for the adult learner and are being incorporated into the curriculum of many medical school in the United States. The Cadaver Biopsy project began as an integration of Anatomy and Histology into the Disease and Therapy course. This year the project will be taken one step further by integrating and reinforcing basic science material learned in BUSM 1 and BUSM 2 into the Radiology clinical clerkship in BUSM 3 or 4. The intent is for students to recognize the relevance of basic sciences in their understanding of disease pathogenesis and its connection to the clinical presentation, as well as incorporate this knowledge into their future practice as physicians. The project was initiated with the help of current medical students who have completed at least their second year of medical school. The students chose a disease process to research and then developed questions designed to integrate material learned in the first two years of medical school. These questions were developed into case studies, which will serve to generate small group discussion and connect basic science to clinical knowledge. During the radiology clerkship, small groups of third and fourth year students will be assigned these questions and present their answers to the rest of the class. The new integration will be implemented in the academic year 2011-2012. We propose several metrics to evaluate the success of this intervention, including an initial "satisfaction survey", an "attitude survey" to assess the students' appreciation of using modalities from different fields to improve patient care, follow-up studies to assess long-term incorporation of knowledge into clinical practice and lastly, a vertical learning assessment to gauge the benefit of basic science integration into the clerkship.

EVALUATION OF AN INTERACTIVE, VISUAL ON-LINE TUTORIAL TO IMPROVE URINE MICROSCOPY TEACHING

5

C.GORDON[1], L.BECK[1], J.GRAY[2], J.R. HEINRICK[3]
[1] Department of Nephrology, Renal Section, [2] Boston University School of Medicine, Class of 2012 [3] Boston University School of Medicine, Class of 2011

Background: The evaluation of urine sediment is one of the oldest non-invasive clinical tools used to diagnose renal and systemic pathology. We developed a novel online module for urine microscopy training and evaluated its efficacy as a learning tool.
Methods: To evaluate the tutorial, we created a ten-item multiple-choice pre and post-tutorial examination comprising questions focused on image identification and fact or case-based questions, as well as a curriculum assessment tool using a five-point Likert scale. We hypothesized that post-test results would be higher than pre-test outcomes and that performance on image-based questions would improve more than fact or case-based items. Data were analyzed using a two-sample T test.
Results: Second year medical students accessed the tutorial and pre- and post-examinations throughout the renal module of the Disease and Therapy course. Of 183 enrolled students, 30 (16%) completed both pre- and post-tests. Mean score on the pre-test was 47% [95% CI, 41-54%] and 63% [95% CI, 56-70%] on the post-test, p-value < 0.001. Post-tutorial score on image identification items increased by 26% ($p < 0.001$) but did not increase significantly for other question types. Nine students completed the curriculum assessment and reported improved understanding of urine microscopy and that the tutorial was a valuable educational tool which they would recommend to future enrollees.
Discussion: This novel urine microscopy tutorial is an effective learning tool for second year medical students. Post-tutorial examination scores were higher in general, but significantly for questions requiring image identification. Student evaluations of the tutorial were largely positive. The generalizability of these findings is limited by few students completing the pre- and post-tutorial examinations and curriculum assessment. Despite these limitations, this online educational tool appears valuable for medical student education, and potentially for resident/fellow training, as well as a model tutorial for other image-based medical topics.

PROMOTING DEEP LEARNING IN A STUDENT CENTERED CLASSROOM: A CASE STUDY FOR PUBLIC HEALTH

6 (ORAL*)

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Statement of Problem or Question: The Education Team for the School of Public Health (SPH) has proposed a learning framework which identified six domains of learning. In addition SPH seeks to promote these domains in the context of deep learning, that is, a genuine understanding that promotes long term retention of the material as well as the ability to retrieve it and apply it to new problems in unfamiliar contexts. For their teaching to promote deep learning in students, faculty must carefully sequence activities in and out of class and online. In the course we are offering here goals, assessments, and activities have been designed supporting the SPH framework and the school's intention to promote learning that is retained beyond the classroom; learning that enables students to do things in the world of public health.
Objectives of Program/Intervention: Design Strategy Management in Healthcare (PM 827) employed a deep, student centered approach towards learning. The main learning objectives of the course were for students to be able to:

1. Explain general business strategy concepts as they relate to the health care industry.
2. Analyze market opportunities and challenges for purposes of formulating strategies.
3. Operationalize analytical frameworks using strategic decision making tools to address issues faced by healthcare organizations.
4. Creatively strategize small solutions to address healthcare concerns.

PM 827 course was designed to focus on the field of strategic management in healthcare. The specific aim was to provide students with tools for understanding how environmental factors influence strategic planning process in the health care industry. The course content was taught using news, media use (blogs, Blackboard), case studies, learning activities, readings, class discussions, presentations, fieldwork and team activities in and outside of class. The final assignment consisted of a report that required the students to use the tools learned in class including real-life examples, team work and reflective learning.
Methods: To better understand student learning and perceptions of the course the following methods will be employed and analyzed: Mid-term assessment, concepts maps, student directed news blog, examinations with reflective components, class based projects, team based peer evaluations, team presentations and reports, course evaluation, focus groups, and post course surveys.
Findings to Date: We are awaiting the student evaluations and feedback. However, to date the following was observed:

- Increased interaction and discussion in class
- Deeper understanding of the course content
- Critical thinking and reflection on the course content
- More social insight in real life events

Lessons Learned:

- Role of the professor as a facilitator rather than teacher
- Student ownership and engagement develops over time and in response to certain activities

Questions/Future Directions:

- How can the course be developed to further not only interactions student-student and teacher-students, but also with students and real world clients?
- How can healthcare clients in need of real world strategy development be involved in the class?
- How can e-portfolio tools that help student metacognition be developed throughout the class?

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

RADIATION ONCOLOGY IN THE CORE CLINICAL MEDICAL SCHOOL CURRICULUM: AN UPDATE FROM THE ONCOLOGY EDUCATION INITIATIVE 8

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Purpose: The Oncology Education Initiative (OEI) was established in 2007 to advance oncology and radiation oncology education in the undergraduate medical curriculum. It integrates structured radiation oncology didactics into the existing core radiology clerkship, which is offered to third -and fourth-year medical students. Here we investigate whether such intervention continues to augment medical student knowledge of radiation oncology.

Methods: Pre- and post-clerkship tests covered aspects of general oncology, radiation oncology, breast cancer, and prostate cancer. The 21-question, multiple-choice exams were administered at the beginning and end of the radiology clerkship during which a 1.5-hour didactic session was given by a radiation oncology attending. Changes in individual question responses and overall categorical responses were analyzed. All hypothesis tests were two-tailed with a significance level of 0.05.

Results: During the 2010 academic year, 155/208 (75%) students were present for the pretest, posttest and lecture, and therefore met the requirements for evaluation. Of these, 77 (49%) were in their third year while 78 (51%) were in their fourth. The average exam score improved 8% ($p<0.001$). Performance improved across all topics, with the largest increase seen in radiation oncology, which was 15% ($p < 0.001$). Interestingly, as the year progressed, average scores increased among third-year students but decreased among fourth-year students. Comparing against previous classes (2008: 59% to 70% ($p=0.011$); 2009: 60% to 71% ($p<0.001$)) demonstrates improvement across time.

Conclusions: The addition of radiation oncology didactics continues to show a significant improvement in medical students' knowledge of the field. The OEI has therefore improved radiation oncology education and led to a better understanding of multidisciplinary oncology management for all medical students at our Institution. Interestingly, it may be more beneficial to complete the radiology clerkship during the third year, as students seemingly benefit more from the course at that point in their medical career.

KNOWLEDGE AND ATTITUDES TOWARDS KHAT AMONG YEMENI MEDICAL STUDENTS & EFFECTS OF A SEMINAR 16

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Introduction: Use of Khat, an addictive stimulant, is prevalent in Yemen. Our study's aim was to describe khat knowledge and attitudes among Yemeni medical students (MS) and to describe the effects of a seminar about khat.

Methods: MS at Taiz University (July 2010) completed a 35-item survey. A subgroup participated in a 3-hour discussion-based seminar on khat's health and social impact and completed a follow-up survey. Analyses were primarily descriptive; Wilcoxon-Signed-Rank and McNemar tests were used to assess changes in knowledge and attitudes.

Results: Of 62 students surveyed, 18 participated in the seminar and follow-up survey. Overall, 39% reported ever using khat, and most had knowledge about khat's health effects. Most agreed that it is unacceptable for health professionals (HP's) to chew khat (89%). However, only 10% agreed that HP's should routinely inquire about khat chewing, and 94% agreed that HP's should not advise their patients to quit. After the seminar, although not statistically significant, more participants correctly identified the stimulant component of khat and heart attack risk, fewer participants thought it acceptable for HPs to chew khat (11% vs. 6%), and more thought HPs should routinely ask patients about it (6% vs. 11%), that it is harmful to health (89% vs. 94%), and that HPs serve as role models about it (78% vs. 89%). There was a borderline significant decrease in students incorrectly agreeing that khat is not addictive (11%, $p=.06$).

Discussion: Although the students had some knowledge about khat's health effects and considered it unacceptable for HP's to chew khat, they did not agree that HP's should ask about or advise patients to quit. Given khat's pervasiveness in Yemeni culture, it is unsurprising that a seminar would have little effect. Nonetheless, with public health official support, and favorable knowledge and attitudes, seminars about khat might help improve practice.

NEEDS ASSESSMENT AND EDUCATIONAL IMPACT OF AN ELECTIVE IN PALLIATIVE CARE

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Statement of Problem or Question: The palliative care consult service offers a 1 to 4 week elective for medical residents and fellows.
The educational problem for the faculty on the palliative care service was to provide a maximal educational experience for learners with variable educational needs in a short period of time.
Objectives of Program/Intervention: The objectives of the intervention were to:
1. Identify the self-assessed learning needs of medical residents and fellows rotating on the palliative care service in important domains of palliative care.
2. Measure the impact of an elective rotation on the palliative care service on these needs.

Description of Program/Intervention:
Evaluations were given to rotators before and after the rotation.
Rotators on the palliative care service participated in the clinical work of the service. No standard curriculum was implemented.
Methods: Evaluations were developed based on discussions with the palliative care faculty at Boston University and on previously existing palliative care curricula which identified important domains in palliative care.
Self-assessments of confidence were on a Likert scale from 1 to 5.
Findings to date/Evaluation: Data was collected over the period from July 2008 to April 2011. There were 25 pre-rotation responses and 11 post-rotation responses.
Trainees indicated lowest levels of confidence in systems issues at the end-of-life and in non-pain symptom management. Pre-rotation self-assessed confidence increased with years of experience.
After the rotation, trainees self-assessed confidence increased in all domains. The greatest increase was seen in management of non-pain symptoms, which increased from 2.32 to 3.73.
Written comments indicated that trainees felt their experiences in pain management and in communication were the most valuable aspects of the rotation.
Key Lessons Learned: The findings demonstrated that trainees' confidence levels increased in all measured domains after the rotation.
Evaluations reflected the smallest increases in confidence levels in the area of communication which may reflect the challenges inherent in teaching and learning communication skills.
Questions/Future Directions: This study indicated that our future educational efforts with trainees on the palliative care service should focus primarily on pain management and on communication skills.
In the future we would consider targeting different curricula to learners with different skill levels, and to use a knowledge-based test rather than self-assessed confidence to measure educational impact.

INTRODUCTION OF SMALL GROUP CLINICAL SKILLS WORKSHOPS IN THE FIRST-YEAR MEDICAL GROSS ANATOMY COURSE AT BOSTON UNIVERSITY SCHOOL OF MEDICINE 10

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The ability of faculty to provide effective small group learning opportunities, an educational element sought by many first year medical students, is challenged the by increase in medical school class size. At the Boston University School of Medicine (BUSM), approximately 190 students are enrolled in Human Gross Anatomy. The course organization includes a traditional didactic format, with bi-weekly lectures as well as bi-weekly laboratory sessions conducted by six faculty members in the Department of Anatomy and Neurobiology. Although faculty and students engage in anatomical discussions during laboratory sessions, there is relatively little time available to reinforce the clinical relevance of anatomical structures. Additionally, in this model, students frequently report feeling overwhelmed by the volume of material and experience uncertainty about their ability to utilize clinically relevant anatomical information in their future clinical practice (1).
In the current pilot study, first year medical students enrolled in Human Gross Anatomy were introduced to the anatomic basis of the musculoskeletal examination using a small group workshop format. The goal of these workshops was to bridge the gap between the Human Gross Anatomy and the Clinical Medicine courses. Of the survey respondents, a majority of students indicated that these additional workshops strengthened the link between gross anatomy and clinical medicine. The survey data suggest that students learned from and valued the practical experience of performing the components of the musculoskeletal examination while currently learning gross anatomy through traditional lecture and cadaver dissection laboratory sessions. Additional input from clinical instructors, however, should be further incorporated and faculty resources need to be considered

ORAL HEALTH CARE DISPARITIES AND ACCESS TO CARE AMONG OLDER ADULTS 11

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The number of older adults in America has increased substantially over the years. According to CDC, by the year 2030, there will be about 71 million American older adults (roughly 20% of the US population). This demographic shift is likely to increase the nation's health care spending by 25%. The growing size of the aging population is one of the greatest public health challenges of the 21st century in terms of access to care as well as equity in the provision of care. CDC states that although overall health of older American adults has improved over the years, not all are being benefited equally because of factors such as economic status, race, gender and education.
Good oral health care should be a lifetime commitment. Research has proven that oral health is related to an individual's systemic health. Its neglect can have a deleterious effect on the overall health of an individual. A special report by 'Oral Health America' in 2003 states that "poor elderly have a higher percentage of untreated decayed teeth and the members of racial and ethnic groups experience a higher level of oral health problems." The poster outlines this problem and certain recommendations that will help in improved provision of care among older adults as well as reducing the oral health disparities among older Americans.
Objectives: 1. Discuss the problem and the implications of oral health care disparities among older adults. 2. Evaluate the need to consider older adults in developing public policy.

EDUCATION IN NUTRITION MEDICINE: THE CRITICAL ROLE OF MEDICAL STUDENTS

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[1] Boston University School of Medicine, Class of 2013, [2]Department of Pediatrics, Boston University school of Medicine [3]Boston University School of Medicine, Class of 2012, [4]Boston University School of Medicine, Class of 2014

Statement of the Problem: A recent study found that only 27% of U.S. medical schools met the minimum 25 required hours of nutrition education set by the National Academy of Sciences, a drop from 38% in 2004.
Objective of the Intervention: The Student Nutrition Awareness and Action Council (SNAAC) has created an innovative way of making nutrition a key component of medical school education. SNAAC members are working with faculty to create a comprehensive online nutrition resource and develop a diverse array of extracurricular projects to promote nutrition education.
Description of the Intervention: SNAAC has five main components, each with a variety of opportunities for student involvement:

(1) Education: works with medical school staff and a Physician Nutrition Specialist (Carine Lenders, MD) to create four year longitudinal nutrition curriculum based upon national competencies. Teaching is done via online modules and integrated case based discussions.
(2) Applied Education: runs a nutrition lecture series that has evolved into a medical student/dietetic intern interdisciplinary partnership through personalized diet counseling;
(3) Community Outreach: enhances training of teenage nutrition-advocates by educating about nutrition and disease;
(4) Clinical Practice: provides students with a multidisciplinary structured shadowing opportunity at BMC's Nutrition and Fitness for Life Clinic; and
(5) Advocacy: assists with state-level nutrition legislation and promotes healthy options at BMC cafeteria. SNAAC is featured in BUSM's Deans Service Learning Initiative and Wellness Initiative.
Method: Second years lead the different aspects of SNAAC and recruit first-year students to become future co-leaders.

Future Directions: The group plans to 1) Ensure sustainability of current projects; 2) develop culturally-sensitive nutrition materials; and 3) launch vertically-integrated virtual nutrition course.

THE MS/DI MATCH: PAIRING MEDICAL STUDENTS AND DIETETIC INTERNS TO PROMOTE INTERDISCIPLINARY TEAM DEVELOPMENT IN NUTRITION-RELATED PATIENT CARE 13

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Background: With the growing number of Americans suffering from nutrition-related chronic conditions, physicians would benefit from referring their patients to registered dietitians (RDs), who are trained to provide evidenced-based medical nutrition therapy (MNT). However, many future physicians are not familiar with the valuable role that RDs play in disease prevention and health care cost reduction.
Objective: In an effort to bridge the two professions, the Boston University Medical Student/Dietetic Intern Match program ("MS/DI Match") was created to pair current Boston University Medical Students and Dietetic Interns. For the medical students, the intent was to provide free personal nutrition counseling and education on what registered dietitians do and when it is appropriate to refer. For the dietetic interns, who are being trained to become registered dietitians, the intent was to learn more about the medical pharmacology of diseases, interact with future physicians, and develop a referral network for the future.
Methods: Two pilot iterations of this program have been executed. In the first, twelve medical students were paired with twelve dietetic interns for five weekly meetings. These meetings involved three personal counseling sessions for the medical students' diet, a session on eating healthfully at restaurants, and a grocery store visit. In the second, seven pairs underwent five monthly meetings, this time including personal counseling sessions, grocery store visits, and a lecture day given by the participants about the pathophysiology, drug therapies, and nutrition therapies for a variety of diseases. All participants were given learning objectives for each meeting and asked to fill out a feedback survey at the conclusion of the program.
Future Direction: Based on survey feedback, a third iteration is in development to combine both personal counseling and group education with activities focused on improving collaboration and interaction of medical students and dietetic interns in an inpatient setting.

HOW THE LEVEL OF FAMILIARITY WITH AN IMAGE INFLUENCES VISUAL SEARCH PATTERNS 12 (ORAL*)

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Learning, by definition, is observed by behavior change. However, what continues to elude scientists is how the process of learning occurs in the brain. We propose that one way to study learning may be to use visual search patterns. This project explores whether subjects' visual search patterns change with experience with select images. Our theory is that when a person sees an image multiple times, they should recognize an image faster due to experience and therefore examine the image less thoroughly for less time. We hypothesized that the duration of viewing an image and the number of fixations (moments when the eye rested on a location in the image) would decrease as subjects see an image repeatedly. We also hypothesized that the durations of these fixations would increase with experience.
Subjects from the general population were tested using an eye-tracking device that tracked a subject's visual gaze pattern. Subjects were shown a series of four repeated images, as well as other images that were not repeated. We conducted graphical and statistical analysis across subjects and per individual subjects and found no statistically significant results to uphold our predictions. However, nonstatistically significant trends supported our hypotheses that viewing duration decreased with repeated viewings and that the number of fixations per image decreased with repeated viewings. Future experiments are currently being planned to refine this study.

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

ASSESSMENT OF PEER TEACHING MODEL IN YEMEN 15

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Problem: Medical students in Yemen face many challenges, including studying medicine in a second language, English. Although the national language is Arabic, most classes are taught in English and students learn from English textbooks.
Objectives: The course objectives included increasing comfort with English conversation, promoting evidence-based medicine, and building international relationships among medical students in the US and in Yemen.
Program: A team of students from Boston University School of Medicine taught an English conversation-based public health course addressing major health concerns in Yemen at the University of Taiz, Faculty of Medicine.
Methods: The authors conducted a cross-sectional time-one (T1; prior to the course), time-two (T2; after the course) study administering a survey using Likert scales and rank orderings to assess the efficacy of the course in achieving the stated objectives. A Mann Whitney U test was used to compare T1/T2 samples (n=22); statistically significance was determined for each objective (α=.05).
Findings: At T2, students ranked online scholarly articles higher in usefulness for their studies after taking the course (p=.05). Yemeni students' perceptions of Americans changed more positively during the course (p=.004). No statistically significant change in reported comfort with the English language use was observed. 22 of the 30 students enrolled in the course completed the survey.
Lessons learned: According to these results, this peer teaching experience was found to be valuable in building international relationships and promoting evidence based medicine. At T1, 86% of Yemeni students reported that media outlets had shaped their perceptions of Americans. In a single response question at T2, 86% students reported that the class was valuable to his or her education and in becoming a better physician.
Future directions: The goal is for the course to occur annually, but there are mounting obstacles pertaining to Yemen's current political instability.

ASSESSMENT OF THE APPLICATION OF ANATOMY KNOWLEDGE DURING REQUIRED CLINICAL ROTATIONS 17

A.ZUMWALT
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Basic science education in medical schools is designed to provide medical students with essential foundational knowledge. The potential careers our students may ultimately pursue are varied and unpredictable. Thus the goals of the basic science medical educator are to prepare students for success in their clinical training, and to provide them with the fundamental knowledge needed to adapt and succeed in their chosen field.
The current project assessed the application of anatomy knowledge in the third year (first full time clinical year) at BUSM. Regardless of their ultimate specialty, students must master the core competencies of the required clerkships. Therefore, the goals of this study were to help inform anatomy educators about how students apply the knowledge learned in Gross Anatomy in these clerkships, with the ultimate goal of maximizing the utility of the anatomy course. This study examined two parallel questions: In the context of these clerkships, (1) what anatomy knowledge is essential for a student to possess to be successful, and (2) how does a student apply their anatomy knowledge on a regular basis during these rotations?
These questions were addressed using a 360-degree approach, using interviews with clerkship directors, clinicians who mentor students, and student focus groups. Members of six of the required clerkships (Family Medicine (FM), Internal Medicine (IM), Surgery, Geriatrics (Geri), Ob/Gyn, and Radiology) were interviewed, though the study primarily focused on the first three as the anatomists already work closely with the other three. Results to date indicate that the application of medical students' anatomy knowledge varies between clerkships, though there are some topics that arise repeatedly. As the curriculum continually evolves, the results of this study will aid in integrating anatomy and clinical skills, with the goal of improving students' competence in these fundamental competencies.

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

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

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

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BUSPH values its excellent reputation for innovative teaching and is proud to acknowledge excellence in teaching and learning through the BUSPH Educational Innovation Award. This award recognizes creative contributions to the development of tools for the innovative presentation of coursework, new curriculum design, and the creation of an improved teaching and learning environment.

The Educational Innovation Award is designed to reward faculty who are prepared to challenge the traditional ways of doing things, to try out new approaches and to seek improvements in the way teaching is delivered and learning is achieved. Its aim is to enhance the status of teaching, encourage innovation and disseminate good practice.

TEACHING AWARD RECIPIENTS 2010-2011

Srinivas Ayilavarapu, B.D.S., Boston University Goldman School of Dental Medicine, Department of General Dentistry
Procter & Gamble Award for Excellence in Teaching Clinical Sciences, Boston University Goldman School of Dental Medicine

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

Michelle Henshaw, D.D.S., Boston University School of Dental Medicine, Assistant Dean for Community Partnerships and Extramural Affairs
William J. Gies Award for Innovation, Boston University Goldman School of Dental Medicine

Wayne LaMorte, M.D., Boston University School of Public Health, Department of Epidemiology
Boston University Metcalf Award for Excellence in Teaching, Boston University School of Public Health

Manuel Molina, D.M.D., Boston University Goldman School of Dental Medicine, Department of General Dentistry
Procter & Gamble Award for Excellence in Teaching Clinical Sciences, Boston University Goldman School of Dental Medicine

Carl J. O'Hara, M.D., Boston University School of Medicine, Department of Pathology & Laboratory Medicine
Stanley L. Robbins Award for Excellence in Teaching, Boston University School of Medicine

Judith D. Saide, Ph.D., Boston University School of Medicine, Department of Physiology & Biophysics
Committee on Faculty Affairs Educator of the Year Award for Graduate Sciences, Boston University School of Medicine

Barbara Schreiber, Ph.D., Boston University School of Medicine, Department of Biochemistry
Procter & Gamble Award for Excellence in Teaching Basic Sciences, Boston University Goldman School of Dental Medicine

Deborah W. Vaughan, Ph.D., Boston University School of Medicine, Department of Anatomy and Neurobiology
Committee on Faculty Affairs Educator of the Year Award for Preclinical Sciences, Boston University School of Medicine

Taryn Vian, Ph.D., Boston University School of Public Health, Department of International Health
Norman A. Scotch Award for Excellence in Teaching, Boston University School of Public Health

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