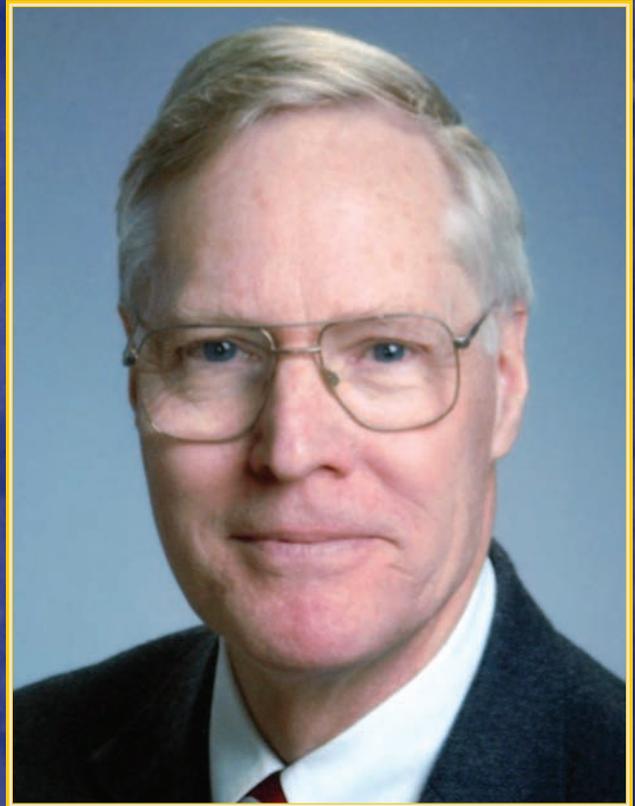


**Ninth Annual
John McCahan
Medical Campus
Education Day**



**Showcasing Educational Innovation
and Scholarship at the
Boston University Medical Campus**

Thursday, May 22, 2014

**BOSTON
UNIVERSITY**



Boston University School of Medicine

Welcome to

The Ninth Annual John McCahan Medical Campus Education Day

Dear Colleagues,

Welcome to the ninth annual John McCahan Medical Campus Education Day. Dr. McCahan 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, Carole Pfeiffer, Ph.D., comes from the Department of Medicine at the University of Connecticut where she is the Undergraduate Education Director. She was a founding member of the Association of Standardized Patient Educators and has a particular interest in communication skills in the clinical encounter.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Karen Antman', written in a cursive style.

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

The organizers wish to thank the following sponsors for their generous support of the poster session refreshments.

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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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Mary Warner, MMSc, PA-C
Aaron Young, Ph.D.
Liza Young

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

Division of Continuing Education, Boston University Goldman School of Dental Medicine
Division of Graduate Medical Sciences, Boston University School of Medicine
Office of the Dean, Boston University Goldman School of Dental Medicine
Office of the Dean, Boston University School of Medicine
Office of Medical Education, Boston University School of Medicine
Office of the Dean, Boston University School of Public Health
Office of Facilities Management and Planning
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The Planning Committee acknowledges with appreciation the support and participation of the following educational vendors:

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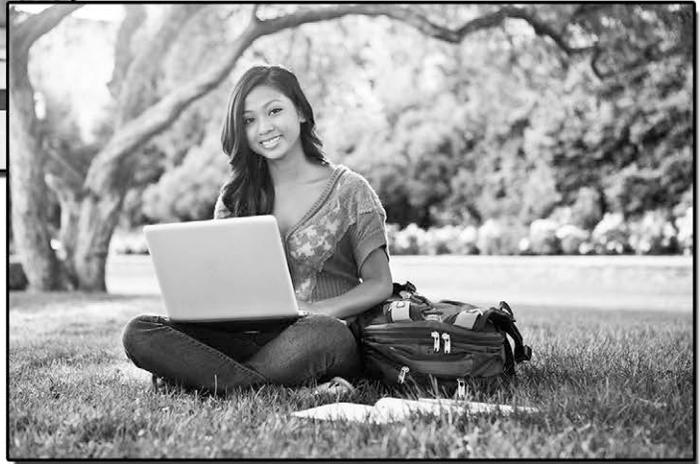
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**Ninth Annual
John McCahan Medical Campus Education Day
*Showcasing Educational Innovation and Scholarship
at the Boston University Medical Campus***

**May 22, 2014
Hiebert Lounge**

SCHEDULE OF EVENTS

- 8:30-8:40 a.m. Welcome Address**
Karen Antman, M.D.
Provost, Boston University Medical Campus
- 8:40-9:45 a.m. Keynote Lecture**
The Art and Science of Giving Feedback
Carol Pfeiffer, Ph.D.
University of Connecticut Health Center
Dr. Carol A. Pfeiffer is a Professor of Medicine and a sociologist who has worked in medical education for three decades. She the Director of the Clinical Skills Assessment Program at the University of Connecticut School of Medicine and was a founding member of the Association of Standardized Patient Educators. She has a particular interest in communication skills in the clinical encounter.
- 10:00-11:30 a.m. Workshop Sessions**
See workshop listing p. 12-16 for descriptions and locations
- 11:45 a.m. Lunch/Networking/Vendors**
- 12:15-12:45 p.m. Panel of BUMC Academic Deans**
Doug Hughes, M.D., Associate Dean of Academic Affairs, BUSM
Hee-Young Park, Ph.D., Assistant Dean for the Division of Graduate Medical Sciences, BUSM
Michelle Henshaw, D.M.D., Associate Dean for Global & Population Health, BUGSDM
Lisa Sullivan, Ph.D., Associate Dean for Education, BUSPH
- 12:45-1:45 p.m. Award Presentations**
BUSM Office of Academic Affairs Voluntary Faculty Award of Excellence
BUSM Office of Academic Affairs Excellence in Service Award
GMS Faculty Recognition Award
BUGSDM Faculty Recognition Award for Educational Innovation
BUSPH Educational Innovation Award

(See page 10 for descriptions)

Schedule of Events

Abstract Awards – Oral Presentations

Best Student Abstract

“Assessment of Structured Advocacy Training Integrated into the Third Year Obstetrics and Gynecology Clerkship”

Louis Yu, M.A., BUSM 2015; Nicole Economou, B.A., BUSM 2015; Erica Holland, M.D., Department of Obstetrics and Gynecology, Boston Medical Center

See abstract listings page 55

Best Resident Abstract

“Monthly Review of Adverse Event Reports Increases Trainee Reporting”

Alla Smith, M.D. and Jonathan Hatoun, M.D. M.P.H.

See abstract listings page 49

Best Faculty/Staff Abstract

“Criteria For Admissions: Do They Predict a Success in Doctoral Programs?”

Hee-Young Park, PhD, Oren Berkowitz, PhD, MSPH, PA-C , Elisabeth S. Belisle, Gerard Lavoie, Shoumita Dasgupta, PhD* and Karen Symes, PhD*

See abstract listings page 40

2:00-3:30 p.m. ***Poster Session/Networking/Vendors***
Cookies and Coffee sponsored by
McGraw-Hill and STAT!Ref

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

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 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. He guided a major change in curriculum governance and chaired the Medical Education Committee, created in this reorganization. Throughout his career he had a particular interest in the patient-doctor interaction and the teaching methodologies that resulted 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.



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John McCahan Medical Campus Education Day Awards

BUSM Office of Academic Affairs Voluntary Faculty Award of Excellence

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

BUSM Office of Academic Affairs Excellence in Service Award

The Office of Academic Affairs' Excellence in Service Award was established in recognition of BUSM Administrators and Staff whose outstanding work within the curriculum supports the success of the school, faculty, and students. Areas of excellence can include, but are not limited to service, leadership, innovation, and/or teamwork.

GMS Faculty Recognition Award:

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

BUGSDM Award for Innovation in Education

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

BUSPH Educational Innovation Award

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

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

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Applications now accepted online at www.harvardmacy.org

WORKSHOP DESCRIPTIONS AND LOCATIONS

All workshops run concurrently from 10:00-11:30 AM

WORKSHOP A- Room L-214

THE ONE-MINUTE LEARNER: AN INNOVATIVE TOOL TO ENABLE DISCUSSION OF GOALS AND EXPECTATIONS IN THE CLINICAL LEARNING ENVIRONMENT

Molly Cohen-Osher, MD and Miriam Hoffman-Kleiner, MD. Department of Family Medicine, BUSM

It is critical that student and teacher goals and expectations are in alignment in order to enable clinical teaching experiences to be successful. However, lack of discussion of goals and expectations is common in clinical teaching settings, leading to poorer quality teaching and learning, frustration, and problems with evaluation. The One-Minute Learner (OML) is a specialty-neutral and setting-neutral, simple tool that can be given to learners and faculty to enable proactive discussions of goals and expectations. This session will review the importance of goal setting and discussions of expectations, and will demonstrate how both learners and faculty can use the OML tool to achieve this. Participants will practice using the OML tool and discuss how to implement this tool to enhance their clinical teaching.

Target Audience:

Faculty, residents and medical students who work in clinical teaching environments

Rationale:

Student and teacher expectations drive the activities and anticipated outcomes in any teaching/learning environment. Mismatches in what either party expects and what actually happens, sets up teaching encounters to fail. This can lead to poorer quality teaching and learning, frustration, student anxiety, and problems with evaluation.

Furthermore, a large challenge to medical education is the wide array of clinical settings and teachers where and with whom our students and residents learn. Not all teachers remember to discuss goals and expectations. Additionally, those who do intend to do not always have the time. Further, and perhaps, most importantly, many faculty do not realize the critical importance of discussing goals and expectations to the success of a clinical learning experience and so therefore they do not routinely do this. In order to alleviate these problems, we have developed the OML. The OML is an easy-to-use and efficient tool that structures a conversation about goals and expectations during clinical teaching sessions. Either faculty or learner can initiate this tool. It enables and structures a quick and simple conversation that allows students and teachers to be on “on the same page,” which leads to a satisfying and productive clinical teaching session.

This tool was developed at BUSM in the Family Medicine Clerkship, and is now part of third-year orientation. It has been presented at multiple national conferences and is being used at many institutions across the country.

Learning Objectives:

By the end of this session, participants will be able to:

1. Describe the importance of discussing goals and expectations to promote effective clinical learning experiences
2. Use the One-Minute Learner tool to facilitate a discussion of goals and expectations in both the inpatient and outpatient clinical learning environment

Outline:

10 minutes	Introductions, learning objectives, session outline
10 minutes	Review of importance of discussing expectations and goals
20 minutes	Review of OML, including one-page overview, pocket card, how to review with students, and how to present to faculty
35 minutes	Practice using OML through participant role play in pairs using two different cases followed by role play debrief
10 minutes	Discussion of implementation of OML
5 minutes	Wrap up, distribution of materials

WORKSHOP B- Room L-209

RAISING YOUR HAND? THERE'S AN APP FOR THAT. AN INTERACTIVE SESSION WITH TWO AUDIENCE RESPONSE SYSTEMS

Drs. Alexander Bendayan and Celeste Kong

Boston University Goldman School of Dental Medicine

During the course of this hands-on experience the participants will become familiar with the use of two audience response systems, Polleverywhere® (web-based program) and Responseware® from Turning Point Technologies (computer-based program) that could be used as a teaching aid during classroom lecture and to increase student participation.

Participants are encouraged to bring their laptops, tablets, and/or smartphones in order to participate in an interactive session to master the use of technology.

Both technologies can also be utilized to track attendance and student participation along with generation of demographics, debates, teams, etc.

Target Audience: Faculty and Staff

Turning Point Technologies® is already being used by Boston University Charles River Campus, Boston University School of Medicine and Boston University Goldman School of Dental Medicine.

Polleverywhere® is another audience response system available online and only requires a license for the main user, participants do not require a license but the different plans limit the number of users that can participate.

Learning Objectives: By the end of the session, participants should be able to:

Identify two of the available Audience Response Systems

Create questions using both systems

Integrate both Polleverywhere® and Responseware® with Powerpoint® on either Mac or PC.

Practice in a live session with both technologies

Discuss pros and cons of both systems

Outline: (breakdown for didactic parts of sessions)

Overview (20 minutes): brief introductions, review Learning Objectives and ask for participant input on what they hope to gain from the session, set up the 2 software components we will discuss. Also discuss the role of audience response systems in a classroom setting as an important teaching tool to continuously engage the students/audience. Briefly discuss other audience response systems such as Meridia, Ubiquos, ClickAPad.

Hands on experience (60 minutes): During this time the presenters will guide the participants on how to access the Polleverywhere Webbased application. They will also provide instructions to download the smartphone/tablet applications. The presenters will construct questions during this time on the screen and ask the participants to respond such questions.

- **Polleverywhere® (30 min):** display on screen of the interface, navigate through the online website and explain different aspects, generate a set of questions, embed questions on Powerpoint presentations ,have participants log in from smartphones, tablets or laptops. Demo of Text to participate for those participants who may not have smartphones or computers (texting charges may be applied)
- **Turning Point ResponseWare® (30 min):** Display on screen of the interface, navigate through the software interface and explain different aspects, generate a set of questions, embed questions on powerpoints, have participants log in from smartphones, tablets or laptops.

Wrap Up (10 minutes): Pedagogical discussion time and Q & A..

WORKSHOP C- Room L-206

PRACTICE-BASED LEARNING: WHY AND HOW

Jacey Greece, DSc, MPH, Department of Community Health Sciences

Gouri Gupte, PhD, MHA, Department of Health Policy and Management

Boston University School of Public Health

This workshop will engage participants in a discussion about practice-based learning. Practice-based learning links students to practical problems and fosters academic and agency collaboration. This is a mutually beneficial dynamic that best prepares students for the field and builds partnerships. Course assignments can include deliverables that demonstrate student understanding and can be used by the agency. Students in these courses at School of Public Health create multiple deliverables aligned with the course for various stakeholders based on the problem statement and needs of the agency. For example, students develop public/healthcare programs for agencies such as Boston Public Health Commission, Boston Medical Center, and other healthcare facilities. This has resulted in acquiring additional professional skills and internship opportunities.

The learning objectives for this session will be achieved through hands on activities, allowing for an engaging learning environment. This interactive session will address the process for establishing partnerships for practice-based learning opportunities, and articulate the benefits to students, faculty and the surrounding community in forging these partnerships. Challenges in creating these learning opportunities will be identified and discussed. Finally, we will discuss how to evaluate these practice-driven courses.

Target Audience:

Faculty interested in learning about practice-based learning and using real-life projects to develop student's professional skills and meet technical competencies.

Rationale:

A major teaching challenge is to create learning opportunities for students where they can meet both the technical competencies outlined by course learning objectives and concurrently develop professional skills that will make them successful in the workforce. Professional degrees and the skills needed to effectively practice are constantly evolving. By making projects more accessible, and providing opportunities for students to engage with future employers, we ensure our graduates are receiving the appropriate training to be successful while creating linkages with the community they are being trained to impact. The benefits to practice-based learning can apply to any discipline and field of study.

Learning Objectives: By the end of the session, participants should be able to:

1. Describe the educational principles underlying practice-based learning.
2. Identify the technical and professional competencies and skills that students can learn through practice-based learning.
3. Explain the benefits of practice-based learning for the various stakeholder groups: agency, the faculty, the students, and the community served.
4. Analyze the challenges of practice-based learning for the agency, the faculty, and the students and evaluate means by which to address these challenges.
5. Describe the process of establishing partnerships and mechanisms to successfully design a practice-based learning course.
6. Discuss the methods used to evaluate the effectiveness of practice-based learning and the extent to which benefits have been realized by the stakeholders.
7. Apply the concepts and points of knowledge learned in this session in a skill-based activity to describe the process of practice-based learning.

Outline:

Overview (5 minutes): Introductions, agenda and learning objectives, and introductory question regarding session expectations.

Practice-based learning (5 minutes): Presentation of theories and description of current practice-based courses and their content.

Benefits (25 minutes): By using video interviews with various stakeholders, participants will engage in a discussion of the benefits of practice-based learning.

Implementation (25 minutes): Working in groups, participants representing the various stakeholders will discuss the challenges for these courses.

Evaluation (20 minutes): Stakeholder groups will identify competencies that need to be assessed for these courses.

Examples (10 minutes): Two courses that have implemented this style will be presented with supporting testimonials from a student in the course.

A resource list will also be provided to aid workshop participants for future reference and learning

WORKSHOP D- Room R-107

AVOIDING “PREDATORY PUBLISHERS” ON THE CAREER PATH

Joseph Harzbecker, MSLS, Head of Reference & Electronic Collections Management,

A'Llyn Ettien, MLIS, Head of Technical Services,

Laura Spiller, MS (LIS), Technical & Information Services Librarian, Alumni Medical Library

This session will give an overview of the scientific publishing process: both the traditional model, under which authors submit articles to journals, and journals charge fees for access, and the various Open Access (OA) models, under which authors or institutions often pay journals a fee for publication, and journals make articles freely available. OA has become a significant source of freely available research articles, many in reputable, peer-reviewed journals, but the model has also given rise to a large number of “predatory publishers,” which charge authors significant fees for publication and provide little or no peer review or promotion. Publishing is important, but it can be difficult to tell if an offer is legitimate. Participants in this workshop will learn the hallmarks of predatory publishing and gain the ability to confidently assess communications from publishers and determine whether publishing with a specific OA journal will be worth the requested fee.

Target Audience:

Faculty members, post docs, graduate students, residents and others who write for publication and/or advise students with in-process or completed theses or research projects

Rationale:

Library staff members often receive questions from researchers who have received questionable solicitations from organizations offering to publish their articles or theses for a fee. These library users seek advice on how to tell if a publication offer is legitimate, or should be avoided. This workshop offers that advice in a group forum, with opportunities to discuss specific offers and talk about the advantages and disadvantages for authors of both OA and traditional publishing.

Learning Objectives:

After completing this workshop, participants will:

- Be able to explain the basics of both traditional scientific publishing and Open Access publishing, and what benefits each presents to writers
- Be able to identify hallmarks of potential “predatory publishers” and understand why these are generally not good choices
- Be able to effectively evaluate offers received from publishers
- Be able to appropriately advise students, mentored researchers or others confronting this out-of-classroom challenge
- Be familiar with sources for more information on specific journals and publishers

Timeline and duration of activities:

Introductions, overview of Learning Objectives, and participant input on any specific goals they have for the session (10 min)

Overview of traditional publishing process (5 min)

Overview of Open Access movement and different models of OA publishing (10 min)

Group discussion: how OA can be a valuable option for students/researchers seeking to publish (15 min)

Overview of “predatory publishing” problem in OA and key tips for identifying a predatory publisher (15 min)

Hands on/group activity: practice evaluation of sample OA publisher websites and communications (participants are encouraged to bring examples of questionable solicitations they have received) to determine whether they match one of the legitimate models of OA publishing, or should be classified as potentially ‘predatory’: group discussion of what guided participants to their classification (25 min)

Wrap up: Questions and summary (10 min).

WORKSHOP E- Room L-212

DEVELOPING A PROGRAM ASSESSMENT MODEL

Mary Warner, MMSc, PA-C and MaryAnn Campion, MS, CGC, Director of Assessment, BUSM Division of Graduate Medical Sciences

Target Audience: Faculty and Program Directors at BUMC who are interested in assessment.

Rationale

In recent years, we have witnessed multiple public calls to increase educational program accountability and to assign program “value” based on objective quantifiable data. This focus on programmatic outcomes has pushed educators and administrators to develop new assessment tools that support continuous, longitudinal educational program assessment. However, many educators are unfamiliar with successful assessment strategies beyond assessing students’ knowledge in the classroom. This workshop will guide educators, who are developing comprehensive program assessment schemas, to create a relevant assessment plan that will help shape the quality of curricular efforts as well as improve administrative processes.

Learning Objectives

At the end of the session the learner will be able to:

1. Categorize program outcomes by type and topic.
2. Relate their program assessment to the program mission and goals
3. Identify the key elements of successful program assessment.
4. Apply tenets of program assessment to develop tools for evaluating:
 - a. admissions policies, processes and outcomes,
 - b. curriculum content and implementation,
 - c. program administration,
 - d. and a comprehensive program assessment matrix.

Workshop Timeline:

Setting the Stage: A Primer on Program Assessment

Lecture 15 minutes

Breakup into groups of four tables based on interest in admissions, curriculum, program administration or comprehensive program assessment.

2 minutes

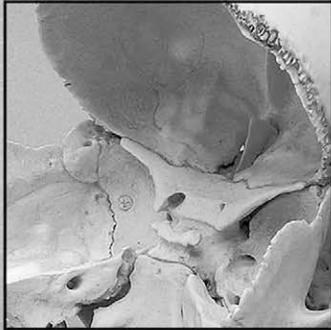
Workshop: Each round table will create an assessment plan and one specific assessment instrument corresponding to one of the four areas of program assessment listed in the learning objective number 4.

Roundtable Workshop Format 40 minutes

Summary: Each table will present their assessment plan and instrument to the group and discussion on the instruments will ensue.

Participant Discussion 23 minutes

Wrap-up time and Questions 5 minutes



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ABSTRACT THEMES FOR POSTER PRESENTATIONS

Education Technology

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

Abstracts 1-5

Education Innovation and Research

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

Abstracts 6-43

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

THE USE OF SOCIAL MEDIA WITHIN THE CONTEXT OF ELECTRONIC MEDICAL TEXTBOOKS

Kyle L. Cyr, M.A., BUSM 2015; Osamede Obanor, BUSM/BUSPH 2015; Caresse Spencer, M.D. Department of Anesthesiology, BUSM; Rafael Ortega, M.D., Department of Anesthesiology, BUSM

Background and Description: Social media is rapidly becoming a popular means of communication. There is established evidence that students and health professionals use social media to obtain medical information. Data is lacking, however, on the use of social media within the context of electronic medical textbooks. The ability to share textbook content through social media sites such as Facebook and Twitter ensures reliability and accuracy of disseminated material along with the ease of providing and receiving the information in a non-formal manner. The Technology Acceptance Model (TAM), is a previously developed tool to assess attitudes towards the use of social media for sharing knowledge and information. The current study is designed to assess whether anesthesia residents will access electronic medical textbooks through social media and share information among their colleagues through this pathway.

Methods: A survey, adopting the approach of the TAM, was created to assess attitudes toward and use of sharing the content and electronic media of the “Clinical Anesthesia” textbook that was provided to the BUMC Anesthesiology Residents. The survey will be administered at the beginning of the academic year and will help raise awareness regarding electronic sharing capabilities. A follow-up survey will be sent six months later to assess whether adoption has increased.

Results: Responses from residents will be analyzed to assess attitudes towards the use of social media for sharing medical textbook information.

Discussion: As the amount of medical information grows and increases in complexity, new methods of sharing and disseminating information must be employed. Social media, given its existing framework and widespread adoption, represents a promising avenue to achieving this imperative. Sharing the survey analysis with teaching faculty, we hope to prompt better utilization of this pathway with respect to electronic medical textbooks.

TECHNOLOGY IN HEALTH CARE AND APPLICATION TO SICKLE CELL DISEASE (SCD)

Caitlin Dugan, MPH Candidate, BUSPH

Introduction: As a graduate student researcher at Boston Medical Center, I worked with the Pediatric Hematology Division of BMC and faculty educators from the BU Schools of Medicine and Education on a project to improve patient knowledge of sickle cell disease (SCD). I assisted members of a multidisciplinary group in the analysis of previously collected data, reviewed peer-critiqued publications, and helped with the design of a study on how SCD patients learn about their disease. The primary goals of the practicum were to understand the means by which patients acquire information about SCD, and to use this information to help improve patient knowledge and health outcomes.

Methods: To complete this project, I: 1.) helped to develop an IRB proposal for a study to improve provider knowledge about patient education of genetic and clinical SCD implications. 2.) Created a report which detailed family knowledge of sickle cell disease in the US, accessibility of educational materials for affected families, and current outreach methods of health education regarding heritable diseases. 3.) Investigated the role of mobile phone apps and websites in health education and created an extensive summary of the ways information becomes disseminated.

Results/Projected Outcomes: The results of this initiative are expected to increase outreach to patients with SCD and to improve health outcomes. Summary reports, and a presentation, will be completed by the end of the semester, and will be utilized by other group members for additional SCD-related projects.

DEVELOPMENT OF AN EVIDENCE-BASED MEDICINE MOBILE APPLICATION FOR THE USE IN MEDICAL EDUCATION

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Background: Boston University School of Medicine (BUSM) is an early adopter of Evidence Based Medicine (EBM) in the United States. The challenge of applying EBM to clinical rotations has been a concern in Medical Education, thus the need for reinforcing these principles. The EBM-VIG at BUSM created a custom-made tool called the Finding Information Framework (FIF) to guide new users of EBM in applying principles to practice

Methods: Collaborating with the designers of the FIF, the research team developed a mobile application to reinforce this framework for students, allowing easy access and fast utilization of EBM tools. The research team emphasized key features identified in current literature while designing a user-friendly app. The research team specifically utilized iOS and Android platforms as both platforms are most widely used by medical students in the United States.

Results: Initially, App Inventor (AI) was selected for programming the pilot Android app. Several problems were encountered in AI, such as the simplicity of the program and the lack of freedom in design. These limitations led to collaboration with BU's Global App Initiative to create the app natively. A wireframe was built using Balsamiq, the Android app was built using Android SDK and the iOS app was built in Xcode with Objective C. Interfaces for both platforms were designed using Sketch, Adobe Photoshop and Illustrator. Boston University branding privileges were obtained before the app was published.

Conclusion: The research team identified necessary features based on best practices to build a user-friendly, professional mobile application of an information mastery framework that can be used off-line. The app is called FIF as it is the acronym of the information mastery framework. With its clear mobile interface and clean design, FIF will be beneficial in helping medical students practice EBM.

CAN A DIGITAL BADGE EQUAL COMPETENCY IN MEDICAL EDUCATION?

Gail March, Ph.D., Office of Medical Education, Boston University School of Medicine

BACKGROUND

The Carnegie Foundation Report of 2010 asked for a reform in medical education. Can a practicing physician follow these reforms to teach; to design courses; to lead academically; and to conduct medical education research? Professional development offered through special seminars, advanced degree programs, and organizational conferences require physicians to leave their health care practices to attend and are costly. Other medical education resources provide knowledge, but do not ensure confidence and competence in applying the knowledge. Digital badges in medical education offering open online access and confirmation of learning are a new concept and demanded significant research and design for the first BU badge program.

This study proposes to develop BUSM+ medical education badge pilot to provide all who teach health care teams and patients globally the opportunity to enhance their skills in teaching and learning. The specific objectives are to provide processes to develop ten sessions to earn badges for a teaching and learning course and analyze its data. The final question is if the BUSM+ Medical Education Badge Program provides for its participants easy access to medical education topics and confirms competency with a digital badge.

METHODS

BUSM+, funded by a BU Digital Initiative grant, presents the pilot and collects data with web-based surveys and Blackboard Learn SP13 combined with Mozilla Open Badge to deliver the badges. The pilot is very interactive with videos, assignments, multiple assessment strategies, and feedback. The analysis of the quantitative data (participant demographics, selected badge levels, assessments, and completed sessions) and the qualitative data (final project assessments and participant feedback on the course) answers the program's question. To develop the pilot, the analysis and design of different foundational and implementation processes came first.

RESULTS

After researching the literature and other available badge programs and consulting with content experts, the investigator delivered six processes: 1) a badge design, 2) technical and legal requirements, 3) specific assessment and badges, 4) pilot beta testing, 5) a production plan for the following four proposed courses, and 6) an analysis design for the collected data.

DISCUSSION

The BUSM+ Medical Education Badge Program offers the open opportunity for clinicians, community physicians, fellows, residents, medical students, and health care team members to select sessions and move through the online interactive course earning a badge in their time and at a low cost to fulfill lifelong learning skills that they may have missed in their medical education. Participants confidently display the digital badge in curriculum vitas, social networking, and eportfolios confirming that they have the knowledge and skills. The expected outcomes are reformed medical education practices, improved patient care, increased medical education research, and expanded job opportunities. The development of the pilot prepares to answer the research question and determines the program expansion with courses in curriculum design, academic leadership, and medical education research.

AN ANATOMICAL APPROACH TO TEACHING THE CLINICAL EVALUATION OF MUSCULOSKELETAL INJURIES TO PRIMARY CARE PROVIDERS

Julie Stamm, B.S., Ann Zumwalt, Ph.D. Department of Anatomy and Neurobiology, GMS

A solid understanding of anatomy is essential for successful clinical evaluation of musculoskeletal injuries. However, reinforcement of basic anatomical knowledge is often not part of continuing medical education (CME) for providers in the primary care setting, a group that is often first to evaluate musculoskeletal injuries. To address this gap, two lectures, one on the knee and the other on the shoulder, were presented to primary care physicians, nurse practitioners, registered nurses, and medical assistants at a university student health center for CME credit. In pre-lecture surveys the clinicians indicated that, on average, they were not confident to somewhat confident in their ability to evaluate knee and shoulder pain. A key feature of the lectures was their organization following the clinical examination process, with emphasis on palpation and testing of the underlying anatomy and differential diagnosis of common injuries. In post-lecture surveys the clinicians reported increased knowledge of anatomy, palpation, testing procedures, and specific injuries as well as increased confidence in their evaluation of knee and shoulder injuries. This project demonstrates that basic science presentations for primary care clinicians given within the familiar context of the clinical examination can contribute to increasing their clinical knowledge and confidence with common musculoskeletal assessments.

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

EXPANDING THE “STUDENT AS A TEACHER” CURRICULUM FOR 4TH YEAR STUDENTS IN AMBULATORY MEDICINE (MEDICINE 2)

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Introduction:

Medicine 2 (Ambulatory Medicine) curriculum includes several opportunities for the 4th year student to develop teaching skills. Student led ambulatory reports (Medicine 2 student report), evidence based medicine seminars and final presentations in an ambulatory or communication topic of their choosing provide the opportunity and feedback for 4th year BUSM students functioning in the capacity of a medical educator. Data collection from 2013-2014 (including pilot data presented by authors at McCahan Day 2013) has shown significant improvement in 4th year medical students understanding of learning objectives identified as important by their peers. These findings in conjunction with student feedback requesting more formal instruction in teaching have been an impetus for focusing curriculum development on the role of “Student as a Teacher” (SAT).

Methods:

As per the Medicine 2 curriculum, 4th year BUSM students chose topics for their final presentations, and then provided one multiple choice question on a learning objective from their final presentation. Questions were administered as a pre- and post-test to all students in that clerkship, before and after all student final presentations for each block. Mean value of the differences in the number of correct answers on the pre- and post-tests were compared using a paired t-test calculation. Teaching module for SAT was then developed.

Results:

From data collection spanning 2 academic years, student final presentation pre- and post-test questions were administered over 8 rotation blocks. The mean improvement noted from pre- to posttest (n=73) was 4.03 +/- 2.01 questions after completion of all presentations (p<0.01). (This data will be updated as more data is collected thru this academic year).

Conclusions:

The results, as follow-up to pilot data from 2013, continue to show statistically significant improvement in 4th year medical students understanding of learning objectives identified as important by their peers. This, along with student feedback, has prompted development of a SAT module which highlights points including 1) approach to the adult learner 2) approach to teaching as a non-expert and 3) PowerPoint presentation tips. In keeping with the BU CARES principles, the continued evolution of the Medicine 2 clerkship emphasizes the students' skill development in education, communication and research.

IMPLEMENTATION OF A NOVEL STRUCTURED SOCIAL AND WELLNESS COMMITTEE IN A SURGICAL RESIDENCY TRAINING PROGRAM – A CASE STUDY

Elisha G. Brownson MD and Joanna H. Ng-Glazier MD, William D. Tobler MD, Elliot C. Pennington MD, Tracey A. Dechert MD, Douglas F. Kauffman, PhD

Background: According to the ACGME, “residency...is physically, emotionally, and intellectually demanding.” In identifying how to address the holistic needs of any resident, a further examination of motivation research suggests that human beings have an innate need to meet three basic needs. These include needs for *competence* (do individuals feel confident they can understand and carry out complex tasks?), *autonomy* (do individuals feel they can make their own choices?), and *relatedness* (do individuals feel connected to others?) We must meet all three basic needs in order to function optimally. Clearly, the challenges associated with surgical residency have the potential to hinder a resident’s ability to meet these basic needs.

Medical schools and residency programs have histories of providing resources designed to help satisfy competence and autonomy needs. Unfortunately, literature suggests few provide resources aimed at meeting relatedness needs. This may be one reason medical students and residents often struggle. BUSM’s Surgery Department has implemented a social/wellness committee designed to fill this void.

Methods: We began with three residents representing different training levels (PGY 2-4) and one faculty advisor in September 2011. The first objective was to organize a monthly series of social gatherings and larger, more formal quarterly gatherings that included faculty, mid-level providers (MLPs), and trainees. Our goal was to achieve >50% attendance and improving communication between faculty and residents. A second objective was to improve the recruitment process for surgical candidates and thus the committee organized several activities that included pre-interview dinners, campus tour coordination, and post-interview candidate evaluations.

Results: Over a 24 month-period, the committee’s role has been further defined and expanded. There is now a representative from each level of training, one faculty advisor, and one full time doctoral education advisor. Monthly social gatherings regularly achieve >50% attendance. Informal discussions indicate improvement of in-hospital communication. The creation of a women’s surgeons group now meets twice annually and a surgical parents group meets once annually. The committee’s role has expanded to provide support for surgical residents during medical leave, creation of a departmental logo, and to act as a forum at monthly meetings between the residents and the chairman, Surgical Education Office, and program directors. Most importantly, feedback from surgical residency candidates states that the committee’s role in the recruitment process has enhanced and improved their interview experience and interest in the residency program. Preliminary results from post-interview surveys support our observations.

Summary/Conclusion: Preliminary results indicate that the committee has been highly successful in creating strategies designed to help residents, faculty, and MLPs meet their needs for relatedness; additionally the committee positively affects many aspects of individuals’ experiences within a high stress surgical residency program. Continued development of similar programs is important to improve morale and quality of life within the program and throughout the hospital, and may be applicable to other medical specialties. This committee has also positively impacted candidate recruitment, as determined by standardized resident and faculty surveys. Our goals continue to be to improve resident morale and wellbeing, departmental camaraderie, and recruitment of outstanding residents.

DEVELOPMENT OF THE MEDICAL STUDENT SURGICAL RESEARCH MENTORSHIP PROGRAM

Tracey Dechert MD, Arthur Stucchi PhD, Douglas Kauffman, PhD, Brittany Hasty, Nichole Starr and Tony Godfrey PhD

Background: Research experiences *during* medical school provide students with critical thinking and problem solving skills important for clinical proficiency. Research experiences also provide opportunities to generate and test research hypotheses and to analyze and interpret data. Longitudinal relationships with faculty who may serve as career advisors and mentors can also form during the research process.

Historically, research experiences have been viewed as an extracurricular activity. Today however, they are a cornerstone of the medical school experience. Across the country schools are devising strategies to meet students' increased interests and needs. Although the formats of medical school research programs vary, there is consensus that these programs are important and are associated with a host of positive outcomes. Many medical schools (e.g., Brown, Indiana, John's Hopkins, and Kansas Universities), for instance even state on their websites that formal research experiences enhance learning and better prepare students for residency. This likely explains why today's medical students seek them out. Students at BUSM are no different. The Surgery Interest Group recently held an informational meeting about research experiences for example, and over 50 students (nearly one third of the first year class) attended. This abstract outlines our newly developed approach.

Our Approach: Students interested in pursuing surgical research are encouraged to visit <http://www.bumc.bu.edu/surgery/research/medical-student-research/>.

This site provides key information about opportunities within the Surgery Department.

We encourage interested students to contact one of our ***medical student surgery research liaisons*** to learn more about General Surgery, research basics, potential experiences, time commitments, and expectations. The liaisons then will work with faculty members to make the best possible matches. Although our *Surgical Research Mentorship Program* is still being pilot-tested, preliminary results suggest our new model is more student-centered and will facilitate more productive mentor-mentee relationships.

How it works: Liaisons are trained to help students identify particular areas of research faculty are working on. These areas include both specialties (e.g., Vascular, Thoracic, Acute-Care) and general research (e.g., basic science, translational projects, clinical studies, surgical education). Students can find descriptions of faculty research interests and active projects on the surgery department website. Liaisons will identify an appropriate mentor, provide faculty with a brief description of the student, help students understand expectations for interactions with faculty, and provide direction for HIPPA and CITI training as needed.

Next, the medical student will be asked to contact the identified faculty member via email. Medical students will meet with the faculty mentor to discuss opportunities for collaboration and to assess whether they see it as a good fit.

Conclusion: General Surgery residency programs are highly competitive. Medical students should start building expertise early by adding research components. Faculty members in the Department of Surgery are committed to mentoring future academic surgeons and welcome medical students interested in surgery and surgical research. Finally, we believe there is a widespread need for similar research mentorships for all medical students and we hope our program can be used as a model for other departments.

THE USE OF ANDRAGOGY IN TEACHING GERIATRICS AND GERONTOLOGY

Paula K. Friedman, DDS, MSD, MPH, BUGSDM

Teaching Geriatrics and Gerontology at the GSDM has evolved from pedagogical lecturing to a hybrid web-based course content and interactive lecture format. PH540 now utilizes andragogy, i.e., adult learning techniques, to engage students and stimulate inquiry. The Blackboard course site presents learners with resource articles and study questions to highlight the primary messages in the articles. Students are informed at the beginning of the semester that they have virtually all the examination questions in advance—the exam will be drawn almost exclusively from the study questions they have been provided. They are encouraged to form study groups to discuss the answers to the questions, and to share information among the class. Additionally, at the end of each of the two-hour lecture sessions, the students are asked to submit electronically a “One-Minute Write” to the Course Director. The “One-Minute Write” summarizes what each student felt was the most important learning moment of the session. This reinforces that learning for each student, and also provides meaningful and timely feedback to the Course Director about the salience and relevance of the course material presented. Outcomes: Since this teaching strategy was implemented, course attendance has been over 90 percent, student performance has averaged A grade on the examination, and course evaluations have approached 90 percent ratings in the categories of Very Good to Exemplary.

EFFECT OF A STUDENT-DEVELOPED NEUROLOGY REVIEW COURSE ON NATIONAL BOARD OF MEDICAL EXAMINATION SCORES

Fay Gao, BA and Anna Depold Hohler, MD

Objective: To determine if a medical student developed review session prior to the NBME examination leads to higher scores on the exams.

Methods: A voluntary review session was developed by fourth year medical students for the third year clerkship students. NBME scores were collected after the implementation of the review session and compared to the scores of the prior three academic years. The primary outcome measure was the level of significance between exam scores before and after implementation of the review session.

Results: The average NBME score after the review was 77.5, while the average score prior was 75.0 ($p < 0.001$). The effect size was an average increase of 2.5 points. The average score for students was also significantly higher than the national average score for the previous year ($p = 0.001$) and for the past three years ($p < 0.001$), while in previous years, the average score for BUSM students was not significantly different than the national average ($p = 0.09$).

Conclusion: This study suggests that including fourth year students in the teaching process and implementing a one hour review session to third year medical students may increase NBME scores.

SHIFT TO COGNITIVELY SALIENT AOIS REFLECTS GROSS ANATOMY KNOWLEDGE

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Abstract: This study aims to identify the gaze patterns of medical students as they correlate with learning and familiarization through the length of a course. The gaze patterns of medical gross anatomy students (n=31) were documented as they identified anatomical structures on a computer screen. Each student took the test before the start of the Human Gross Anatomy course, and was randomly assigned to a group (A, B, or C) that would take it after one of three course section exams, Back and Limbs, Thorax Abdomen Pelvis, and Head and Neck, respectively. Their gaze patterns were expected to change as they become more familiar with the course material, particularly with respect to cognitively salient Areas of Interest (cAOIs) that are relevant to identifying the tagged structure. We predict that unfamiliar students will demonstrate more saccadic movements, shorter fixation times on cognitively salient AOIs, and longer fixation times on visually salient AOIs when compared to experienced students. Predictions that saccade frequency would decrease with familiarity and that fixation time in visually salient AOIs would decrease were not upheld. There appears to be a decrease in fixation time on the area surrounding the AOIs (White Space) for groups of subjects familiar with the material. This is found to be a statistically significant decrease in Group B's Back and Limbs ($p = 0.038$) and Thorax Abdomen Pelvis ($p < 0.001$) sections as well as Group C's Back and Limbs section ($p < 0.013$). This decrease in fixation time on the White Space is due to an increase in fixation time on cognitively salient AOIs with the only statistically significant increase occurring in Group C's Thorax Abdomen Pelvis section. This study finds that even with individual variation in gaze patterns, learning in anatomy is accompanied by a shift in gaze pattern.

EVALUATION OF A MASTER OF FAMILY MEDICINE DISTANCE LEARNING PROGRAM IN LAOS

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Introduction: In 2006 the Laos Ministry of Health and University of Health Sciences [UHS] partnered with Boston University Global Health Collaborative to design and implement a model of primary care retraining with the goal of enhancing the quality of generalist physicians in disadvantaged communities in Laos. A Master in Family Medicine training program was designed as a modular part-time training model. Trainees followed a cycle of 3 months training in Luang Prabang and 3 months distance learning from their rural district hospitals. The first class of 5 trainees completed the program in 2013.

Methods: We undertook a rigorous evaluation to assess the program and areas for improvement. Quantitative data was obtained through self-assessment questionnaires administered to the 5 trainees and to 5 non-trained physicians peers. 360-degree evaluations were administered to medical colleagues, supervisors, and patients. Qualitative interviews were conducted with trainees, instructors at Luang Prabang Training Center and UHS principle stakeholders. A one-tailed T test and a p-value of 0.05 were used for statistical comparison between the trained and untrained physicians. Descriptive statistics were used to analyze 360-degree evaluation data. Qualitative interviews were analyzed using nVIVO software. IRB approval was obtained from Boston University Medical Campus

Results: Preliminary analysis of self-assessment questionnaires shows significantly higher scores of trained physicians in the treatment of 19 common illnesses. 360-degree evaluation analysis show > 80% of evaluators 'completely agree' with the following statements: trainees are able to care for more types of diseases since training, are better at caring for common diseases, are more appropriate in prescribing antibiotics, and are more appropriate in prescribing other medications. Multiple stakeholders expressed great value of the program.

Conclusions: Preliminary analysis of the program shows it to be a successful pilot that may serve as a model for retraining of rural physicians in developing nations.

2013-2014 ADEAGIES FOUNDATION/AADR ACADEMIC DENTAL CAREERS FELLOWSHIP PROGRAM (ADCFP): A FELLOW'S EXPLORATION OF TEACHING, RESEARCH, AND FACULTY DEVELOPMENT

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OVERVIEW

The ADEAGies Foundation/AADR Academic Dental Careers Fellowship Program (ADCFP) is a year-long program designed to provide students, residents, and fellows exposure to variety of educational experiences at dental institutions. The program is divided into three components: a Research Project, Teaching Activities, and Faculty Interviews. The purpose of the ADCFP is to cultivate a group of future dental educators.

As a 2013-2014 Fellow, my intent was to explore my interest in a career in dental education. I used the framework of the ADCFP to expand my perspective on academic careers and to reflect on my own professional ambitions and abilities.

The Research Project complemented work I was engaged in with Dr. Michelle Henshaw. We worked to measure the changes in oral health behaviors among new and expectant mothers following an educational intervention provided by public health nurses. During the course of the ADCFP, it was my objective to organize my research into a manuscript for submission to a peer-reviewed journal.

The Teaching Activities provided a structured, supervised setting in which to improve my teaching abilities. I assisted with first-year didactic and clinical courses and a second-year pre-clinical laboratory course. The teaching assignments expanded the scope of my teaching experience and allowed me to gain direct teaching practice in varied educational settings.

The Faculty Interviews were of particular interest to me because they allowed me a unique opportunity to candidly discuss with my faculty, and with selected faculty at other dental schools, their decisions to pursue an academic career, including the challenges they faced. The ability to compare my own perspectives and experiences with those of present faculty allowed me to more precisely define my own academic career goals.

The ADCFP clarified my understanding of the challenges and rewards of academic careers, and the experience solidified my desire to work at least as a part-time faculty.

TEACHING EVALUATION

Following the alginate impressions lecture, I provided the first-year dental students with a four-question survey. The ordinal questions asked the students to rank their responses on a scale from Strongly Disagree (1) to Strongly Agree (5). I received responses from 95 of the 115 students in the 1st-year class.

Questions:

1. The student instructor was prepared and organized.
2. The student instructor demonstrated knowledge of the lecture material.
3. Compared to other first-year lectures, the student instructor improved the lecture experience.
4. I would recommend student instructors assist with other first-year lectures.

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Q 1	79% (74)	19% (2)	2% (1)	0% (0)	0% (0)
Q 2	82% (77)	17% (16)	1% (1)	0% (0)	0% (0)
Q 3	64% (59)	32% (30)	3% (3)	1% (1)	0% (0)
Q 4	72% (68)	21% (20)	7% (6)	0% (0)	0% (0)

VISUAL THINKING STRATEGIES AND TEAMWORK: A CURRICULUM COMBINING ART AND TEAMWORK TRAINING FOR SENIOR MEDICAL STUDENTS

Elizabeth Karwowski, MD, EdM

Needs and Objectives

In recent years, Boston University School of Medicine (BUSM) recognized a local need to develop a formal curriculum to teach teamwork. The BUSM curriculum committee simultaneously advocated for increased exposure to the arts and humanities throughout medical school training. In order to meet these needs, the BUSM fourth year Advanced Internal Medicine clerkship developed a new curriculum using Visual Thinking Strategies (VTS) to facilitate teaching teamwork skills. VTS has been shown to successfully teach observation skills but has been studied infrequently outside of teaching observation. Objectives of the curriculum include:

- Identify characteristics of a highly functioning team
- Listen actively and encourage ideas/opinions of other team members
- Practice respectful dialogue and expressing differences in opinion
- Explore conflict resolution skills in a group setting
- Integrate viewpoints of all team members

Setting and Participants: The VTS and Teamwork curriculum was developed for the BUSM Advanced Internal Medicine clerkship, a mandatory four-week clerkship completed during the final year of medical school. The clerkship includes one day of classroom-based didactic teaching per week with a focus on teaching advanced communication skills. The VTS and Teamwork curriculum was inserted into these didactic sessions.

Description: Development of the VTS and Teamwork curriculum has been an iterative process with changes in response to student feedback. The curriculum was first implemented in June 2013, evolved over the next several blocks, and finalized in December 2013. The curriculum is divided into three distinct workshops: 1) Introduction to VTS and Teamwork: Speak up, 2) Listening as a Team Member, and 3) Listening as a Leader.

VTS is a well-described process that involves the facilitated discussion of artwork to build skills in observation, communication, and listening. During a VTS session a trained facilitator guides learner discussion of a work of art using three questions: what is happening here? What do you see that makes you say that? What more can we find? Each workshop includes at least one VTS session. Additionally, two of the workshops include modified VTS type activities. The second workshop incorporates a small group activity to enhance listening skills. The third workshop uses a separate small group activity to allow students to practice the role of group facilitator.

In addition, students also receive formal teaching on teamwork. The curriculum uses the model described by Amy Edmondson called 'Teaming on the Fly', which describes five attributes of highly functioning teams: speaking up, listening intensely, integrating different facts and points of view, experimenting iteratively, reflecting on your own ideas on actions.

Evaluation: There are two methods of curriculum evaluation. First, the students complete a pre and post survey. Both surveys include the TeamSTEPPS – Teamwork Attitudes Questionnaire, a validated survey developed by the Agency for Healthcare Research and Quality to study self-rated attitudes towards teamwork. The change in score after completion of the curriculum will be analyzed. The post survey includes an additional set of questions to determine student perceptions of the curriculum. Second, the students take part in a focus group at the completion of the clerkship to further explore their attitudes towards the curriculum. The BUSM Institutional Review Board approved this study. Data collection began in late fall 2013.

Discussion/reflection/lessons learned : Preliminary data reveal that students largely value the addition of VTS to their curriculum as a novel method of medical education. At times they struggle to link VTS with learning teamwork skills and continue to seek an explicit set of techniques to improve their teamwork skill set. A subgroup of students express striking discontent with the curriculum. A subgroup analysis is planned to attempt to determine unique attributes of students dissatisfied with the curriculum.

Thus far it seems that using an art-based intervention to teach skills beyond observation alone is generally well received and valued by students. Future attempts to develop novel arts-based curricular interventions need to focus on an explicit connection between the activity and the clinical skill to be learned.

LOCAL IMPROVEMENT PROJECT SELECTION: IMPROVING CONTACT PRECAUTION ADHERENCE AT BMC

Uday Kumar Shanmugam and Christopher Worsham MD

Practicum name: Improving Precaution Adherence at BMC

Introduction: Methicillin resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile* are important causes of health care associated infections (HAI). They are also associated with a higher rate of mortality and morbidity. HAI are responsible for complications in an estimated 1 in every 20 hospitalized patients in the United States. We observed compliance with hand hygiene, standard, and transmission-based precautions in a busy ward at Boston Medical Center.

Methods: We observed staff (physicians (MD), nurses (RN), therapists, respiratory technicians, housekeeping) entering and leaving patient rooms. Blocks of three rooms were observed over a 15 minute interval. Order of observation was based on a random number generator. Each room entry and exit was analyzed independently using SAS 9.4.

Results: We made 435 observations of staff entering (219) or leaving (216) a patient room. In standard precaution rooms 59% of MD and 80% of RN sanitized their hands when exiting the room. In contact precaution rooms 55% of MD and 77% of RN sanitized their hands when exiting.

Interventions: These data revealed an opportunity for improvement. Focus groups with staff to review data and gather suggestions for improvement are in progress. The intervention will be followed by another observation period. Data will be analyzed to measure the effectiveness of any intervention in this ongoing project.

DEVELOPMENT OF A CURRICULUM FOR A BOSTON UNIVERSITY MEDICAL STUDENT AWAY ROTATION IN LESOTHO

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Background: The Lesotho Boston Health Alliance and the Lesotho Ministry of Health recently began the Lesotho Family Medicine Specialty Training Program (FMSTP). One component of the FMSTP is hosting and teaching visiting medical students from Boston University (BU).

Description: This project developed a rotation curriculum for BU medical students doing 6 week away electives with the FMSTP, at Motebang District Hospital in Lesotho.

Methods: In 2013-2014, an American resident physician partnered with the FMSTP to develop the medical student curriculum. This American physician and an American medical student spent 4 weeks in Lesotho, piloting curricular options on-site and eliciting real-time feedback from FMSTP staff. The preliminary curriculum then underwent review and revision by the FMSTP staff and by a preliminary cycle of BU medical student participants.

Results: To be successful, the curriculum required a large portion devoted to orientation to the local healthcare system, questions to guide pre-rotation reflection about student learning goals, guidance about dealing with death and scarcity, and cultural orientation. The curriculum included much flexibility and adaptability, requiring the medical students to create their final schedule on site with the FMSTP staff. This allowed medical students to achieve their personal educational prerogatives, while accommodating the frequently and unpredictably changing make up of on-the-ground staffing. Medical student feedback led to the creation of a clinical guidebook and the addition of designated tutoring time. Responding to FMSTP and hospital staff feedback, the teaching roles of non-physician staff were clarified in the curriculum.

Discussion: Differences between American and Basotho culture, health systems, resources levels and teaching models required the curriculum content to expand beyond that of a typical American medical student rotation curriculum and to be less strictly structured. Future collaborations to produce curricula for American medical students doing international electives should build off this example.

THE CURRENT ROLE OF ACADEMIC BASED SERVICE LEARNING IN DENTAL SCHOOL CURRICULA

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Abstract

In order to meet the oral health disparities of our nation, U.S. dental schools must ground their curriculum in Service Learning. The purpose of this study is to survey U.S. dental schools to determine the current trends of Service Learning within the dental curricula. Of the twenty-three respondents of the sixty-five dental school surveyed, 87% report students complete required community-based clinical rotations, while 57% report students complete required community-based non-clinical rotations. Despite the presence of clinical and non-clinical community-based education within a majority of U.S. dental school curricula, only 48% of respondents indicated familiarity with the definition of Service Learning, which includes classroom instruction incorporating reflection on moral and civic obligations. In order to create a dental workforce that is well equipped and willing to combat dental disparities, dental education must continue to put Service Learning on the forefront of their curricula.

IMPLEMENTATION OF A GLOBAL WOMEN'S HEALTH CURRICULUM FOR OBSTETRICS AND GYNECOLOGY RESIDENTS AT BOSTON MEDICAL CENTER: PROSPECTIVE MONITORING AND EVALUATION

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Despite a demonstrated demand and need, there is a general lack of global health training opportunities for U.S. medical residents, particularly those specializing in obstetrics and gynecology. Women's health issues are a priority in global health, and new physicians in obstetrics and gynecology should be trained in the basics of global women's health. Our group is implementing a two-year, longitudinal, global women's health curriculum as a formal component of resident education. Each hour-long session includes a brief case study and group discussion, followed by a didactic portion led by a speaker specializing in the session's focus area. The objectives of the curriculum are to: 1) provide residents with an overview of the major issues in global women's health, 2) illustrate how these issues are contextualized in particular social, political, economic, and cultural settings, 3) provide an ethical and programmatic framework for participating in global women's health activities as a resident physician, 4) examine how global women's health issues arise in our work as Boston-based physicians, and 5) bring the experience of Boston Medical Center, Boston University, and Boston-area faculty to residents and encourage the exchange of ideas. Using written evaluations before and after each of the twelve sessions and before and after the entire two-year curriculum, we will conduct a prospective cohort study monitoring the residents' knowledge and interest in global women's health before, during, and after the curriculum. The curriculum was started in March 2014, and will conclude in April 2016.

CREATING A COLLABORATIVE LEARNING COMMUNITY OUTSIDE OF THE CLASSROOM: LESSONS LEARNED FROM THE CORE COURSE TUTORING AND PUBLIC HEALTH WRITING PROGRAM

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Background: Recruiting students from diverse disciplines is one of the strengths of Boston University School of Public Health's MPH program, but it also presents challenges to ensuring that students are equally competent upon graduation. To support students' academic success, the School created two programs based in the collaborative learning theory: a Core Course Tutoring Program (CCTP) in 2009 and a Public Health Writing Program (PHWP) in 2011.

Description: The goal of the CCTP is to help student experiencing difficulty in core content by providing individualized support from a peer coach. The goal of the PHWP is to teach students to communicate effectively through writing appointments with a peer coach. Coaches are excellent students who are trained in tutoring techniques and strategies. Program evaluations were examined to identify the effects of peer collaboration on learning and of program elements on the collaborative learning experience.

Methods: From 2009 to 2013, semester and session evaluations were collected from the programs' participants.

Results: Students reported that these programs increased their understanding of core content (97%, n=79), improved their study or writing skills (94%, n=282), and enhanced their confidence in writing (98%, n=44). Coaches reported improved communication skills and confidence in applying their public health knowledge. Competing academic resources, management of peer-to-peer expectations, and providing space for learning were early programmatic challenges to collaborative learning, while the programs' flexibility, supportive staff, and individualized assistance enhanced the collaborative learning process.

Lessons Learned: These results indicate that collaborative learning programs are an effective method for enhancing students' understanding of content and encourage their development as learners and professionals. Marketing programs as skill-building (instead of remedial), increasing training and community for coaches, and increasing course-specific outreach have enhanced the programs' development. Future directions include expanding program offerings to include presentation appointments and involving coaches in producing program resources.

THE USE OF LIBRARIANS IN SUPPORT OF EVIDENCE-BASED MEDICINE CURRICULUM

Amanda McNeil, MLIS

BACKGROUND: With more medical schools integrating Evidence-Based Medicine (EBM) into their curriculum, librarians are becoming more integrated into the curriculum as well, yet the trends in and usefulness of this integration are not yet well-known.

OBJECTIVE: To review the literature discussing the use of librarians in support of EBM curriculum in medical schools and evaluate it for trends and usefulness assessment.

METHODS: PubMed and Web of Science were searched for articles discussing the use of librarians in medical schools' integration of EBM into their curriculum. In PubMed, I used the following search strategy: ("Librarians"[MeSH] OR "Libraries, Medical"[MeSH]) AND "Evidence-Based Medicine"[MeSH] AND "Schools, Medical"[MeSH]. This resulted in twelve articles. In Web of Science, I used the following search strategy: (TS=librarian* OR TS="medical librar*") AND TS="medical school*" AND (TS="evidence-based medicine" OR TS="evidence based medicine"). This resulted in three articles. There were no duplicates, so I had sixteen articles to review.

RESULTS: A review of the literature demonstrates that, among medical schools choosing to utilize librarians to support their EBM curriculum, they are well-integrated into the curriculum. Of the medical schools that analyzed this integration, the medical libraries and/or librarians were found to be a key element in increasing both medical students' confidence and research skills.

DISCUSSION: EBM depends upon strong research skills, and a review of the literature demonstrates that most medical schools are aware of the role of librarians in supporting this skill-set. Not very many schools have performed an evaluation of the library's effectiveness in the EBM curriculum, but of those that have, they have been found to be key in improving both confidence and skills. More evaluation is needed to determine best practices for this integration.

MENDING A BROKEN HEART THROUGH PALLIATIVE CARE

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Introduction: Heart failure brings significant emotional and physical distress to patients at the end of their lives. The role of Palliative Care and hospice in patients with this condition has not been fully elucidated but these services can provide significant benefit to this patient group.

Case description: A 31-year-old incarcerated woman with a history of recurrent intravenous drug use and endocarditis requiring mitral valve replacement presented to the hospital with four days of shortness of breath, chest pain, back pain, and lower extremity edema. She was diagnosed with a heart failure exacerbation and transthoracic echocardiogram confirmed severe mitral and tricuspid valve regurgitation. Diuresis was difficult to achieve and expert opinion was that she required repeat valve replacement surgery. She was deemed to not be a surgical candidate, however. She continued to have palpable suffering due to physical, emotional, and spiritual pain. She was amenable to meeting with our Palliative Care team who elucidated further details on symptoms she was experiencing of poor appetite, nausea, insomnia, depression, and anxiety. Through various conversations with the Department of Corrections, she was granted more freedoms and visitors while inpatient but continued to suffer from emotional and physical pain. Our Palliative Care consultants orchestrated a family meeting in which the patient's goals were clearly communicated and she was transitioned to a comfort-focused approach. She was subsequently subjectively and objectively noted to be more comfortable and less anxious. She was discharged with a comfort-focused care plan to a facility within the prison system. However, after discharge she was referred to another hospital for consideration of valve replacement. Her case was again declined and she died a few days later.

Discussion: This case illustrates the utility of Palliative Care services in the management of physical and psychosocial symptoms associated with heart failure. It also highlights the importance of communication at transitions of care for patients with a palliative or hospice-related care plan.

MEDICAL STUDENTS' ATTITUDES TOWARD THE DECISION TO PURSUE GENETIC TESTING FOR HUNTINGTON'S DISEASE (HD)

Shankar Mundluru and Shoumita Dasgupta, Boston University School of Medicine

Purpose: Predictive testing for HD has allowed patients at risk to ascertain their likelihood of developing the disease. However, only a small minority of patients has sought out testing (4-25%). No studies have looked at the personal biases of health professionals towards testing and their effects on patient decisions. We aim to study these biases in medical students and analyze the ethical implications of their influence on patient care.

Methods: First year medical students were given lectures on the features of HD testing, and they attended a patient session with a family directly affected by HD. Students wrote responses to questions related to the session's influence on their future medical careers and personal decisions to pursue genetic testing for HD. These responses were analyzed for common themes providing insight into the nature of their future patient care.

Results:

We received responses from 140 students. Of the 76 who responded to whether or not they would pursue testing if personally at risk, 69 (90.8%) said they would pursue testing, 4 (5.3%) said they would not pursue testing, and 3 (3.9%) said they were unsure. Of the 34 students who responded to whether or not they would encourage patients at risk to pursue testing, 12 (35.4%) said they would encourage patients to undergo testing and 22 (64.7%) said the choice is up to the patient.

Conclusion:

There is a clear disparity between medical students' and the general population's desires to get tested for HD. Despite this, medical students recognize the personal nature of the decision and only a minority of students (35.4%) would encourage testing in their patients. However, this minority (35.4%) is still higher than the percent of the general population who gets tested (4-25%). These results have ethical implications of the possibility of the projection of physician desires onto patients.

TEACHING “QUALITY” ACROSS THREE YEARS OF THE RESIDENCY PROGRAM AT BOSTON MEDICAL CENTER

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Background: Numerous articles on quality in healthcare discuss the inefficiencies. The nation’s healthcare costs have increased without much improvement in the overall quality of care. Safety net hospitals are under increasing financial pressures while continuing to provide quality care to its low income, uninsured, and vulnerable populations. Successful quality improvement (QI) efforts however are influenced enormously by how the practitioners on the frontline work together to deliver this care. Very few residency programs have implemented program building skills that help in the improvement of quality. Challenges noted in implementing many QI curricula in residency programs include lack of sufficient curricular time, competing educational demands, difficulty with gaining initial enthusiasm of the participants, inadequate number of faculty mentors, lack of hospital operational support and unavailability of informational technology support. We have created an opportunity to combine the resources available in the Department of Medicine, Boston Medical Center and School of Public Health to create a curriculum whereby a continuum of QI skills and competencies can be developed by residents. In addition the QI focused program spanning across three years meets the Accreditation Council for Graduate Medical Education (ACGME) competencies and requirements of the residency program.

Description: A QI-focused program was implemented across the three years of residency. The program was developed based on the competencies required by ACGME, the residency program and a learner centered approach framework these include: Practice-based learning, team building skills, quality improvement skills, inter-professionalism, systems thinking, critical thinking, and patient centered care. The program was also designed, since its inception, to promote active and reflective learning styles based on the principles of renowned education tools such as Bloom’s Taxonomy, Knowles adult learning theory, and Miller’s pyramid.

Methods: PGY1 are introduced to quality and its definition through a three hour interactive session; PGY2 learn basic quality improvement framework through team engaged sessions and inter-professional “real” practice based quality improvement projects (includes four sessions of three hours each). PGY3 are taught cost-effectiveness and malpractice issues (three hours). Additionally through the three years the residents are also given an opportunity to self-reflect on their patient management skills by using the panel information platform that is has been developed by the Department of Continuing Medical Education at the School of Medicine. The residents interested in focusing more on quality in their careers have the choice of selecting the QI Pathway, a program designed to create quality leaders.

Results: The learners were self-directed, could contribute past experiences to their current learning process, learned on a need-to-know basis, and learned through realistic problems that required practical application. One of the strengths of this curriculum is the unique collaboration between medicine and public health providers both as learners and as instructors. Another strength of the program is the assessment of interprofessional attitudes of learners on teams composed of clinical and non-clinical participants after a real life project collaboration.

Summary/Discussion: In the QI program, we have attempted to create a learning environment that allows the residents to not only understand the basic framework of quality but use it, work interprofessionally, implement and reflect over. The sustainability of these kinds of programs can be made possible with Institutional support and a strategically progressive medical education program that understands the upcoming needs of healthcare.

CRITERIA FOR ADMISSIONS: DO THEY PREDICT A SUCCESS IN DOCTORAL PROGRAMS?

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Background: Four years ago, the Division of Graduate Medical Sciences (GMS) doctoral programs underwent a curriculum reform where the first year doctoral student in 12 unique programs participated in a core integrated curriculum Foundation in Biomedical Sciences (FiBS). The purpose of this study is to determine which admissions criteria best predict success in the FiBS curriculum.

Method: A total of 83 students were enrolled in four core FiBS modules. Based on grade point average (GPA) in these FiBS modules, data was separated in two sets of groups: high performing students (top 25% compared to the remaining 75% of students) and students with failing FiBS GPA (GPA \geq 3.0 versus GPA <3.0). These groups were compared to one another in the dimensions of undergraduate GPA, colleges attended, gender, and GRE (quantitative and verbal). Mean values from each group were compared through analysis of variance (ANOVA) and categorical values were compared with Pearson's Chi-Square test and Fisher's Exact test when there were expected cell counts less than five. The undergraduate GPA and GRE scores were converted to categorical variables based on the lower and upper 25th percentiles. Statistical significance was set at P<0.05.

Results: High performers showed a significantly higher average FiBS GPA than the rest of the group (3.81 \pm 0.12 vs. 3.22 \pm 0.29, respectively, p<0.01) and demographic variables were similar. A significant association was found between high performers and having an undergraduate GPA above 3.7 (RR 2.33; 95% CI, 1.09-4.96). There was a significant difference found between the average FiBS GPA of those who failed and those who passed (2.79 \pm 0.13 vs. 3.49 \pm 0.27, p<0.01). While demographic characteristics were similar, the mean quantitative GRE percentile score was significantly lower among students who failed FiBS (61 \pm 20 vs. 74 \pm 14, respectively, p<0.01). A significant association was also found between students who failed and having GRE scores below the 60th percentile in both the quantitative GRE scores (RR 3.56; 95%CI, 1.43-8.81) and verbal GRE scores (RR 3.09; 95%CI, 1.25-7.66).

Conclusion: These data suggest that applicants whose undergraduate GPA >3.7 are 2.3 times more likely to be high performers in the FiBS curriculum. Applicants scoring less than the 60th percentile in both quantitative and verbal on the GRE are between 3-3.6 times more likely to fail the FiBS curriculum. Therefore, undergraduate GPA and GRE scores may provide insights into potential success in doctoral programs.

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IMPLEMENTING THE MODEL CHIEF RESIDENT IMMERSION TRAINING (CRIT) PROGRAM IN THE CARE OF OLDER ADULTS AT AN URBAN ACADEMIC MEDICAL CENTER

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BACKGROUND: Older adults have complex medical conditions that require care by interspecialty teams. It is imperative that non-geriatricians acquire skills and knowledge to ensure coordinated care. The two-day Chief Resident Immersion Training (CRIT) Program in the Care of Older Adults at Boston Medical Center (BMC) is an educational intervention for Chief Residents (CRs). CRIT goals are to: 1) provide concentrated training in geriatrics principles to CRs in medical and surgical disciplines; 2) foster institutional collaboration among disciplines to improve the coordination and quality of care; and 3) develop CR teaching and leadership skills with a focus on the care of complex older adult patients. It is the model for a national dissemination.

METHODS: The curriculum includes an interactive surgical case, didactics on geriatrics topics, seminars to enhance teaching/leadership skills, and 1-to-1 mentoring to help CRs develop a geriatrics care or education project. For this analysis, we examined baseline and 6-month self-report surveys for 96 CRs from 16 different specialties at BMC who attended model CRIT from 2008-2012.

RESULTS: The baseline response rate was 99%, and at 6 months was 84.4%. CRs reported increased confidence in their ability to apply clinical problem solving skills to the care of older patients, sense of responsibility for teaching others about geriatrics issues, and extent to which others viewed them as a resource in geriatrics (all $p < .001$). CRs showed significant improvements in confidence related to four leadership skills and overall leadership required to carry out work as CRs (all $p < .001$).

CONCLUSIONS: Now in its 10th year, the model CRIT continues to show robust and sustained increases in self-reported confidence to teach geriatrics and enhanced skills needed for the role of CR. CRIT has expanded beyond BMC, and has been successfully replicated at 33 medical institutions nationwide with over 1000 CRs trained from 2007-2013.

IMPROVING FAMILY MEETING FACILITATION: AN INTERPROFESSIONAL CURRICULUM

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INTRODUCTION: Family meetings are excellent venues for communication among clinical teams, patients and families, particularly in high-stakes situations. With implications for clinical decision-making and patient satisfaction, training staff to efficiently foster relationship-centered communication and interprofessional collaboration during family meetings is key. The effectiveness of these meetings, however, hinges on the skills of staff entrusted with its facilitation.

DESCRIPTION: An interdisciplinary team at Boston Medical Center developed a 2-hour training session on family meeting facilitation, targeting practicing Intensive Care Unit (ICU) physicians and nurses. Over the course of 9 months, the team conducted 12 sessions with 35 nurses and physicians. The training included a video, role-plays of pre-meeting “huddles” and family meetings, and group debriefing on effective facilitation strategies.

METHODS: Participants completed pre- and post-training (after 3 months) surveys that explored staff and attitudes towards family meetings and changes in relational coordination. The latter describes work based on shared goals, collective knowledge and mutual respect, supported by frequent, timely and problem-solving communication.

RESULTS: Physicians’ (n=16) post-training results indicate improved levels of comfort with having other team members facilitate parts of the meeting and a perceived increase in the frequency with which a leader of the family meeting was explicitly decided upon ($p < 0.01$). Conversely, nurses’ (n=13) ratings of their experience with huddles deteriorated from pre- to post-training. On the other hand, nurses’ inter-work group scores were the highest at the pre-test and remained the highest at post-test, indicating greater capacity to work with members of other disciplines.

CONCLUSION: This training seems to have improved the efficacy of relationship-centered communication in a sample of ICU staff, particularly raising physician awareness of shared leadership responsibility during family meetings. The training may demonstrate promise for other interdisciplinary teams facing similarly complex interactions with patient families.

HELPING HAITI: ADDRESSING THE BURDEN OF NEUROLOGIC DISEASE

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OBJECTIVE: Development and implementation of a continuous, resident-driven, interdisciplinary initiative to address the limited diagnosis and treatment options for neurologic disease in Haiti.

BACKGROUND: In 1993, the World Health Organization exposed the paucity of information regarding the prevalence of neurologic disorders worldwide. In 2005, neurologic disease accounted for 92 million disability adjusted life years, which was projected to increase by 12% by 2030. Haiti, the poorest nation in the Western Hemisphere, has had a long history of political upheaval marked by violent dictatorships and was further devastated by a catastrophic earthquake in 2010. Despite a population of approximately 9 million mentally and physically irrepressible people, there are only two Haitian neurologists to address their neurologic needs.

METHODS: We developed an interdisciplinary global health team including residents, fellows, attending neurologists, nurses, and interpreters to provide care in Haiti. Through collaboration with AAN members, we are able to provide a continuous presence at a Haitian-run, non-profit hospital and rehabilitation center where neurologic care is provided for one week each month. This program offers patient evaluation, diagnostic imaging and EEG, and medications. Haitian health care provider education is considered a paramount goal for each trip and discussions on stroke, seizure, pain, headache, movement disorders, and dementia are covered. Finally, the initiative prepares the service team by providing the guidance needed to practice global neurology and exposure to rarely seen pathology.

RESULTS: During our missions to Port au Prince, we will be performing a needs assessment by tracking the maladies we encounter to optimize education, management schemes, drug therapies, diagnostic modalities, and integrative team structure for upcoming trips. This will be presented at the annual academy meeting.

CONCLUSIONS: With this nationwide collaborative and interdisciplinary approach, we hope to have a dramatic impact on the perceptions and outcomes of neurologic disease and provide a continuous, but dynamic presence in Port au Prince, Haiti while training physicians, nurses, and other team members in global health perspectives.

THE ONE-YEAR CLINICIAN EDUCATOR CURRICULUM: NEUROLOGY RESIDENTS AS TEACHERS

Veronica Santini, MD, Anna DePold Hohler, MD BUSM, Department of Neurology

OBJECTIVE: To develop a one-year curriculum offering Neurology residents instruction in teaching enabling them to become clinician educators.

BACKGROUND: Residents are expected to be educators from their first days as interns, often without any formal schooling in the complexities of this role. Many residents continue a career in academic medicine where they play a pivotal role in education, but have not received training to satisfy these responsibilities. Despite this, few resident curricula have been published to include instruction in teaching, particularly in the field of Neurology.

METHODS: This curriculum was prepared for 18 Neurology residents at Boston University Medical Center and consists of monthly, one-hour sessions that incorporate multiple teaching styles and are divided into didactics, small group discussions, and interactive kinetic learning. The core competencies of this curriculum are to teach: the history of medical education, optimization of the teaching setting, adaptation of instruction specific for an audience, Kaizen in medical education (using evaluations and surveys to improve teaching), how to give and receive feedback, with the “global classroom” in mind, while learning (using the current literature), while improving productivity (best utilizing medical students in clinical practice), how to publish educational research, and how to document the teaching portfolio.

RESULTS: The residents have now participated in two of the clinician educator sessions, which were met with resounding enthusiasm. Furthermore, improved resident teaching skills were praised by medical students in a structured feedback session. We plan to prospectively follow the residents' response to this curriculum and document their improvement over time.

CONCLUSIONS: The importance of clinician education is clear in the training of future neurologists and ultimately improves patient care. Although this curriculum was intended for neurology residents, a similar curriculum can be established for other specialties. We hope to enable residents to feel comfortable in their role as clinician educators and to guide those with these natural abilities to foster their talent with proven educational tactics.

A COMPREHENSIVE EKG CURRICULUM PROPOSAL FOR INTERNAL MEDICINE RESIDENTS

Mayank Sardana, MBBS, Sheilah Bernard, MD, FACC

Introduction: ABIM lists EKG interpretation as a core competency for residency. Current data suggests that Internal medicine residents demonstrate low overall proficiency in interpreting EKGs and self-perceived confidence. We believe that there might be a deficit in the EKG interpretation competency in Internal Medicine residents at Boston Medical Center. Our belief is further supported by a recent resident survey where perceived level of competency in residents (on a scale of 1-10) was 5.6 in PGY1/2 sample and 6 in PGY-3 sample. To address this deficit, we are proposing 1) a pre-intervention evaluation method to qualitatively and quantitatively analyze the deficit and 2) a new teaching curriculum to address it.

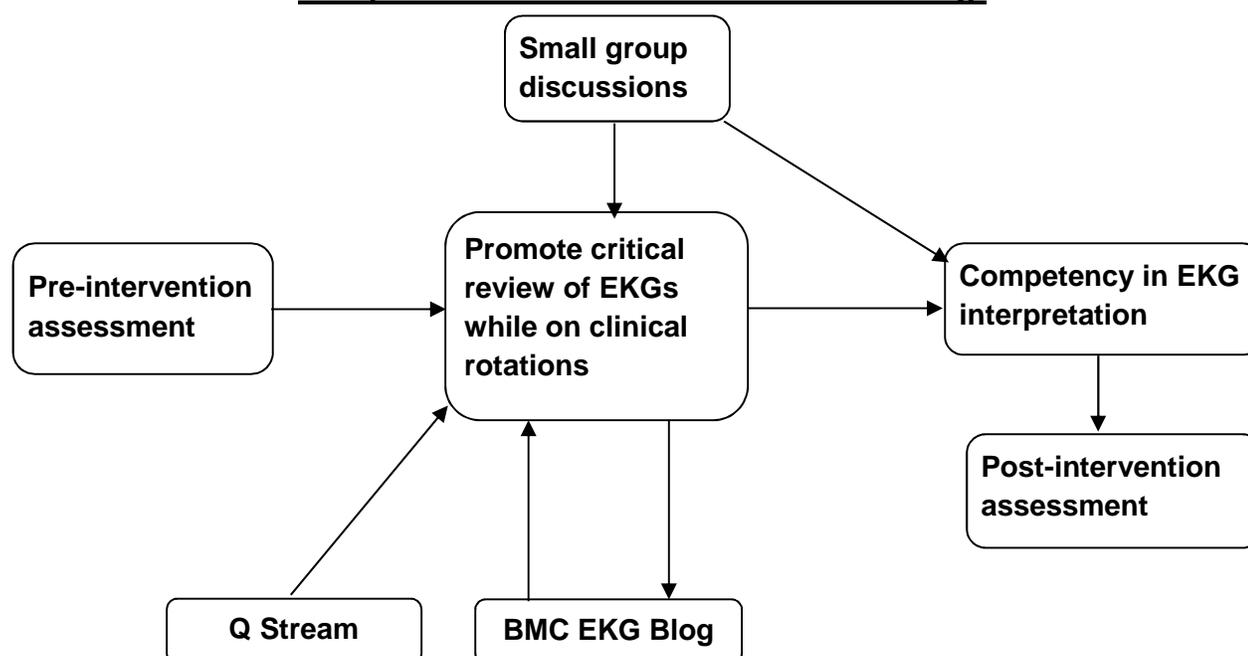
Goal:

To improve EKG interpretation skills for Internal Medicine residents at Boston Medical Center

Methodology:

1. Each intern and resident would be provided with a booklet of 24 test EKGs during their ambulatory week. A set format would be used for filling responses in the answer sheets by the residents.
2. A multi-pronged approach would be used for teaching and would include:
 - a) Small group discussions lead by expert electro-cardiographers
 - b) Q-stream, an online learning tool developed at VA Boston Health Care. Weekly emails with EKG questions and detailed explanations are sent to residents through Q stream
 - c) Sample EKGs would be uploaded to shared residents' drive for reference.
 - d) "BMC EKG blog"- a platform where interesting educational EKGs would be uploaded throughout the year
3. Post-intervention assessment would be performed at the end of academic year in a format similar to pre-intervention assessment and curriculum content for subsequent year would be modified based on areas of sub-par performance.
4. Feedback about curriculum would be requested from residents and preceptors every 6 months.

Comprehensive framework for EKG teaching:



PRE AND POST-TESTS TO ASSESS THE AMBULATORY SUBSPECIALTY CURRICULUM IN 3+1 MODEL OF INTERNAL MEDICINE RESIDENCY

Mayank Sardana, MBBS, Sheilah Bernard, MD, FACC

Introduction: The Internal Medicine Residency program at Boston Medical Center adopted a 3+1 schedule in 2009, creating one week of ambulatory subspecialty experience every fourth week. We have previously demonstrated that pre- and post-testing is an effective evaluation technique for Cardiology curriculum in this new schedule. However, effectiveness of this technique for evaluation of other subspecialty curricula remains unproven. Also, previous data suggests that less than 50% residents participated in these evaluations.

Goal: To utilize pre- and post-testing as a tool to evaluate effectiveness of subspecialty ambulatory teaching curricula.

Methods: Turning Point™ technology was utilized for conducting pre-tests. Questions were presented as a part of power point presentation for the lecture and residents submitted their responses through clickers (audience response system). Post-tests were paper based and were distributed at the beginning of subsequent lecture. Paper based testing was used for conducting pre-tests when there were logistical issues, or as per lecturer's preference.

Results: Since July 2013, ninety second and third year residents have completed a total of 9 subspecialty teaching blocks. Pre- and post- test data was available for 7 of these blocks. We noticed that in 4 blocks, there was a significant improvement in mean scores for the whole group in post-tests compared to pre-tests with similar trends seen in individual resident classes. Use of Turning Point™ technology was associated with higher resident participation (75% in Turning Point group vs 51% in paper based group).

Conclusions: Pre and post-testing proved to be an effective method to evaluate ambulatory subspecialty curriculum and to identify areas requiring extra emphasis. These methods should be used to modify the curriculum on an annual basis with a goal to better prepare residents for ABIM certification exam. Use of Turning Point™ technology improved resident participation, leading to more accurate and comprehensive data collection compared to paper based tests.

Sub-specialty	Pre-test mean score (percent)	Post-test mean score (percent)	Difference in means (percent)	95% confidence interval of difference	Turning Point™ used (Yes/No)
Rheumatology lecture 1(N=65)	28%	69.2%	41.2% (p<0.01)	33.5% - 48.9%	Yes
Rheumatology lecture 2(N=80)	80.8%	93%	12.2% (p<0.01)	6.5% - 17.9%	Yes
Gastroenterology (N=48)	64.6%	70.6%	6% (p=0.28)	-5% - 17%	No (logistics)
Hematology (N=14)	75.4%	78.6%	3.2% (p=0.70)	-14% - 20%	No (Lecturer preference)
Pulmonology (N=20)	49.5%	76.1%	26.6% (p=0.02)	5.1% - 42.2%	Yes (Incomplete data)
Cardiology (N=67)	47.4%	69.6%	22.2% (p<0.01)	14.2% - 30.5%	Yes
Endocrinology (N=53)	46.6%	64.2%	17.6% (p<0.01)	7.5% - 28%	No (Logistics)

THE MOST CITED ARTICLES IN ORTHOPAEDIC ONCOLOGY: PROTOTYPE FOR A STUDY TOOL FOR STUDENTS, RESIDENTS & ATTENDING

Akash K Shah BA, Paul H Yi BA, Andrew Stein, MD, *Boston University Department of Orthopaedic Surgery*

Background and Description: “Landmark” and papers are often recommended to students and residents during their training. However, for students, residents and attendings alike, keeping up-to-date on the most important studies in a given field is a challenging task. Citation rank lists may help make this task less overwhelming by providing a list of the articles that have had the most impact on the field. Such a list would help students, residents, and attendings triage their reading to focus on the most important “landmark” studies in a field. In the present study, we present a prototype for such lists: the most cited articles in orthopaedic oncology.

Methods: We searched the Science Citation Index Expanded (SCIE) database for the top 50 most cited articles in the field of orthopaedic oncology. We analyzed each article for the following information: topic, type of article, authorship, institution and country of first author, journal of publication, year of publication, and level of evidence.

Results: Although our original aim was to comprise a list of the top 50 articles, 51 articles were included due to ties in citation count. The top 51 articles were published between the years of 1966-2007 being cited an average of 234 times with an average level of evidence of 3.9. The most common topic was bone tumor surgery (47%) and the most prolific author was Dr. William F. Enneking (12%). The majority of these articles were published between 1990-1999, written by affiliates of the University of Florida, and published in the *Journal of Bone and Joint Surgery American*.

Summary/Discussion: This list of the most cited articles in orthopaedic oncology will aid surgeons-in-training as well as in practice to become aware of the most important literature in the field, thereby promoting higher standards for clinical practice, improving clinical outcomes for patients, and advancing the science of the subspecialty. Although this list is specific to orthopaedic oncology, the methodology serves as a prototype for creating citation rank lists to make a “landmark” reading list for the student and resident-in-training, as well as attending-in-practice. It is our hope that lists similar to this one will be created for other medical specialties to help guide independent study and reading to be both efficient and efficacious, ultimately enabling practitioners to provide the best evidence-based care possible.

THE OLDER ADULT COMPANION PROGRAM: A UNIQUE MEDICAL STUDENT SERVICE LEARNING PROGRAM

E. Sienkiewicz, BUSM, A. Kong, BUSM, and M. E. Young,² BUSM, Internal Medicine, Section of Geriatrics

Background: A growing number of medical schools are offering or requiring service learning opportunities that pair students with older adults in the community with cognitive impairment. The goals of these programs are to foster longitudinal relationships between students and older adults outside the hospital setting and provide students an opportunity to follow a patient with dementia over time. At BUSM students have developed another similar yet unique program called the Older Adult Companion Program, where students are paired with cognitively impaired nursing home residents. The goal of our program is to provide students the opportunity to practice communicating with older adults with sensory and cognitive impairments and allow a venue for reflection and discussion.

Program description: Students visit their companion monthly and submit a reflective writing piece about their visit to the faculty advisor. Students can enroll in the program at any year of training but are expected to continue until graduation. Students visit a local nursing home at their convenience with no required agenda for the visit.

Results: Six students have participated in the program to date. Sixteen reflective writing pieces have been submitted. Common themes have included the physical appearance of the resident, the residents' life stories and whether or not they are bothered by their memory loss.

Discussion: Through monthly visits, students have found ways to connect with the nursing home residents through sharing life stories and similar interests. Students also noted ways in which they could not relate, such as dealing with memory loss or body changes with aging and chronic illness. Through maintaining these relationships and reflecting on the experience, our goal is that students will develop into clinicians who feel comfortable communicating with older adults and who will incorporate reflection into their daily practice as an important part of self-awareness and ongoing learning.

MONTHLY REVIEW OF ADVERSE EVENT REPORTS INCREASES TRAINEE REPORTING

Alla Smith, M.D., Jonathan Hatoun M.D., M.P.H.

Background: Most residents at Boston Medical Center do not report adverse events or near misses via the STARS electronic incident reporting system because they lack the knowledge about which incidents to report and of how to submit a report. The Pediatrics Department has been conducting monthly resident-led conferences with its trainees about the STARS system since the summer of 2013 and has tracked the impact on trainee reporting.

Objective: To implement a year-long educational curriculum composed of monthly hour-long conferences with pediatric trainees (pediatric residents and medical students) and departmental leadership with the goals of increasing the number of trainee-generated STARS reports and of allowing frontline providers to develop solutions to problems identified by the reports.

Methods: Monthly conferences were both didactic and discussion-based. Trainees were taught what to report and how to report. The number of trainee-submitted reports was tracked and report trends were shared at each conference. Trainee-relevant STARS reports from the previous month were then discussed. Trainees were asked for potential solutions to the identified system vulnerabilities, which were submitted monthly to departmental leadership.

Results: Trainee reporting increased by 61.2% over baseline in the 8 months following curriculum implementation. The percentage of STARS reports from the pediatric units filed by trainees increased from an average of 27% to 43%. Trainees actively participate in lively monthly discussions about causes of adverse events and offer solutions informed by their on-the-ground experience that have been rapidly implemented by safety and quality leaders in the department. **Conclusions:** Lack of trainee knowledge regarding how and when to report adverse events via the adverse event reporting system can be overcome with the described curriculum, leading to increased trainee reporting and rapid implementation of trainee-developed solutions.

AN EXPLORATION OF CLINICIANS' ATTITUDES AND PRACTICES IN ORAL HEALTH FOR OLDER ADULTS

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BACKGROUND: Oral health is one of the top nine target health indicators in need of improvement for older adults' overall health, according to Healthy people 2020. Poor oral health is associated with diabetes, vascular disease, aspiration pneumonia, and decreased quality of life. While only 61% of older adults report receiving dental care in the previous year, almost 90% report visiting to their primary care physician. It is imperative that older adults receive routine oral health care, consistent with the US Public Health Services recommendation that all adults have an annual oral examination to promote good oral health (OH).

METHODS: As a quality improvement project we developed and administered a 17-question survey, to 35 interdisciplinary clinicians who specialize in geriatrics at a large urban academic medical center. Using a 5-point Likert scale, we surveyed the clinicians' knowledge and attitudes toward common OH problems in older adults.

RESULTS: 77% clinicians completed the survey. 48% reported 11 or more years of practice experience. Although 96% agreed about the importance of performing OH assessments on edentulous patients, 82% reported they would change a patient's medication if it negatively impacted OH, 22% rated themselves as knowledgeable or confident in their OH assessment skills. Even 7% indicated they perform OH assessments on "almost all" of their patients, despite 55% of them recognizing that most of their patients have a history of OH problems. Only 22% reported referring most of their patients for OH care.

CONCLUSIONS: Clinicians treating older adults are in a good position to include OH assessment as part of routine care. Despite the many years of practice experience of this sample and their recognition of OH needs in their patients, survey results suggest a gap in general practitioners' knowledge, confidence, and performance of OH assessments and referrals. Further research is necessary for an integration of OH with routine medical care in geriatrics.

DOES THE QUALITY OF MEDICAL STUDENTS' ORAL PRESENTATIONS DIFFER BY MEDICAL SCHOOL?

Colin Sox, MD, MS; Linda Lewin, MD; Rebecca Tenney-Soeiro, MD; Jeanine Ronan, MD; Priya Garg, MD; Rachel Thompson, MD; Natalie McKennerney; Michael Dell, MD.

Background: Oral case presentation is a critical skill medical students must learn during clinical clerkships. While early feedback sessions improve subsequent presentations, they can be logistically challenging to implement.

Objective: To determine if there the quality of students' oral presentations differs between students attending different medical schools.

Methods: We are assessing the impact of medical school on presentation quality during an ongoing single-blinded randomized controlled trial (RCT) with 3 arms 1) Early Feedback session, 2) CLIPP module, and 3) Control,. These 2 interventions occur early in pediatric clerkships: 1) small groups of Early Feedback participants present cases and receiving feedback from faculty; 2) CLIPP participants complete an online module on presentations (Controls do neither). The study population includes medical students rotating in pediatric clerkships at Boston USM, Case Western Reserve USOM, U Maryland SOM, Children's Hospital of Philadelphia, and Tufts USOM. The primary outcome is the overall quality of students' presentations assessed at clerkship end by faculty blinded to randomization status. All clustered on block, data analyses were conducted using *t*-tests, as well as multivariate linear regression controlling for intervention status.

Results: Of the 205 participants, 64 were at BUSM and 40 at CHOP. Presentation quality was significantly higher at BUSM (mean = 6.50) than CHOP (6.0, *p*-value = 0.046), but didn't differ between BUSM and the other 3 medical schools (6.25; *p* = 0.20). However, the confidence intervals around the point estimates at both schools tightened after controlling for intervention status.

Conclusion: In this ongoing multi-center RCT, preliminary analyses suggest that the quality of students' presentations differs somewhat by some of the medical schools, but the effect is attenuated by the intervention under study.

Word count = 275

REACH: A SERVICE-LEARNING APPROACH TO IMPROVED UNDERSTANDING OF CHILD AND ADOLESCENT HOMELESSNESS AND HEALTH LITERACY

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Background: REACH is a student-run, service-learning project started in August 2013 at Boston University School of Medicine. Our group consists of 20 first-year medical students who volunteer at Family Independence – a shelter in Roxbury, MA that houses homeless teenage mothers and their children. We host monthly interactive workshops on medical topics such as vaccines, nutrition, skin rashes, and allergies. As a liaison between the mothers and the medical community, we aim to provide basic medical information the mothers may need. REACH teaches us about the challenges faced by homeless teenage mothers and helps us develop effective communication strategies with adolescents - a critical skill for us as we train as future physicians.

Methods: After eight months of participation, we administered an anonymous survey to the 20 volunteers to assess the impact that participation in REACH had on students' beliefs about homelessness, adolescent health concerns, and teenage pregnancy. We evaluated participants using a semi-structured questionnaire, comprised of quantitative and qualitative questions.

Results: 16/20 BUSM participants responded to the survey. Overall, students had positive experiences working with the mothers and children. 80% of students agreed somewhat or strongly to the statements, "I have a better understanding of the challenges that homeless teenage mothers face after participating in REACH," and "I am more likely to seek out opportunities in Child Health Advocacy". 100% of surveyed participants said they would recommend future medical students to participate. Through open-response feedback, students validated their positive ratings with personal anecdotes and valuable lessons learned through REACH.

Discussion: Through its service-learning model, REACH allows for experiential learning that improves medical students' understanding of homelessness, adolescent health, and teen parenting, as well as offers an opportunity to practice communicating health information effectively. We plan to continue and expand our work with the pediatric homeless population through REACH in upcoming years.

EFFECTIVE WEBINAR TRAINING FOR LOCAL PUBLIC HEALTH PROFESSIONALS

Jennifer Tsoi, MPH, Office of Public Health Practice and Rob Schadt, Ed.D. Office of Teaching, Learning, & Technology, BUSPH

Introduction/Background: The Foundations for Local Public Health Practice course is a 45-hour competency-based awareness level training that offers a cross-disciplinary perspective and approach to local public health practice in terms of the three core functions and ten essential services. This course is offered by the Local Public Health Institute of MA, a program of Boston University School of Public Health. The use of webinar technology in the delivery of this course is intended to improve access for public health workers from different parts of the state; and to reduce travel expenses and time out of work.

Methods: Students completed an overall course satisfaction survey to assess the course on 17 indicators (e.g., length of sessions and course, course organization, quality of instructors, webinar/classroom structure, utility of course and materials, whether the student would recommend the course to others, and adequacy of the orientation to and support for using technology associated with the webinars). Additionally, an on-line survey was conducted with session instructors to assess their interest in teaching in the next year, to learn what they believe worked well and what could be improved, and to get feedback on proposed changes to the course.

Results: A high level of agreement indicates that students were satisfied with the organization and structure of the course, the instructors, and orientation to and support for technology used in the course. Lessons learned show the importance of design and execution of polling questions, discussion questions and break out room activities in creating a dynamic and engaging online learning environment.

Summary/Discussion: Teaching is achieved not only through course content and the design of learning activities, but also through facilitation of the learning experience. An interactive webinar session requires a skilled teaching assistant that is comfortable with the webinar technology to execute polling and discussion questions, and to facilitate chat box and break out room activities. All of these cannot be done by one instructor alone.

HELPING MEDICAL STUDENTS SEE: INCORPORATING LOW VISION INTO MEDICAL STUDENT GERIATRICS CURRICULUM

(1) Megan Young, MD, Section of Geriatrics, Department of Medicine, BUSM; (2) Lisa Norton, MD, Section of Geriatrics, Department of Medicine, BUSM; (3) Emily Abrams, Section of Geriatrics, Department of Medicine, BUSM; (4) Sue Berger, PhD, OTL/R, Department of Occupational Therapy, BU Sargent College of Health and Rehabilitative Sciences

Background: With more students being exposed to medicalized geriatrics topics earlier in medical education, the required 4th-year geriatrics clerkship at BUSM has begun including more advanced geriatrics topics taught by allied health professionals, such as occupational therapy for patients with low vision.

Description: During a one-hour interactive session with an occupational therapist specializing in low vision, students used simulators to experience vision loss and engaged in daily tasks. The session sought to help students 1) identify key conditions of vision loss in older adults, 2) describe how conditions influence the ability to engage in daily activities, 3) explain strategies to support daily activities of older adults living with vision loss and 4) understand the role of occupational therapy in helping older adults cope with vision loss.

Methods: From October 2012- April 2013, 74 fourth year medical students were asked to rate the session content and presentation on a five-point Likert scale and comment on the session's impact on their practice, patient care, and/or view of the system in which they work. Descriptive statistics were calculated and comments were analyzed for common themes.

Results: Of the 74 participating students, 54 students (73%) completed the session evaluation. All respondents rated the content and presentation as excellent (77%) or very good (23%). Themes from the 43 open-ended responses included enhanced appreciation of practical strategies to help low vision patients (n=18), awareness of daily functional challenges faced by patients with vision loss (n=6) and understanding of an occupational therapist's role in increasing function (n=7). Although positive, the remaining 12 comments lacked a common theme.

Discussion: Feedback suggests this interactive curriculum was well-received amongst this sample. Students valued the opportunity to learn practical strategies for coping with vision loss beyond medical repair, advocating for continued exposure to interdisciplinary solutions taught by allied health professionals.

ASSESSMENT OF STRUCTURED ADVOCACY TRAINING INTEGRATED INTO THE THIRD YEAR OB/GYN CLERKSHIP

(1) Louis Yu, M.A., BUSM 2015; (2) Nicole Economou, B.A., BUSM 2015; (3) Erica Holland, M.D., Department of OB/GYN, BMC

Objectives: To determine the impact of 1) resident-led instruction on assessing social determinants of health and 2) the daily advocacy curriculum in the clerkship experience on medical students' ability to recognize and address social determinants of health.

Methods: Third year medical student advocacy training was structured through two formal curriculum mechanisms and two daily resident-led activities.

1. Clerkship orientation lecture: Establishing student role as patient advocate, how to screen for social determinants of health, and specific local resources.
2. Formal evaluation of advocacy: Students are required to screen patients for non-medical barriers to health with evaluation and feedback by faculty.
3. Student notes and presentations: Incorporation of patient's social risk factors into problem lists and plans with resident feedback on daily inpatient rounds.
4. Resident "mini-lectures" on advocacy topics: Examples include evaluation of sexual violence, addiction in pregnancy, screening for food security.

Student experience was evaluated with a retrospective survey implemented during third year OB/GYN rotations from June to December 2013. A total of 14 residents participated in daily education and 121 students participated in the rotations.

Results: Prior to the rotation, an average of 10% of students considered themselves a patient advocate "always" and 38.3% felt they were a patient advocate "most of the time." After completion of the rotation, net percentages for "always" and "most of the time" increased by 12% and 8.4% respectively. After the rotation, 33% of students felt confident that they had learned practical ways to be a patient advocate, while 65% felt they had learned but were less confident in applying specific skills. The majority of students felt that residents and attendings made efforts to model patient advocacy "most of the time."

Conclusions: Instituting formal advocacy training into a clerkship curriculum with daily resident-led reinforcement increases student confidence in their ability to act as patient advocates. The approach taken by the OB/GYN faculty and residents is a successful example of how to incorporate advocacy training into clerkships with appropriately tailored specialty-based advocacy topics and resident-led clinical reinforcement.

Future directions: More data on specific skills and the longevity of acquired knowledge would be helpful in assessing the curriculum's long-term effect in an effort to expand advocacy teaching to all third year clerkships.

WHAT MAKES FOR EFFECTIVE TEACHING OF ENDOSCOPY? A QUALITATIVE STUDY OF FELLOWS' PERCEPTIONS

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Background: Despite a significant amount of time devoted to endoscopy training during fellowship, there is scant information describing fellows' perceptions of what makes for effective teaching. We sought to identify common themes regarding endoscopy training methods and their impact among gastroenterology fellows from different institutions.

Methods: Nine first-year, 8 second-year and 11 third-year fellows from Boston area gastroenterology fellowship programs participated in structured focus groups with administration of identical closed and open-ended questions. One session each was held at Boston Medical Center, Brigham and Women's Hospital, Tufts Medical Center, UMass Memorial Medical Center, and Lahey Medical Center. Each focus group was audiotaped, transcribed, and analyzed using qualitative methods and NVivo software (QSR International). The study was IRB-approved and all participants provided informed consent.

Results: Nineteen (68%) fellows had attended an ASGE First Year Fellows' Endoscopy Course and found it very helpful (median score 5, IQR 4-5 on a Likert scale with 1=very unhelpful and 5=very helpful). Thirteen (46%) fellows had exposure to an endoscopy simulator at their institution but the median time spent with the simulator was 1 hour (IQR 1-3). Only 2 of the 5 fellowship programs used a formal endoscopic skill assessment tool and none of the programs had an endoscopy curriculum of which the fellows were aware. Fellows consistently reported learning endoscopy best by performing procedures and identified procedure-related goals or milestones they set for themselves such as reaching the cecum unassisted. While fellows did not think they learned differently based on their year of training, 2nd and 3rd-year fellows reported a shift in their milestones towards more advanced techniques. Fellows also offered that different attending physicians had different and, at times quite variable, teaching methods or styles. Typically fellows agreed on the most (and least) effective endoscopy teachers in their program. There was consensus that a standardized endoscopy curriculum should be developed for use across all fellowship programs, including a set of lectures introducing basic principles of endoscopy, but there were inconsistencies as to how such a curriculum should be organized.

Conclusions: A standardized endoscopy curriculum composed of introductory lectures (such as those offered at the ASGE First Year Fellows' Endoscopy Course) and clearly identified endoscopic milestones may be perceived by fellows as an effective way to learn endoscopy. Even when available, simulators are not used to a great extent, with fellows preferring to learn endoscopy during actual procedures. Additionally, there are attending physicians whose well-regarded teaching methods might be further studied to permit development of a "teach the teacher" curriculum.

GAZE PATTERNS OF GROSS ANATOMY STUDENTS CHANGE WITH CLASSROOM LEARNING

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Numerous studies have documented that experts exhibit more efficient gaze patterns than those of less experienced individuals. In visual search tasks, experts fixate for longer on salient regions of the visual field with fewer, longer fixations while less experienced observers spend more time examining nonsalient regions. This study investigates whether learning (the transition from naïve to expert) can be documented by examining the gaze patterns of students in a medical gross anatomy course.

Students were asked to examine photographs of dissections similar to those they experienced in class and to identify the tagged structure in each image. We postulated that, compared to naïve behavior (behavior at baseline and when examining unfamiliar content) students would examine familiar content for longer and would direct proportionally more fixation time on cognitively salient regions of the images while using fewer, longer duration fixations.

Our students examined familiar images for significantly longer than they did at baseline ($p < 0.001$) or for unfamiliar images ($p < 0.001$). They also spent significantly longer examining cognitively salient regions of familiar images, as compared to baseline ($p < 0.001$) and unfamiliar images ($p < 0.001$). However, these gaze patterns were characterized by more numerous fixations rather than fewer, longer fixations. These subjects are successful learners in a challenging gross anatomy course, but are not experts in anatomy. Therefore we speculate that this gaze pattern characterizes an earlier stage of the learning process than has previously been documented in studies of expertise, which have primarily focused on the gaze patterns of true experts.

A COMPREHENSIVE PROGRAM TO PROMOTE MEDICAL STUDENT RESEARCH AND INTEREST IN NEUROLOGY RESIDENCY

Jose Rafael P. Zuzuarregui, M.D., Neurology Resident; BUSM

Background and Description: We present a comprehensive program developed over the past three years to promote clinical interest in neurology. Prior to implementation of this program, less than five percent of fourth year medical students entered the field of Neurology. Through creating a program where students are prepared for residency application and provided with research and teaching opportunities, we provide students with a highly desirable academic skill set for residency application.

Methods: The program begins at the end of the third year of medical school with an introduction to the field of neurology and an approach to residency application (i.e. choosing a field specific advisor, personal statement preparation and soliciting letters of recommendation).

This program also includes research mentorship. A resident mentor connects students with attending physicians and supervises research projects by providing assistance with all phases of completing these projects. Support is provided via one-on-one and group meetings with the resident and/or attending supervisor.

Teaching opportunities are also provided. Third year medical students conduct a Q&A series in the Neurology DRx course, and mentor the Student Interest Group in Neurology program. Fourth year students teach a review course for the third year clerkship, focusing on NBME preparation.

Results: Over the past three years, the number of students entering into Neurology has increased by 100%, with applicants matching at top ranked institutions, including UCSF and Partners. Over 20 students have produced one book chapter, over seven publications with an additional five in press, and over seven poster presentations. Improvement in examination scores in the DRx course has also been noted, with 27 students having participated in the aforementioned teaching programs.

Summary/Discussion: The implementation of a mentorship program has been highly successful in garnering interest in Neurology. We plan to refine this program with feedback from our students via survey and constructive feedback.

2014 MEDICAL CAMPUS TEACHING AND SERVICE AWARDS

Goldman School of Dental Medicine

Spencer N. Frankl Award for Excellence in Teaching

Thomas Kilgore, DMD, Professor of Oral and Maxillofacial Surgery
William Lehman, PhD, Professor of Physiology & Biophysics

Crest Oral B Outstanding Faculty Award: Basic Sciences

Elizabeth Whitney, PhD, Assistant Professor of Anatomy and Neurobiology

Crest Oral B Outstanding Faculty Award: Clinical Sciences

Shiro Kamachi, DMD, Clinical Associate Professor of General Dentistry
Ryota Kikuchi, DMD, Clinical Assistant Professor of General Dentistry

School of Medicine

Stanley L. Robbins Award for Excellence in Teaching

Miriam Hoffman, MD, Assistant Professor of Family Medicine

Committee on Faculty Affairs Educator of the Year

Preclinical Sciences:

R. Jarrett Rushmore III, PhD, Assistant Professor of Anatomy & Neurobiology

Clinical Sciences:

Sonia Ananthakrishnan, MD, Assistant Professor of Medicine

Graduate Sciences, Master's Degree Programs:

Michael F. Holick, MD, PhD, Professor of Medicine and Physiology & Biophysics

Graduate Sciences, Doctoral Degree Programs:

G. Graham Shipley, PhD, DSc, Professor of Physiology & Biophysics and Biochemistry

Leonard Tow Humanism in Medicine Award

Thomas W. Barber, MD, Associate Professor of Medicine

Office of Academic Affairs Excellence in Service Award

Rose Razzino, Administrative Manager in the Laboratory of Neuropsychology and
Behavioral Neuroscience PhD Program

School of Public Health

Educational Innovation Award

Sophie Godley, MPH, Clinical Assistant Professor of Community Health Sciences

Norman A. Scotch Award for Excellence in Teaching

James Wolff, MD, Associate Professor of International Health

Leadership Award from the Massachusetts Network of Women Leaders in Higher Education

Lisa Sullivan, PhD, Professor of Biostatistics