BOSTON UNIVERSITY

20th Annual John McCahan Medical Campus Education Conference

May 20–21, 2025

Showcasing Educational Innovation and Scholarship on the Boston University Medical Campus

Theme: Tradition & Transformation

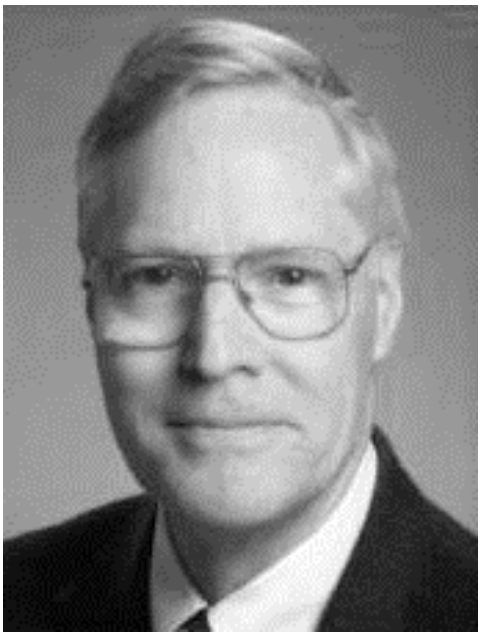
Chobanian & Avedisian School of Medicine

Goldman School of Dental Medicine

School of Public Health

Graduate Medical Sciences

John F. McCahan, M.D.



Dr. John F. 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 was a regular preceptor of 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 Alpha Omega Alpha.

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 Boston University School of Medicine 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.

Chobanian & Avedisian School of Medicine
Henry M. Goldman School of Dental Medicine
School of Public Health

BOSTON UNIVERSITY

May 21, 2025

Dear Colleagues,

The Planning Committee welcomes you to the 20th Annual Boston University Medical Campus John McCahan Medical Campus Education Conference. Dr. McCahan served as the school's Associate Dean for Academic Affairs for 30 years, and then as Dean from 2003 to 2005. We are pleased to celebrate Boston University Medical Campus educators with stimulating speakers, workshops, and innovative ideas to inform and inspire.

This year's theme is *Tradition & Transformation.* This year, we offer a much more expansive selection of workshops, available both in-person and virtually at a variety of times, in an effort to expand access and learning opportunities to more educators. For the 20th anniversary, we also feature round table discussions as a chance to have community voices be heard and involved in reevaluating how we as educators can better teach, test, and assess students, educational models, and methods.

Our keynote speaker is **Karen Antman, MD**, BU Medical Campus Provost & Dean, Chobanian & Avedisian School of Medicine. She is an internationally recognized expert on breast cancer, mesotheliomas and sarcomas. She previously served as Deputy Director for Translational and Clinical Sciences at the National Cancer Institute of NIH and before that as Wu Professor of Medicine and Pharmacology and Director of the Herbert Irving Comprehensive Cancer Center at Columbia University College of Physicians and Surgeons. She is a member of the Institute of Medicine and serves on the Administration Board of AAMC Council of Deans. She has more than 300 publications, edited five textbooks and monographs and has published reviews and editorials on medical education, medical policy and the impact of research funding and managed care on clinical research.

The Planning Committee unanimously voted on and is thrilled to invite Dr. Antman as our keynote speaker, as she founded the BUMC McCahan Education Conference 20 years ago to honor Dr. John McCahan's commitment to education and his leadership on the medical campus. Dr. Antman has advanced the teaching mission of BUMC by renovating the 11th floor of BUMC Alumni Medical Library to a 250-seat testing center and transforming the 13th floor into a modern study space to accommodate both individual or interactive group learning/studying environment, and reconfiguring the 4th floor of the Instructional Building (L4) as the Team-Based Learning Lab. The Clinical Skills Center was started by Dr. McCahan as a place for students to work with standardized patients, and Dr. Antman expanded the center to include simulation, renamed the Clinical Skills and Simulation Center in 2007. Over the last 20 years, Dr. Antman has tirelessly championed the educational mission of BUMC and encouraged educators to be engaged in research and innovation in teaching.

Please join the Conference to connect, network, and dialogue with your colleagues—and influence education at BUMC for the next 20 years!

Sincerely,

20th BUMC McCahan Education Conference Planning Committee

ACKNOWLEDGMENTS

John McCahan Medical Campus Education Day conference was first held in 2006 to honor Dr. McCahan's decades of educational contribution to both medical and graduate education at Boston University Medical Campus with support from Medical Campus Provost and Dean Karen H. Antman, M.D. Each year, dedicated BUMC educators volunteer their time to organize the conference under the oversight of the Department of Medical Sciences & Education. The conference organizers would like to acknowledge with appreciation the contributions of the planning committee:

Committee Chairs	Claire Grimble Elaine Lee
Department of Medical Sciences & Education	Hee-Young Park (Professor and Chair) Kathleen Swenson Paige Curran Theresa Davies David Flynn Stacey Hess-Pino Maura Kelley Kimberly Zayhowski
BUMC IT, Educational Media	Sammy An Jon Asgeirsson Jana Mulkern Andrew Zubiri David King
BU Chobanian & Avedisian School of Medicine	Laurie Craigen Jeannine Foley Christopher Schonhoff Jonathan Wisco Aaron Young
BU Goldman School of Dental Medicine	Yoshiyuki Mochida Afsheen Lakhani Breno Reboucas
BU School of Public Health	Lisa Sullivan
Alumni Medical Library	David Flynn Young Joo Moon
Medical Education Office	Caroline Mulligan Elizabeth Yellen

Communications Office	Zoe Farr Jacob Mackey Maria Ober Mallory Rice
Dean's Office	Daniella Adrien

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
Graduate Medical Sciences, Boston University Chobanian & Avedisian School of Medicine
Graduate Medical Education, Boston Medical Center
Dean's Office, Boston University Goldman School of Dental Medicine
Dean's Office, Boston University Chobanian & Avedisian School of Medicine
Medical Education Office, Boston University Chobanian & Avedisian School of Medicine
Office of Student Affairs, Boston University Chobanian & Avedisian School of Medicine
Dean's Office, Boston University School of Public Health
BUMC IT, Educational Media
Alumni Medical Library

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

Schedule of Events: Tuesday, May 20, 2025

Theme: Tradition & Transformation

Workshops **&** *Virtual Vendor Spotlight Sessions*

9:00 am-9:30 am		**Vendor Spotlight** Ovid
9:30 am-10:45 am	**Workshop A** Staying Grounded: Emotional Regulation During Clinical and Teaching Encounters **Room R-108**	
11:00 am-12:00 pm	**Workshop B** Fostering Psychological Safety in the Clinical Learning Environment **Room R-108**	**Workshop F** Engaging your Faculty in Faculty Development: A spoonful of sugar helps the medicine go down!
12:30 pm-1:00 pm		**Vendor Spotlight** Echo360
1:30 pm-3:00 pm	**Workshop C** Visual Thinking and Art in Learning Medicine (VITAL) **Room R-108**	**Workshop G** Creating Behaviorally Anchored Rating Scales for Formative Assessment
3:00 pm-4:30 pm	**Workshop D** Team Based Learning: How to Engage Students in Active Collaborative Learning **Room L109-C**	**Workshop H** **(3:00 pm-4:00 pm, 60 min)** Fixing the Problem, Not the Blame: Remediating Professionalism Issues in Trainees
4:00 pm-5:00 pm	**Workshop E** From Data to Design: Turning Health Statistics into Eye-Catching Infographics **Room R-108**	

Schedule of Events: Wednesday May 21, 2025

Theme: Tradition & Transformation

8:30 am-9:00 am	**Coffee & Networking**
9:00 am-10:30 am *Hiebert Lounge, 14th floor*	**Welcome**, Melissa Gilliam, MD, MPH, President, Boston University **Keynote,** Karen Antman, MD, Provost, Boston University Medical Campus, Dean, Chobanian & Avedisian School of Medicine
10:30 am-10:40 am	**Break**
10:40 am-12:00 pm	**Round Tables: *Past, Present & Future*** Over the past 20 years, education at BUMC has evolved — have a voice in its next transformation! Come with ideas about where BUMC education should go from here and how we could enact those ideas. The round table discussions are open to all faculty, trainees, students, and staff.
12:00 pm-1:00 pm	**Lunch & Networking**
1:00 pm-1:30 pm	**Educator Awards**
1:30 pm-1:40 pm	**Break**
1:40 pm-2:10 pm	**Abstract Winners and Awards Presentation**
2:10 pm-3:30 pm	**Posters & Networking**
3:30 pm-4:00 pm	**Honoring a Transformative Leader** also streaming at https://bostonu.zoom.us/webinar/register/WN_NmTk6oZvTi65QCmphleYjA
4:00 pm -6:00 pm	**Celebration on the Talbot Green Recognizing Karen Antman, MD** Please join us as we honor Dean Antman and celebrate her two decades of leadership and service to the Chobanian & Avedisian School of Medicine and the BU Medical Campus. Gather with fellow faculty, staff, and students for a celebration on the Talbot Green at the Medical Campus in celebration of this remarkable milestone.

INSTITUTIONAL DESIGNATIONS:

BMC	Boston Medical Center
BUMC	Boston University Medical Campus
Chobanian & Avedisian SOM	Chobanian & Avedisian School of Medicine
GMS	Graduate Medical Sciences
GSDM	Henry M. Goldman School of Dental Medicine
SPH	School of Public Health

JOHN MCCAHAN MEDICAL CAMPUS EDUCATION CONFERENCE AWARDS

Graduate Medical Sciences Faculty Recognition Award

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.

Boston University Henry M. Goldman Faculty Appreciation Award – Predoctoral Category

This award goes to the predoctoral faculty member recognized for dedication to the educational mission of our school. The individual embodies qualities of teaching excellence, mentorship, professionalism, and service.

Boston University Henry M. Goldman Faculty Appreciation Award – Postdoctoral Category

This award goes to the postdoctoral faculty member recognized for dedication to the educational mission of our school. The individual embodies qualities of teaching excellence, mentorship, professionalism, and service.

Crest Oral-B P&G Professional Oral Health Excellence in Teaching in the Basic Sciences Award

This award goes to the faculty member selected by the DMD first-year class who has had the greatest impact on learning in the basic sciences and oral biology. The individual demonstrates a passion for their subject and provides a positive learning experience for students.

Boston University School of Public Health 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.

Chobanian & Avedisian School of Medicine Affiliate Teaching Award

This award recognizes superlative clinical teaching in the third year by Chobanian & Avedisian School of Medicine faculty at affiliated sites and is determined solely on input from students.

Chobanian & Avedisian School of Medicine Kaiser Permanente Silicon Valley Affiliate Teaching Award

This award recognizes superlative clinical teaching in the third year by Chobanian & Avedisian School of Medicine faculty at the Kaiser Permanente Silicon Valley Regional Campus sites and is also determined solely on input from students.

Workshop A

Staying Grounded: Emotional Regulation During Clinical and Teaching Encounters

Joseph Y Liao BS,[1] and Sadie Elisseou, MD [2]

Department of Medicine[1]*, Chobanian & Avedisian School of Medicine*[2]

Room R-108

Introduction/Background:

Given the emotional intensity of clinical and teaching interactions, it is inevitable that patients, learners, and faculty may experience feelings of distress or overwhelm. Learning skills to recognize and regulate these responses helps to preserve our own health and well-being, ensuring that we retain the capacity to provide safe and effective patient care. Emotional regulation can be nurtured as a core clinical skill. This session aims to provide a practical workshop to teach this skill and support physicians and other healthcare workers in the incredible work that they do.

Target Audience:

Clinicians, healthcare providers, and medical students who would like to learn how to apply emotional regulation in a clinical setting

Learning Objectives:

Upon completion of this workshop, learners will be able to:

- Discuss and utilize the window of tolerance as a model for emotional regulation
- Describe how grounding strategies can be used to facilitate emotional regulation in a variety of hypothetical clinical and teaching case scenarios
- Practice self-regulation skills for use before, during, and after challenging interactions

Session Outline:

This workshop is adapted from previously successful medical student and faculty development sessions at Harvard Medical School. A medical student and faculty member from the BU Chobanian & Avedisian SOM Trauma-Informed Care (TIC) Task Force will facilitate this workshop. Participants will receive a discussion guide with cases that draw from both clinical and teaching scenarios as well as a detailed handout with actionable tips for staying emotionally regulated during challenging encounters. Discussion will focus on using the “window of tolerance” and the key principles of TIC as tools to guide clinician well-being.

Workshop B

Fostering Psychological Safety in the Clinical Learning Environment

Linda Neville[1] and Alyssa Peterkin, MD[2]
Department of Medicine, Boston Medical Center[1] and Department of Medicine, Chobanian & Avedisian School of Medicine[2]

Room R-108

Introduction: Maslow's hierarchy of needs consists of five levels: physiological, safety, belonging, esteem, and self-actualization. As educators it is our responsibility to cultivate a safe learning environment for all participants. Over the past 5–10 years, the educational landscape has evolved significantly, and so have learners, who now bring diverse expectations and learning styles. To promote a sense of safety, programs must prioritize psychological safety—a concept broadly defined as "the belief that one will not be punished or humiliated for speaking up with ideas, questions, concerns, or mistakes… It's feeling like you're in an environment that's safe for interpersonal risk-taking." Creating this environment empowers learners to engage fully without fear of reprisal, which is fundamental to both participation and the ability to receive feedback.

Recognizing that each individual perceives the world differently and values different things is crucial. Mistrust can arise when one person believes they are communicating clearly while another receives mixed or conflicting signals, leading them to disengage. By acknowledging differences and respecting diverse perspectives, we can build bridges and establish a shared language—an essential component of psychological safety initiatives. Fostering psychological safety requires developing personal connections and creating an environment where everyone can thrive.

One effective strategy for establishing a psychologically safe environment is the use of social contracts. These agreements help reduce power imbalances, minimize fear of interpersonal interactions, identify biases, and ensure inclusivity within the clinical learning team. Social contracts provide a common foundation by setting clear expectations for collaboration, guiding individuals in navigating interdependence, and reinforcing the understanding that success relies on mutual support. Within the clinical learning environment, preceptors play a key role by modeling fallibility, offering and seeking feedback regularly, and explaining their reasoning transparently.

Target Audience: Program Directors, Program Administrators, Preceptors, Medical Educators

Learning Objectives: Upon completion of this workshop, learners will be able to:

- De e Psychological Safety
- Complete a Social Contract
- Highlight the role preceptors play in promoting psychological safety
- Recognize effective strategies for delivering feedback

Session Outline:

- Introduction 10 min- large group.
- Small Group Breakout 15 min- create a social contract and discuss how they will promote psychological safety in their training environments.
- Precepting & Feedback 10 min- large group, review strategies for delivering feedback.
- Small Group Breakout 15 min- In groups of 3, review vignettes describing trainee performance and practice delivering feedback. The 3 roles will be trainee, preceptor and observer, with the opportunity to play each role.
- Wrap up 10 min- comments, ideas, thoughts

Workshop C

Visual Thinking and Art in Learning Medicine (VITAL)

Deepthi Gunasekaran MD,[1,2] and Gopal Yadavalli MD[2]

Department of Medicine[1], Chobanian & Avedisian School of Medicine[2]

Room R-108

Background: Visual Thinking Strategies (VTS) is an evidence-based teaching method, initially developed in art museum education and now increasingly applied in medical education to enhance diagnostic thinking and foster collaborative discussion. In VTS, a facilitator guides participants through the analysis of visual artwork using three open-ended questions: “What’s going on in this image?”, “What do you see that makes you say that?”, and “What more can you find?”

Several studies demonstrate that art-based programs, including our ongoing collaboration with the BU Art Gallery, are well-received by learners. A recent systematic review of VTS-style interventions in medical education found statistically significant improvements in observational skills, along with increased tolerance for ambiguity and enhanced empathy. The AAMC’s 2020report on the Fundamental Role of Arts and Humanities in Medical Education (FRAHME) encourages the integration of arts and humanities into medical curricula. Additionally, Agarwal et al. (2025) provide a comprehensive guide for implementing VTS programs in health professions education. There is a clear need to cultivate and apply these skills within the BU CAMED educator community. VTS shares essential parallels with clinical reasoning—such as data gathering, analysis, and the development of differential diagnoses and treatment plans. This workshop will provide a framework for medical educators to enhance their teaching of clinical reasoning through open-ended questioning, reflection, and collaboration.

Target Audience: Medical educators, including faculty, residents and fellows involved in teaching clinical reasoning and diagnostic skills.

Learning Objectives:

- Describe the steps of Visual Thinking Strategies
- Recognize how art analysis can parallel and support clinical reasoning processes.
- Practice facilitating a group discussion using VTS.
- Formulate a plan to incorporate VITAL approaches into small group teaching or bedside rounds

Session Outline:

- Brief introduction to VTS (10 mins)
- Facilitated large group experience of selected artwork using VTS (30 mins): Workshop leaders will demonstrate the use of VTS by guiding participants through a discussion of pre-selected artwork as a group.
- Reflection and discussion on parallels to clinical cases (15 mins): Workshop leaders will debrief with the group and guide an interactive discussion on the uses of VTS in medical education drawing on published literature.
- Small group practice leading a VITAL-style discussion (25 mins): Volunteers from the audience will practice leading a session using pre-selected art. Depending on audience size and room availability, the group may be split into two.
- Wrap-up with tips for real-world implementation (10 mins): Participants will be asked to name potential uses and for commitments to next steps

Workshop D

TEAM BASED LEARNING: HOW TO ENGAGE STUDENTS IN ACTIVE COLLABORATIVE LEARNING

Kate JF Carnevale PhD

Department of Pharmacology, Physiology and Biophysics, Chobanian & Avedisian School of Medicine

Room L109C

This session aims to familiarize faculty interested in utilizing the evidence based active learning methodology of Team Based Learning (TBL). This session will provide an overview of method and the literature evidence behind the TBL technique, best practices, as well as practical experience adapting a traditional lesson to the TBL format. Participants can choose to provide their own lesson example or use a provided example, getting real-time assistance and troubleshooting for creating an impactful learning session while attending this workshop. The session will also provide a live demonstration of TBL where the participants will be the "students" and get a feel for the delivery of a TBL style session.

Target Audience: Faculty and staff who would like to understand and apply the basics of Team Based Learning in their Classes and Programs.

Learning Objectives: Upon completion of this workshop, learners will be able to:

- Describe Active Learning and the utility of the TBL method
- Explain the principles and components of delivering TBL session
- Design resources for a TBL session: Pre-work, IRAT, TRAT, and Application Questions
- Implement the TBL method in an abridged setting

Session Outline:

- Overview (10 minutes): brief introductions, review Learning Objectives and ask for participant input on what experience they have with active learning and what they hope to gain from the session.
- Background (10 minutes): review of Active Learning, evidence for the effectiveness of TBL, and the basic components of TBL administration.
- Participant Implementation (30 minutes): working individually or in small teams, participants will apply the steps of TBL preparation to creating their own TBL session. The presenter will circulate to answer any questions. Participants can volunteer to share their TBL topic and process with the group.
- Best Practices (10 minutes): tip and suggestions to maximize impact of the session.
- Demonstration (20 minutes): participants will engage with the TBL together as the learners using one TBL developed during the session.
- Wrap Up (10 minutes): pedagogical discussion time and Q&A.

Workshop E

From Data to Design: Turning Health Statistics into Eye-Catching Infographics

Fatemah Abdullah, DDS

Department of Health Policy and Health Services Research, Goldman School of Dental Medicine

Room R-108

While health data is readily collected at national and state levels, raising awareness about its availability and potential use among community members, local stakeholders, legislators, and policymakers remains a significant challenge. Bridging the gap between raw data and its effective application for interventions at the county and community levels requires innovative communication strategies.

This workshop will focus on methods to transform complex data into compelling, easy-to-understand infographics. It will cover a visual data storytelling process that involves three key steps:

(1) Exploring the data to find meaningful insights,
(2) Crafting those insights into a coherent narrative, and
(3) Effectively communicating the narrative to the intended audience.

By simplifying data through visual storytelling, the goal is to make health data more accessible, engaging, and actionable. We will also discuss how this approach can help advance health initiatives within health improvement plans and increase the utilization of surveillance data by public health professionals, hospital systems, and oral health advocates. Attendees will gain insights into how infographics can transform otherwise dry and complex data into powerful tools that drive community engagement and inform policy decisions.

Target Audience:

This workshop is intended for educators, students, health professionals, and anyone interested in creating effective communication materials in health. It is especially relevant for individuals who work with health data and seek to transform complex information into accessible, engaging visuals for a wide range of audiences.

This workshop was previously presented at the National Oral Health Conference 4/8/2025.

Workshop F

Engaging your Faculty in Faculty Development: A spoonful of sugar helps the medicine go down!

Sonia Ananthakrishnan, MD and Craig Noronha MD
Department of Medicine, Chobanian & Avedisian School of Medicine

Virtual – Zoom

Background and Rationale: Faculty development is essential for personal and professional growth. Multiple scoping reviews have highlighted the ever-expanding roles of educators and in turn the growth of faculty development offerings, yet it is a daunting task to initiate and implement a faculty development program. Faculty development focuses on improving skills, knowledge, and attitudes in a variety of domains including leadership, teaching, scholarship, educational development, and personal development. Despite these benefits, many educational leaders find it challenging to engage their faculty in participating in faculty development. For educational leaders, faculty development is an integral tool in skills development for peers educators and can also provide avenue for networking and community building.

This interactive workshop will focus on supporting educators in designing an educator specific faculty development program. Strategies to engage in faculty development will be reviewed, including institutional culture, appreciation, reimbursement, and utilization and accessibility. Workshop attendees will brainstorm on strategies to overcome barriers to successful faculty development. A portion of the workshop will focus on crowd-sourcing challenges and solutions related to engagement of faculty members in the setting of burnout, increased productivity pressures, and accreditation issues. Participants will also engage in discussions of how to utilize the skills of educators across the institution to help fill in gaps.

Learning Objectives:

By the end of the Workshop, participants will be able to:

- Define the utility of faculty development to support your educational goals
- Identify the barriers specific to your faculty development goals
- Create strategies to implement and enhance a faculty development curriculum at your home institutions

Workshop G

Creating Behaviorally-Anchored Rating Scales for Formative Assessment

Lucas Pereira, MGCS, CGC, Ruben Guzman, MD, Nouf Alnoon, MBBS, Steven Omansky, MD, Rawia Mohammed, MLS(ASCP), Mai Nguyen, MBBS, Vincent Storie, MD, Jeffrey Markus, MD EdM

Graduate Medical Sciences, MS in Health Professions Program, Chobanian & Avedisian School of Medicine

Zoom

Introduction:

This workshop aims to familiarize faculty interested in improving their formative feedback practices through the use of behaviorally-anchored rating scales (BARS). In health professions education, formative assessment is vital to shaping professional growth, yet educators across disciplines struggle with assessing and fostering competencies. Learners often report that the feedback they receive is vague and not evidenced by specific behaviors, leading to missed opportunities for skill development. This workshop introduces BARS as a practical tool for educators seeking to better align formative assessment with their learners' behaviors in context. Participants will learn how to create rating scales that assess the nuances of their disciplines while supporting the development of core professional competencies.

Target audience:

Faculty and staff seeking to improve their formative assessment tools as they relate to learner competencies.

Learning Objectives:

By the end of the Workshop, participants will be able to:

- Describe the key components and advantages of behaviorally-anchored rating scales (BARS) in health professions education settings
- Evaluate the efficacy of existing assessment tools in health professions education settings
- Identify specific and observable learner behaviors relevant to formative assessment in their teaching contexts
- Construct a BARS suitable for assessing a competency or skill of a health professions student
- Utilize measures from BARS to deliver formative feedback to health professions students

Session Outline:

- Overview (10 minutes): Introduction to workshop and overview of objectives
- Introduction of BARS (15 minutes): Background on BARS utility in assessing skills
- Setting an example (20 minutes): Compare efficacy of a simple Likert scale versus a BARS to assess a professional competency as a group
- Hands-on practice (30 minutes): Practice developing a BARS for assessing a participant-relevant competency in smaller groups with facilitator assistance
- Wrap-up (15 minutes): Conclusion of workshop with participant discussion and reflection

Workshop H

Fixing the Problem, Not the Blame: Remediating Professionalism Issues in Trainees

Hallie Rozansky, MD, and Thomas Ostrander, MD, MPH

General Internal Medicine, Chobanian & Avedisian School of Medicine

Zoom

Introduction: Of all the clinical competencies, issues of professionalism are among the most challenging to remediate. Patterns of such behavior often occur due to multiple factors, each individually complex: burnout, mental health, clinical inexperience, issues of confidence, communication style, personality characteristics, and many others. While ample literature exists regarding the prevalence of professionalism issues in trainees, there is little clearly-defined guidance to support successful remediation and coaching strategies. This is particularly exacerbated among trainees without insight into their deficits. This workshop will address this important and difficult topic and offer techniques for developing coaching strategies for learners with professionalism issues.

We will provide a framework to identify contributing factors to the trainee's behavior. We will then review techniques and language to address professionalism concerns with the trainee. In breakout sessions, we will work through cases with two types of learners: those who have insight into their behaviors and those who do not. We will then offer examples of how our programs approach coaching of professionalism through initial observation, discussion with trainees, our Clinical Competency Committee process, formal structured interventions, and measurement of success. We will highlight the importance of approaching from a supportive, destigmatizing angle, rather than a punitive one.

Target audience: Medical educators at the UME and GME levels, particularly those who do specific / directed coaching or remediation with learners, including members of the CCC.

Learning Objectives: By the end of the Workshop, participants will be able to:

- Build a differential diagnosis for contributing factors that result in patterns of unprofessional behavior
- Establish and review frameworks for diagnosing and coaching learners with professionalism deficits, including both those with and without insight into their deficits.
- Review common pitfalls in the process.

Session Outline: Case-based 60-minute session that introduces a 5-step approach to coaching learners with professionalism challenges. Audience participation throughout with think/pair/shares (5 minutes), word cloud for opening statements for challenging conversations (5minutes), and audience discussion (1-2 minutes at several intervals throughout).

This workshop was previously presented at Alliance of Internal Medicine on April 19, 2025

ABSTRACTS

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

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 1–2

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 3–29

1

Student Perceptions of e-Portfolios for Self-Assessment and Critical Thinking Competencies

Varvara Blidman[1], DMD, Kendrick Smaellie [2], MPH, Ana Zea [1], DDS, DrPH, Celeste Kong [1], DMD

Goldman School of Dental Medicine, General Dentistry [1] and Center for Clinical Research[2]

Introduction: Self-assessment and critical thinking are essential parts of Competency Based Education (CBE) and are required standards for the Commission on Dental Accreditation (CODA). GSDM currently uses e-portfolios as a tool to promote students' critical thinking and self-assessment as they document and reflect on learning experiences throughout dental school.

Purpose: Our study aimed to determine students' perceptions of e-portfolios in the development of self-assessment and critical thinking skills and also as an educational tool.

Methods: For three academic years (AY20-21 to AY22-23), all GSDM predoctoral dental students were invited via email to participate in an online, anonymous survey. Each of the six predoctoral classes (DMD 1-4 and Advanced Standing 1-2) received the survey invitation once each year when they completed the courses using e-portfolios. By the end of AY 22-23, over 1000 unique students had received over 1900 invitations to participate. Survey questions covered prior experience with e-portfolios, the process of using e-portfolio software, and the impact on skills and learning outcomes. Responses were analyzed using descriptive statistics and the Kruskal-Wallis test was used to measure differences between groups. Dunn's comparison was used for further testing.

Results: Across all three academic years, 645 surveys were completed (33% response rate). On average, using e-portfolio software was new for 94.1% of students and they generally agreed that the software was easy to use and helped identify academic progress. Agreement with these statements increased from 2021 to 2022 and decreased in 2023, although the 2023 agreement was still higher than the initial response in 2021. Across all three years, more students agreed that e-portfolios were helpful for self-assessment compared to critical thinking, but the difference was small. When looking at responses by class, more of the DMD1 and DMD2 students consistently agreed e-portfolios were helpful in developing competency skills compared to the DMD 3 and DMD 4 students. The AS1 students also found e-portfolios more helpful than the AS2s. Significant differences between specific classes further reflected this distinction between the preclinical and clinical groups: DMD2 vs DMD4 in 2021; AS1 vs DMD4s in 2021 and 2022; and DMD2 vs DMD3 in 2023.

Conclusions: Significant differences between preclinical and clinical student perceptions of how e-portfolios enhance their critical thinking, self-assessment, and learning outcomes indicate that e-portfolios have the most educational impact during the preclinical years. This difference in perception once students enter the clinic may be because clinical students are exposed to many additional competency tools as they advance through their training, including their hands-on experience practicing in the clinic. While these students are still using critical thinking and self-assessment in their clinical work, they typically see e-portfolios as less helpful tools for their learning. Students' generally positive responses for the operational aspects of e-portfolios implies that any differences in perception are likely not due to logistical barriers. Overall, these results demonstrate the value of including e-portfolio reflection assignments in the preclinical curriculum to help develop students' critical thinking and self-assessment as well as serve as a tangible competency assessment tool.

Artificial Intelligence Perceptions Among Dental Students and Faculty

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Objectives: Given the limited research on the perceptions of artificial intelligence (AI) among dental students and faculty in the U.S., our study aimed to assess faculty and student perceptions of AI in dentistry and its' future applications in dental education.

Methods: All predoctoral students, post-doctoral residents, and faculty at an urban dental school were invited via email to complete an anonymous electronic survey (IRB-exempt determination). The survey consisted of 22 multiple choice questions and was administered via REDCap. Responses were summarized using descriptive statistics.

Results: Overall, 34 faculty, 57 students and 4 residents responded to the survey (n=95, approximately 8% response rate). In general, 91.4% of respondents reported using AI in daily life and 77.6% find it useful/very useful. Only 36.1%, however, currently or have previously used AI in their dental practice. Many faculty and students believe AI applications should be implemented into both the predoctoral (69.6%) and postdoctoral (80.2%) curriculums. Similarly, respondents believe the teaching (67.4%), learning (63.0%), and patient (64.2%) experiences would be improved by using AI systems. Interestingly, the most respondents (85.9%) believed AI could improve research activities compared to other areas of dentistry. Radiographic analysis (81.1%) and implantology (62.1%) were selected the most often as beneficiaries of AI applications. About half of respondents (48.9%) believe that AI could replace aspects of dentistry in the future, but only 8.7% would trust the AI judgement over a dentist's abilities or knowledge. Furthermore, while 41.3% believe AI will be the future standard of care in dentistry, 58.7% believe such systems would be more susceptible to confidentiality violations.

Conclusion: Our study found that dental students, residents, and faculty believe AI will lead to major advances in dentistry and should be implemented in the dental curriculum to enhance teaching, learning, and patient care while being thoughtful of the associated risks.

This was previously presented at the 2025 ADEA Annual Session & Exhibition

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Dental Students' Knowledge and Acceptance of Silver Diamine Fluoride for Pediatric Caries Management

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Purpose/objectives: Silver diamine fluoride (SDF) is a minimally invasive technique that has been gaining recognition as an effective treatment for arresting and preventing dental caries, particularly in pediatric population. This study aimed to assess the knowledge and perception of third-year dental students (DMD3) and second-year Advanced Standing students (AS2) at Boston University School of Dental Medicine. The focus was on its clinical application in pediatric patients, as well as the students' willingness to use SDF in their future practices.

Method: A survey comprising 16 questions was adapted from Dang. C, 2020 and Nelson. T 2016 to evaluate students' clinical and didactic exposure to SDF, and their understanding and attitudes toward its use. The questionnaire included 1 question to determine the students' class, 5 questions on SDF properties, 5 on its clinical indications and usefulness, and 5 on perceptions of the appropriateness and willingness to use SDF. The survey was administered to dental students via REDCap.

Results: A total of 61 responses were received. Of respondents, 50.9% were DMD students and 49.1% were AS2 students. Knowledge of SDF properties was strong, with 82.4% recognizing its antimicrobial properties, 70.0% affirming fluorapatite formation, and 100.0% acknowledging staining of carious dentin. Clinical experience with SDF in pediatric patients was limited, with 45.6% reporting no experience and 45.6% having treated 1–2 patients. Perceptions of SDF were positive, with 96.0% agreeing or strongly agreeing that SDF is viable for arresting caries in pediatric patients, and 87.7% viewing it as a suitable option for those with cognitive/physical impairments. Willingness to use SDF in future practice was high (90.0% agree/strongly agree), though 82.0% identified esthetics as the primary reason for potential parental refusal. Median knowledge scores for SDF properties ranged from 4–5 (out of 5), with perception scores reflecting strong approval (SD = 0.9).

Conclusion: Dental students showed a solid grasp of SDF's attributes and a positive view of its value and relevance in pediatric caries treatment. Their strong inclination to adopt SDF in future practice highlights its potential for broader use, despite esthetic concerns that may affect parental acceptance.

4

Propelling Rise of Faculty (PRoF) Mentor-Mentee Matching Initiative: Process Development and Formative Evaluation

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Chobanian & Avedisian SOM, Medical Sciences & Education

Introduction: Many Instructors and Assistant Professors at Chobanian & Avedisian School of Medicine were stalling in rank and not being promoted. Academic promotion relies heavily on productive scholarship, which requires knowing how to formulate a scholarly project, establish collaborations, gain sponsorship by senior faculty, and manage work-life balance. However, the pandemic decimated opportunities for creating informal interactions and relationships with senior faculty who could guide how to navigate the academic system to meet advancement criteria.

To build community and create connections such that early-career faculty could gain these insights, Propelling Rise of Faculty (PRoF) facilitates matching early-career faculty mentees with senior faculty mentors. PRoF is a joint collaborative effort of Faculty Affairs, Research, Proposal Development, and Boston University Medical Group. Early career was defined as Instructor or <5 years at Assistant Professor. Pairs were asked to meet at least 4 times in 1 year. In the 2022 pilot, PRoF matched 6 mentee-mentor pairs; by coincidence, all mentees matched with mentors outside of their home department. Feedback revealed mentees felt they could be more open with these mentors; thus, PRoF required future matches to be externally paired. PRoF matched 34 pairs in 2023, and 3 returning and 37 new pairs in 2024.

Purpose: With the 2024 cohort, PRoF conducted a formative evaluation to explore and understand the key components that shape the mentor-mentee experience within the program. Evaluation focused on expectations, challenges, communication dynamics, and the perceived value of the mentoring relationship from both mentor and mentee perspectives.

Methods: A qualitative formative evaluation design was used to collect and analyze data. Separate focus groups (mentees, mentors) were conducted to ensure open dialogue and capture the unique experiences of each group. A semi-structured guide informed by mentorship literature was used to facilitate the conversations. Each focus group was audio-recorded, transcribed verbatim, and analyzed using reflexive thematic analysis to identify key themes, recurring patterns, and meaningful insights into the mentoring process.

Results:

For mentees, three overarching themes emerged:

- Mentor-Mentee Relationship: Mentees emphasized the importance of rapport, trust, and relational dynamics. They expressed a desire for mentors who were approachable, empathetic, and invested in their growth.
- Purpose of the Mentor-Mentee Relationship and Matching: Participants discussed the value of having mentors who understood their academic and professional goals, as well as the importance of shared interests, backgrounds, or identities to foster stronger connections.
- Mentor-Mentee Communication: Communication was a significant concern. Mentees highlighted the need for regular, transparent, and responsive communication, and identified power dynamics as a barrier to open dialogue.

For mentors, four primary themes were identified:

- Purpose of Mentoring: Mentors viewed their roles as guides, sponsors, and advocates, focusing on supporting mentees' navigation of academic systems and professional development.

- Mentor-Mentee Matching Process: They expressed that effective matching required alignment in values, goals, and communication styles. Many suggested initial informal interactions could improve compatibility assessments.
- Communication Dynamics: Mentors acknowledged variability in communication expectations and advocated for clear mutual agreements regarding frequency and mode of communication.
- Limitations of Mentoring Relationships: Mentors noted structural challenges, such as limited time, unclear program guidelines, and differing expectations between mentors and mentees.

Conclusions: Several actionable recommendations emerged to strengthen PRoF:

- Develop a Mentors Database that allows mentees to select mentors based on research interests, social identity, and professional goals.
- Schedule initial informal meetings prior to formal pairing to assess compatibility.
- Hold two initial check-in meetings to evaluate the mentor-mentee match and adjust if needed.
- Establish communication guidelines at the program outset to set expectations around frequency and modes of interaction.
- Reduce hierarchies and power dynamics by training mentors in inclusive communication and cultural humility.
- Create mentee support groups to foster peer learning, reduce stress, and promote community.
- Provide clear instructions and protocols to mentees at the beginning of the program to clarify goals, roles, and timelines.
- Match based on specific needs and social identities to ensure mentees feel seen, supported, and understood.

For the 2025 cohort launching July 1, we established new communication guidelines to set expectations; clarified PRoF goals, roles, and timelines; and revamped surveys to incorporate match preferences based on specific needs and social identities. We will implement initial informal meetings and check-ins to assess compatibility and explore the other recommendations. As part of continuous quality improvement, we will continue doing formative evaluations to improve the matching process and guidance for developing effective mentoring relationships.

Promotion from Assistant to Associate Professor at the school typically takes 7–8 years, so we do not expect promotion after 1 year of participation in PRoF. However, as cohorts age, we expect increases in the proportion that made strides toward promotion; thus, PRoF also tracks scholarly activity. As of submission, of the 2022–24 cohorts, since joining PRoF, 2/6, 1/34, and 1/40 mentees, respectively, have been promoted to Associate Professor; 5, 17, and 17 mentees, respectively, published at least 1 manuscript; and 9 mentees each in the last 2 cohorts obtained at least 1 grant. PRoF will continue assessing whether the program helps faculty attain promotions.

5

Occupational Hazard Education and Awareness in Dental Education: A Study of Preclinical Predoctoral Students

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Introduction / Background/Purpose: Occupational Hazards are defined as “any workplace condition that causes a risk to employee health”. They can be organized into six main categories, as listed by the Occupational Safety and Health Administration (OSHA): safety, chemical, biological, physical, ergonomic, and work organization hazards. Each of these categories is equally important when it comes to awareness to prevent workplace accidents, including dentistry. Dental students are educated on various topics such as Biochemistry, Physiology, Oral Biology, and many other fields of science. Every aspect of the training is applied in various ways to prepare them for their professional practice, so they become good and mindful clinicians. Being knowledgeable about

Purpose / Objectives: The purpose of this study is to assess the extent of Occupational Hazard education that dental students have when conducting this investigation and explore the relationship between their education in these areas and any corresponding effects on their physical health.

Methods: To evaluate this, 117 dental students from DMD 2 (Class of 2027) and Advanced Standing 1 (Class of 2027) will take an electronic survey consisting of 17 questions at the beginning of their second year of dental school that will evaluate their knowledge of occupational hazards and physical conditions during that time that may correlate with their occupational hazards. The following year, the same students, who by this time will be DMD 3 (third-year dental students), will take a second survey evaluating the same conditions along with any progression of knowledge regarding occupational hazards.

Findings / Results: The results of this investigation will shed light on the current state of education regarding Occupational Hazards and the effects it has on the new generation of dental professionals.

Conclusions / Discussion: The dental profession involves exposure to a wide range of occupational hazards, including infectious agents, psychological stressors, allergic reactions, physical strain, mercury exposure, ionizing radiation, and anesthetic gases. These hazards are critical to address in the education of future dental practitioners to ensure they acquire the necessary knowledge to prevent or mitigate associated risks. Proper education in this area is essential for promoting safe clinical environments, enhancing practitioner well-being, and supporting longevity and efficiency in professional practice. This study aims to increase awareness of the importance of occupational hazard education in dental training and to identify specific areas that may require greater emphasis based on the study’s findings.

Don’t be Jaded- Talking with Youth Who Might be Getting Faded: Creation and Implementation of a Substance Use Training for Youth-facing Professionals

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Background: Adolescent substance use is common; however, many youth-facing care teams and professionals do not have adequate training about it. Developing an understanding of youth substance use including substances, routes and patterns of use, health risks, and treatment interventions are key. Improving knowledge about youth substance use and evidence-based interventions may create a stronger foundation for adolescent-facing care teams to best care for youth using substances. Initially youth-facing organizations (a school and a community health center) requested more youth facing education. This led to an opportunity to create a new youth substance use training.

Objective: Describe a novel youth substance use training to improve knowledge and clinical practice among individuals caring for youth.

Methods: Boston Medical Center, Grayken Center for Addiction Training and Technical Assistance (Grayken TTA) is a national leader in the development and delivery of evidence-based substance use education for healthcare teams. An expert nurse practitioner with experience in caring for youth with substance use developed this training. Two free, 90 –minute didactic sessions occurred via online-video platforms in January and March 2025. Each session was led by two addiction nurse practitioner educators. Continuing education credit was provided. Participants completed a voluntary post-training survey that assessed participant demographics, usefulness of training, knowledge improvement, anticipated practice change, and general feedback. Survey data was reviewed and aggregated.

Results: A total of 382 participants attended two sessions, with 202 participants in the first session and 180 participants in the second session. A total of 282 (74%) participants completed the voluntary post-training survey. Respondents represented 38 states and territories, with the majority from Massachusetts (44%). Top professions attending included peer specialists (recovery coaches, LADCs, CADCs, CHWs) (27%), behavioral health professionals (22%), and nurses (15%). The training was deemed relevant to clinical practice by 84% of respondents, with 99% reporting an increase in knowledge. Overall, 98% rated the activity favorable (4: good – 5: excellent) on a 5-point scale (mean = 4.73). Participants reported that this training increased their ability to talk with adolescents, improved vaping/nicotine product knowledge, and identified strategies to incorporate harm reduction into their practice.

Conclusions: A youth-focused substance use training improved knowledge for youth-facing professionals, was relevant to clinical practice changes, and was well received. The training reached participants nationally from a variety of disciplines. Improved substance use knowledge, communication strategies, and harm reduction approaches were key takeaways for attendees. While self-reporting bias and a limited sample size may affect generalizability, the relevance and reach of the session suggests a strong demand for continuing education related to adolescent substance use. Future efforts should expand on developing additional case-based discussions, emerging trends among youth, and better quantify the impact on clinical practice.

BEST STUDENT ABSTRACT

Enhancing Teaching Assistant Preparedness in Dental Education: Development and Delivery of a Feedback Training Module

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Goldman School of Dental Medicine[1], Health Policy & Health Services Research[2], Global & Population Health[3]

Introduction/Background: Teaching assistants (TAs) play a valuable role in health professions education by reinforcing course concepts, aiding student learning, potentially alleviating faculty shortages, and exposing interested students to academia. Despite known advantages, best practices, and a formal training program for the integration of TAs into didactic, pre-clinical, and clinical environments at dental schools do not appear to exist. Preliminary research completed at the Boston University Henry M. Goldman School of Dental Medicine (GSDM) suggests course directors (CDs) who use TAs are amenable to a generalizable training module that offers standardized instruction in key teaching skills.

Purpose/Objectives: The aim of this study was to develop and assess a TA Training module focused on delivering student feedback for GSDM TAs.

Methods: A literature search identified evidence-based training modules focused on delivering feedback. The content was adapted for use in dental education and the module was pilot tested with a subject matter expert outside of dental field (SME), two CDs, and three graduating TAs. Based on this feedback, the module was revised to include role-play scenarios, increased opportunity for participant engagement, and creation of content-specific handouts. Course directors were contacted to identify the TAs in their courses, and these students (n=48) were invited to participate in a one-hour, optional, interactive, in-person TA training. Data was collected through 14-item pre-module and 11-item post-module questionnaires housed on the REDCap platform. The analysis plan included descriptive statistics, and differences in the pre- and post-module questionnaire responses were examined using Mann-Whitney U-Tests. With no unique identifier to match participants, pre-and-post module questionnaires were assumed to be independent.

Findings/Results: 17 of the 48 (35%) invited TAs completed the pre-module questionnaire, and 10 (21%) attended the training module and completed the post-module questionnaire. A two-tailed Mann-Whitney U-Test showed a statistically significant difference in self-perceived ability to provide formative feedback ($p = 0.005$). When asked how able they felt to provide feedback to learners prior to the module, only 17.6% of TAs responded that they felt “extremely able,” whereas 87.5% of TAs felt “extremely able” to provide feedback after the module. There was also a statistically significant difference between self-perceived preparedness for TA roles before and after the module ($p = 0.010$). When asked how prepared TAs felt, 12.5% reported feeling “extremely prepared” pre-module compared to 66.7% post-module. There was no statistically significant difference in the ability to communicate with learners after the module ($p = 0.053$). When asked how able TAs felt to communicate with learners, 35.3% felt “extremely able” prior to the module compared to 77.8% post-module. Additionally, 80% of attendees suggested future modules be focused on difficult conversations and 70% suggested a module on providing student feedback using a standardized rubric.

Conclusions/Discussion: A structured TA training module has the potential to enhance TA preparedness and effectiveness in delivering feedback, benefiting TAs and students. Next steps for this project include assessing CDs perceptions of the program and developing additional training modules and exploring the creation of a TA training certificate program for GSDM TAs.

Piloting the Effectiveness of a Self, Peer, and Teaching Assistant Evaluation Protocol in a Pre-Clinical Course

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Background: The integration of self and peer evaluation protocols in medical and dental courses has been shown to improve active learning, peer collaboration, and reflective practice. Despite the impact of these protocols, little is known about how Teaching Assistant feedback influences student learning and the value of the TA experience.

Objectives: To compare self, peer, and TA evaluation scores from a single formative preclinical exercise in the Occlusion and Temporomandibular Disorder course on a standardized rubric to the gold standard faculty evaluation. Secondary objectives were to assess student and TA perceptions of the evaluation protocol.

Methods: The study received approval from the BUMC/BMC Institutional Review Board (H-45262). All TAs (n=25) and students (n=214) enrolled in the Occlusion course in the Fall of 2024 were invited to participate. During the evaluation of occlusal mountings and occlusal analysis exercise in the Simulation and Learning Center, each student completed a self-assessment and one peer assessment using a standard rubric. Then one TA (trained and calibrated by the course director) and one faculty, completed an assessment utilizing the same evaluation rubric. After the evaluations were completed a 31-item REDCap survey was sent to students, and a 27-item survey was sent to TAs to assess their perceptions of the evaluation exercise. Descriptive analysis was compiled based on the evaluator type in Excel, Chi-Sq and Kendall's Tau tests were conducted to measure agreement and correlation between evaluation scores from self, peer, TA, and faculty assessments in SAS 9.4 software.

Results: A total of 206 self, peer, TA and faculty evaluations were collected. The maximum score on the standardized rubric was 24 with average scores of self (23.3+/-1.1), peer (23.6+/-0.7), TA (23.1+/-1.2) and Faculty (23.1+/-1.1). Self and peer scores were significantly positively associated under Kendall's Tau tests (<0.01), and overall there was a small positive correlation between all the groups, due to the high level of clinically exceptional scores given across all graders. Statistically significant differences in grading occurred in Q1 and Q5 where faculty had far lower rates of grading "clinically exceptional" (39.8%, 64.1%) than any other group. 205 (95.79%) students and 25 (100%) of the TAs completed the REDCap surveys. 95% (n=195) of students considered they developed a deeper understanding of the assessment criteria by completing the peer evaluation and agreed that receiving feedback from a TA was helpful for their learning. 100% of TAs (n=25) agreed that providing feedback to students was beneficial to their own learning experience and reported that their role as a TA helped them improve their communication skills.

Conclusion: Results suggest that including a self, peer, and TA evaluation protocol enhances student and TA learning in a preclinical occlusion course. Similar average scores between TA and faculty evaluations of student work suggests that when properly trained and calibrated upperclassmen TAs can provide accurate feedback to formatively assess their underclassmen peers in a preclinical setting. Future projects should focus on targeting additional pre-clinical exercises to incorporate TA feedback such as a mock summative clinical experience.

Exploring Emotional Intelligence and Oral Health Education: A Conference Seminar Survey

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Background: Emotional Intelligence (EI) is an essential part of patient care combining vital skills of self- and social awareness, and self- and relationship management. Providers who demonstrate higher EI are known to have more meaningful interactions with patients, provide better patient care, and, as colleagues, show improved communication and teamwork resulting in greater career satisfaction. Despite the known benefits of higher EI, few examples in the literature describe how oral health professional programs (dental, dental hygiene, and dental assisting) train faculty and teach EI to students. Furthermore, recommendations for best practices on how to integrate and assess EI in the curriculum do not appear to exist.

Objectives: The primary objective of this study was to survey attendees of a 60-minute seminar at the American Dental Education Association's (ADEA) Annual Session to generate an understanding of EI's presence in oral health education. Secondary objectives were to assess participants' perceptions of EI and identify potential facilitators and barriers to including EI in the curricula.

Methods: The study received approval from the BUMC/BMC Institutional Review Board (H-45641). All attendees of a 60-minute seminar on Emotional Intelligence at the 2025 ADEA Annual Session were invited to participate in an 18-item REDCap questionnaire shared via QR code at the conclusion of the presentation. No renumeration was offered for participation and the survey remained open for 24 hours. Descriptive statistics were calculated on REDCap.

Results: A total of 40 participants completed the survey. Most respondents were female (31/40, 77.5%), worked full-time at their institution (24/40, 60%), and had never attended a training on EI prior to the workshop (26/40, 65%). Attendees reported interest in learning best practices for teaching EI (31/40, 77.5%) and how EI can influence and impact their teaching methods (25/40, 62,5%) as primary reasons for attendance. When asked how their institution incorporates EI into their curriculum many attendees were unsure (16/40, 40%) or reported it is not directly taught in the curriculum (15/40, 37.5%). Fewer individuals reported EI being covered as part of a larger course (9/40, 22.5%), as a single lecture (3/40, 7.5%) or as a standalone course or program (1/40, 2.5%). Additionally, four (10%) attendees indicated that competency in EI is part of their program's graduation requirements, however, many (24/40, 60%) still believe the curriculum could be adapted to include elements of EI. Respondents described the ability to adapt existing student and faculty training as facilitators to incorporating EI, while a crowded curriculum as well as financial limitations for EI resources are the most common barriers to inclusion.

Conclusions: Results suggest that EI is not ubiquitously integrated into the curriculum and competency requirements for oral health education programs. Future directions should focus on highlighting best practices for teaching and assessing EI in oral health education and establishing training modules and strategies for institutions to use and adapt to enhance EI into their existing curricula.

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Ultrasound for All: A Low-Cost, Student-Created Phantom Model for Early Ultrasound Training in Medical Education

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Chobanian & Avedisian SOM [1], Anatomy and Neurobiology[2]

Introduction/Background: Point-of-care ultrasound (POCUS) is rapidly becoming a fundamental aspect of patient care due to its real-time diagnostic and procedural guidance. Despite this, barriers such as high equipment costs, limited curricular integration, and lack of accessible training models limit opportunities for preclinical medical students to obtain meaningful experience with ultrasound. Early exposure to ultrasound is essential for preparing students to achieve ultrasound competence and to appreciate its value in patient care. Developing innovative, low-cost methods to circumvent these barriers is crucial, as facilitating early exposure to ultrasound is pivotal in preparing students for rapidly evolving clinical practice and informing their career considerations.

Purpose/Objectives: In this study, we evaluate the effectiveness of a low-cost, homemade phantom model for teaching ultrasound-guided IV insertion to preclinical medical students and measure the impact of this workshop on participants' reported ultrasound proficiency, clinical preparedness, and interest in using ultrasound in their future careers.

Methods: In the Fall of 2024, an ultrasound-guided IV insertion workshop was held for first-year medical students at Boston University by the Ultrasound is For Everyone (USIFE) club, led by second and fourth-year medical students. Before the workshop, participants received a self-learning guide on the basics of ultrasound-guided IV insertion. We created phantom models using Metamucil, gelatin, and blue dye to mimic tissue; long balloons, corn syrup, and red dye mimicked vascular structures. During the workshop, participants were taught how to identify neurovascular structures on ultrasound and an ultrasound-guided IV insertion on a phantom model was demonstrated. The participants were then allowed supervised practice time with continual guidance. Participants (n = 23) completed pre- and post-workshop surveys, including 20 Likert-scale items and open-ended questions evaluating their confidence, clinical preparedness, and career interests. Quantitative data were analyzed using Wilcoxon Signed Rank tests and paired t-tests for data following normal distribution; qualitative responses underwent inductive thematic analysis.

Findings/Results: Participants reported a significant increase in confidence in distinguishing neurovascular structures on ultrasound ($p<0.001$) and performing ultrasound-guided IV insertions on both phantom models and patients (both $p<0.001$). Participants also reported feeling more prepared to use ultrasound during clinical rotations, both in general and for procedural purposes (both $p<0.001$). Interest in pursuing medical specialties that frequently use ultrasound increased significantly ($p = 0.023$), but interest in ultrasound for diagnostic purposes alone did not change significantly ($p = 0.437$). Qualitative feedback emphasized the value of hands-on learning in building clinical skills. Participants expressed heightened interest in learning ultrasound and enhanced understanding of the applications of ultrasound across medical specialties.

Conclusions / Discussion: Homemade phantom models offer an affordable, effective solution for introducing ultrasound-guided procedures in early medical education. Our findings show that even a single, student-led workshop can significantly boost preclinical students' confidence and preparedness for clinical ultrasound use. By making hands-on learning more accessible, this approach effectively bridges early ultrasound education gaps and sparks increased interest in integrating ultrasound into future practice. While further study is needed to evaluate long-term skill retention and clinical transferability, these findings support wider adoption of similar low-cost POCUS training methods in preclinical medical education.

Humanism in Professional Identity Formation

Taylor Griffin[1] and Nidhi Lal, MD [1,2]

Chobanian & Avedisian SOM[1], Family Medicine[2]

Introduction: The stages of professional identity formation (PIF) for physicians occurs in four stages throughout their training; building, becoming, bridging, and being1. Progression through each stage results in more resilient and fulfilled physicians1, however, these are not stages that can be widely measured within a medical school curriculum in the same way that exams can measure knowledge acquisition. Successful progression requires time for self reflection not allotted in a medical school curriculum. Giving students the unique opportunity of taking the Healer's Art course allows for periods of self reflection aiding in PIF.

Healer's Art is an elective course created by Dr. Rachel Remen at UCSF in 1992 and is taught at medical schools globally. The goal of this paper is to share our experiences using Healer's Art for PIF and decreasing isolation during and after the COVID-19 pandemic.

Methods: Healer's Art has been taught at Boston University Chobanian and Avedisian School of Medicine (BUCASM) for 18 years. This is an elective course that includes 6 sessions exploring themes of restoring balance, sharing grief and healing loss, mystery and awe in medicine, and medicine as a calling where students create their own Hippocratic Oaths reflecting what they have rediscovered about their "why" during the course. Sessions occur from 6 to 9pm and dinner is provided. Each session starts with a large group seed talk introducing the session theme and a reflective exercise. In the second half of the session students and facilitators are assigned to small groups of 4-6 students with 1-2 facilitators where they engage in more personal discussion of the session's theme. At the introduction it is explained that the course is intended to be a safe space where students should feel comfortable being vulnerable. At BUCASM the course has been modified to include new large group activities using Humanities for a greater sense of wellbeing.

First through fourth year medical students are invited to participate in the course (M1 n=9, M2 n=5, M3 n=1, M4 n=0). Since 2020, Healer's Art faculty at BUCASM noticed a large amount of medical student isolation and burnout, mirroring trends seen across the medical field both nationally and globally2. First and second year medical students at BUCASM attended all of their classes virtually and eventually in a hybrid format. Students reported feeling greater levels of detachment from their peers and patients due to this intense social isolation. In addition to the standard Healer's Art objectives, we have collected data on empathy scores and PIF in participants.

To measure PIF and empathy scores during Healer's Art 2025, we surveyed students twice- during the 4th and 6th sessions adding additional questions to the standardized HA evaluation form developed using standardized components of the Jefferson Scale of Empathy and the Penn State Questionnaire on Professionalism.

Empathy levels were measured using the Jefferson Scale of Empathy Health Care Provider Student's Version3. We used 4 questions from the validated study - 2 that were positively worded and 2 that were negatively worded. Answers were on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Negatively worded questions were reverse scored. The total scale ranged from 4 to 26 where a greater score equated to greater empathetic tendency.

Professionalism amongst participants was measured using six item statements from the Penn State Questionnaire on Professionalism. Levels of accountability, altruism, duty, excellence, honor and integrity, and respect were measured based on the extent to which students felt the item statement reflected their definition of professionalism on a Likert-type five-point scale ranging from "Never" to "Great Deal" with a maximum score of 304,5.

Results: 18 students attended the Healer's Art sessions and were included in analysis. Not all 18 students completed both the mid-course and post-course surveys, but results were representative of the attitudes of the

full cohort. Data representing 10 students was included in the mid-course survey analysis and data representing 11 students was included in the post-course survey analysis.

The majority of students were women (n=10, 55.5%) with men representing 44% (n=4) and no individuals identifying as non-binary. Students were predominantly first years (n=8, 57.1%), with second years representing 35.7% (n=5) of participants, and one third year student (7.1%). Average age of participants was 25.7 (std dev= 1.7).

Average modified Jefferson Empathy Scale score of the mid-course survey was 22 out of a maximum score of 30 (std dev=6.2). Average Jefferson Empathy Scale score in the post-course survey increased to 23.6 (std=2.99).

Average modified PSPQ score of the mid-course survey was 28.2 out of a maximum score of 30 (std dev= 1.9). Average PSPQ score of the post-course survey was 27.63 (std dev= 1.9).

Discussion: Healer's Art has been validated for medical students 6 however, in addition to traditional modules we have added small group exercises of narrative medicine, story telling, art, poetry, dance/movement therapy, and meditation. We have had invited guest speakers to highlight patient provider connections as well as 'awe and joy in medicine'. Understanding the high levels of med student burnout and the questioning of the "why", in 2025 we surveyed the medical students to understand empathy scores and professional identity formation.

Conclusion: This study demonstrates that HA increases empathy amongst medical students as has been validated in previous studies. Healer's Art increased empathy in medical students by 7.27%. We continue to study professional identity formation and validation in medical students at BUCASM. Healers art has been a well received course by BUCASM students with students reporting improved sense of wellness, connections to peers, and renewed commitment to their chosen path.

Enhancing the learning experiences of dental residents with a game-based activity

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BACKGROUND/INTRODUCTION: Oral pathology involves the diagnosis and management of diseases of the hard tissues, oral mucous membrane, and perioral structures. As clinicians, the knowledge and recognition of pathologic entities as early as possible is key for successful diagnosis and treatment. Therefore, identifying educational strategies to assure that clinicians acquire and retain such subject matter is prudent to ensure timely patient management.

The effectiveness of game-based learning in dental education has been previously reported in the literature as a constructive tool in learning by increasing participation and building enthusiasm (Yuenyongviwat et al, 2021; Nguyen et al, 2023; Pereira et al, 2019; Moeltner et at, 2019). Integrating various active learning methods has become increasingly popular and has delivered intriguing results which indicate that gamification platforms could be a valuable addition to increase the enjoyment of traditional didactic lectures (Bicen et al, 2018; Asa'd R et al, 2018 and Al-Aarifin, 2017). The aim of this study is to evaluate the effectiveness of a game-based learning tool in postgraduate dental education as well as the residents' immediate perception regarding knowledge retention, recollection, clinical application, and motivation to learn.

OBJECTIVE/METHOD: A total of 14 pediatric dentistry residents at Boston University Henry Goldman School of Dental Medicine were asked to participate in this study. Pediatric Dentistry Residents attending the Oral Pathology Seminar participated in a game-based quiz at the end of the lecture. Residents were informed before the lecture that they would be asked to participate in the game.

An interactive 10 question quiz was conducted using the game platform Kahoot! (Kahoots Design LLC. Oslo, Norway). Following the quiz, a QR link to an optional and anonymous electronic RedCap survey was shared with the participants to evaluate their perception of this interactive method of learning and its effectiveness in reinforcing their knowledge of the subject matter taught in the seminar. The results were analyzed and interpreted to see if gamification was beneficial for perceived knowledge retention and improved confidence in applying this knowledge clinically.

RESULTS: The majority of participants responded positively (Agree or Strongly Agree) to questions about engagement (91% strongly agreed the game-based quiz made the topic more interesting), regarding motivation, (73% strongly agreed it motivated them; 18% agreed, and 9% strongly disagreed), and knowledge retention (73% strongly agreed it helped retain knowledge; 9% disagreed or strongly disagreed.). When asked if the activity made them anxious, 55% strongly agreed that the quiz made them anxious; 27% felt neutral or disagreed, suggesting some students may feel pressure from the quiz format. Chi-square test analysis showed a statistically significant relationship between enjoyment of the game-based quiz and perceived improvement in knowledge retention ($p=0.0117$). This suggests that students who enjoyed the quiz were more likely to feel they retained the information better. Pearson test analysis revealed a statistically significant correlation between anxiety and the capability to link didactic concepts to clinical situations ($p = 0.027$), suggesting that students who experienced more anxiety also reported better conceptual linking and understanding, possibly due to the heightened focus and mild anxiety that a competitive quiz can sometimes generate.

CONCLUSION: The majority of participants showed a positive response to gamification and a strong perception that the activity was beneficial for their learning and knowledge retention, along with a higher confidence in applying the concepts clinically. They also think that similar activities would be beneficial for other subjects in

dentistry. This supports the idea that gamification enhances engagement and learning outcomes in a postgraduate dental program.

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Making it Count Twice: A single Age-Friendly deprescribing workshop for either Medical Residents or Geriatric Fellows

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Chobanian & Avedisian SOM[1], Geriatrics[2]

Objective: We aimed to create a workshop to address core competencies for medical residents and fellows on geriatrics rotations.

Methods: We developed two versions of the Making it Count Twice Deprescribing Workshop, one for Internal Medicine/Family Medicine residents and one for Geriatric Medicine fellows to teach principles of medication management, safe prescribing, and deprescribing. We derived workshop objectives from Miller's pyramid, competencies for residents, and milestones for fellows. Immediately before and after the workshop, learners completed self-efficacy and knowledge surveys.

Results: From January 2021 to June 2022, 56 residents and 30 fellows completed the workshop. Forty (71%) residents and 18 (60%) fellows completed the paired assessments. Self-efficacy increased among both groups; from 0% to 60% ($p < 0.05$) among residents and from 6% to 89% ($p < 0.05$) among fellows. Knowledge also increased among both groups; an increase of 6% ($p < 0.05$) among residents and an increase of 10% ($p < 0.05$) among fellows. Residents and fellows (23 of 58, 40%) gave open-ended feedback, which was positive.

Conclusions: Making it Count Twice increased self-efficacy and knowledge. Next, we will include this workshop as a part of the formal geriatrics rotation curriculum for residents and fellows and to include delayed assessments.

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Personality and Medical Specialty Choice: Insights for Tailoring Mentorship in Medical Education

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Introduction / Background/Purpose: Choosing a specialty to apply for residency in is a complicated decision. In determining which field will provide them fulfillment, medical students must weigh several factors and values which are impacted by personality type. The Myers-Briggs Type Indicator (MBTI) assessment was originally designed for use in healthcare settings. Past studies using the MBTI have shown trends in personality preferences between medical specialties. Knowledge of personality types and preferences can facilitate interpersonal interactions which may in turn strength care teams and improve medical education and advising. Additionally, understanding personality type and factors associated with specialty choice may help students in the decision making process.

Purpose / Objectives: This study aims to investigate whether there is a relationship between specialty and personality type amongst Boston University Chobanian & Avedisian School of Medicine students. Additionally the study assessed factors associated with student interest in particular specialties.

Methods: This is a cross-sectional survey study taking place at an urban medical school. A convenience sample of graduating medical students in the Class of 2025 was recruited via email invitation to participate in a voluntary, anonymous cross-sectional survey. Participation was self-selected. The primary exposure for this study is personality type, determined by the Myers-Briggs Type Indicator. The primary outcome was medical specialty choice, defined as the specialty to which the participant applied in the National Resident Matching Program (NRMP) Match, as self-reported in the survey. Data analysis was completed using Chi Square tests via SPSS Version 29.0.2.0 with an a = 0.05 level of significance.

Findings / Results: Results are currently in process.

Conclusions / Discussion: Conclusion/discussion forthcoming following results completion.

Empowering Patients, Educating Students: A Collaborative Approach to Heart Failure Management

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Introduction: Despite the high prevalence of chronic disease in medicine, the preclinical years of medical school often neglect formalized training on how to educate patients about chronic illness, including risk for re-hospitalization and barriers to self-management. "Care Coaches for Chronic Conditions (4C's)" is an extracurricular program developed in 2023 based on evidence that early exposure to the clinical environment enhances student understanding of chronic illness and patient knowledge in self-management (1,2). First and second-year medical students in the program engage in patient-centered counseling with patients admitted with heart failure (HF) to reduce the burden on the healthcare workforce and high rates of readmission. In this second year of 4C's, we evaluate the impact of program participation on student comfort, knowledge, and empathy when working with patients with chronic conditions.

Purpose/Objectives: The purpose of 4C's is to supplement medical student education and improve outcomes for patients with chronic medical conditions. By connecting students to complex patients early on, 4C's encourages students to apply classroom lessons on patient management, goal setting, and motivational interviewing to a real-life setting. Students are given an opportunity to understand how chronic conditions impact various facets of patients' lives, which fosters empathy and stronger clinical skills. During sessions, students use evidence-based resources to aid in patient counseling. Finally, students supplement their textbook-based understanding of HF pathophysiology by integrating pharmacology, pathology, and disease management through real-world interactions.

Beyond educating students, 4C's is also designed to improve patient outcomes. The overburdened medical system leaves little time for patient education, a gap 4C's aims to address. Patients with limited health literacy often present with less than ideal understanding of their HF - a roadblock to at-home disease management. By partnering with students, patients are offered educational opportunities and actionable lifestyle recommendations they may not have received previously. By encouraging this dialogue, patients may feel more comfortable asking questions to address needs not previously discussed with their care team.

Methods: 4C's is the first enrichment program that addresses the need for enhanced patient-centered education and motivational interviewing skills among medical students in the context of HF management. The program includes a comprehensive training period that utilizes mock cases to familiarize new students with the fundamental aspects of HF and self-management, teach-back techniques, motivational interviewing, and SMART goal development. Patients are informed by nursing staff about 4C's and introduced to paired first and second-year medical students, in accordance with BMC warm handoff requirements. Then, patients are asked if they want to participate in the educational arm of the program, in which students provide patient-centered education over two sessions to patients admitted for HF at BMC. The first session uses a strengths-based approach to identify gaps in health knowledge and lifestyle modifications essential to HF self-management. Medical students then engage in motivational interviewing techniques and SMART goal development to assist patients in creating individualized plans focused on addressing the aforementioned challenges. The second session focuses on targeted resource distribution to reinforce education and behavioral changes.

Alongside education, patient outcome research guides growth. Optional surveys done before/after sessions assess HF knowledge, warning signs, and confidence in managing lifestyle changes.

Similarly, first-year medical students were surveyed before they began the 4C's program and then again six

months later, after they had completed training and several patient interactions. Student surveys assessed student knowledge of HF, comfort level with providing patient education, and perceived confidence in leading motivational interviewing using 5-point Likert scales (1 = “strongly disagree” and 5 = “strongly agree”). The end-of-year survey also included a qualitative item asking students to reflect on their experience.

Results: In this second year of the program, 11 first-years and 8 second-years participated, an expansion from 9 total students last year. Of these, 7 first-years completed both the beginning and end of the year surveys. The results show an increase in agreement with 6 of the 7 items, and 5 items had a mean increase of more than one point. The greatest improvement was with the statement “I am able to explain why [optimal health] behaviors are important for the patient’s health,” with a mean increase of 1.57 (95% CI: 0.28, 2.86).

Four of the qualitative student reflections commented on the satisfaction of having a direct impact on patient care through education. Other common topics included developing empathy for the patients facing challenges in chronic disease management, increased appreciation for SMART goal-setting, and the opportunity to strengthen clinical skills and HF knowledge over their first year.

Discussion: A critical step in implementing any novel program is evaluating its effectiveness. This initial set of surveys suggests that student knowledge of HF, comfort with patient interactions, and perceived confidence in leading motivational interviewing improve with participation in 4C’s during the first year of medical school. We will continue to analyze these results to improve the experience of students participating in 4C’s. We are currently collecting patient surveys to assess the impact of 4C’s on knowledge of HF management, ability to recognize HF exacerbation warning signs, and confidence in enacting lifestyle modifications, with the goal of reducing readmission rates and improving patient outcomes,

Analysis of the Impact of Weekly Board Review Sessions on Ophthalmology In-service Exam Scores and Written Qualifying Examination Pass Rates

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Introduction: Ophthalmology resident physicians are required to pass the American Board of Ophthalmology Oral (ABO-OBE) and Written Qualifying Examinations (ABO-WQE) to become Board Certified ophthalmologists. The Ophthalmology Knowledge Assessment Program (OKAP) is 260 item examination administered to ophthalmology residents in each year of post graduate year (PGY) 2-4 training throughout the United States and Canada. OKAP scores have been shown to correlate with ABO-WQE pass rates. There is variation in ophthalmology residency program curriculums and limited data on effective methods for learning the material tested on the OKAP and subsequently tested on the ABO-WQE. OKAP performance is measured with a raw score, a scaled score and a percentile rank score. The percentile rank score, which compares the test taker to the contemporary PGY cohort, is the most widely reported and studied measure. The ABO-WQE, however, is not scored on percentile rank and has a minimum passing score. First time ABO-WQE passage rates in 2019-2023 ranged from 84-99%.

Medical students are required to take three United Stated Medical Licensing Step Exams: USMLE S1, S2, S3. USMLE scores have also been shown to correlate with WQE passage rates. USMLE-S1 was traditionally taken prior to residency application, and numerical scores were used by residency programs to evaluate applicants. Since 2022 when USMLE-S1 became Pass/Fail, USMLE-S2 has been more commonly taken prior to residency application, and USMLE-S2 numerical scores referenced during residency application. The average USMLE-S2 score for matched ophthalmology residents in 2024 was 257, compared with 249 (SD15) for all matched residents.

Purpose / Objectives: This project was undertaken as a response to low program OKAP scores and ABO-WQE passage rates. We assessed the OKAP performance and ABO-WQE first time attempt pass rates for residents before and after implementation of a weekly, 1-hour long attending taught (CA) OKAP review session. Our goal is to determine efficacy of these sessions (which will be referred to as “intervention”). This project will also analyze the USMLE-S1, S2 score and PGY2-4 OKAP scores for residents who passed the ABO-WQE on first attempt in comparison to those who did not. We hope to understand: 1- do targeted, consistent, intensive attending-led weekly teaching sessions improve OKAP and WQE pass rates in all residents and 2- can we identify risk factors for residents more likely to fail WQE who would benefit from extra support.

Methods: The USMLE-S1 and S2 score, OKAP performance and WQE result for 40 residents trained between 2018-2025 were collected and de-identified. OKAP scores and percentile ranks for tests taken in 2020 and 2021 were excluded as the exam was optional due to COVID-19. Differences in exam scores between residents who passed versus failed their ABO-WQE were assessed using Welch’s two-tailed t-test, with Benjamini-Hochberg correction to control the false discovery rate. For paired analysis of OKAP scores before and after intervention, two analyses were performed. Comparisons of 2023 vs. 2024 scores were performed on all residents with scores covering those two years (n = 8). 2023 vs. 2025 scores were likewise analyzed for residents with OKAP scores in both years (n = 4). Data were analyzed using paired Student’s t-test. p values ≤ 0.05 were considered statistically significant for all analyses. All analyses were performed in R; code is available upon request.

Conclusions / Discussion: There was a statistically significant difference in the average USMLE-S2 score for those who passed versus failed the ABO-WQE on first attempt. This association has been reported before and may indicate that the ABO-WQE is a cognitive task similar to the USMLE-S2. There was a statistically significant difference in the average PGY3 and PGY4 OKAP percentile rank (but not PGY2 percentile rank) for those who passed versus those who failed the ABO-WQE on first attempt.

Within a limited sample, we found that weekly board review sessions did not show a statistically significant difference in the average OKAP performance before versus immediately following implementation. However, paired analysis of the four residents who took the OKAP before the intervention as PGY-2s and 2 years after implementation as PGY-4s did show a statistically significant increase in scaled scores. There was no statistically significant difference in the year-to-year percentile rank and scaled score before and after intervention across the larger group. However, the average percentile rank for each person decreased prior to the intervention but increased afterward. Similarly, the average year-to-year increase in scaled scores was greater following the introduction of the board review sessions. These findings indicate that there may be a greater compounded effect with two years versus one year of teaching. In addition, considering that ophthalmology residents have the highest average USMLE-S2 score of any medical specialty, percentile rank may be less predictive than scaled score when predicting ABO-WQE passage rate from OKAP performance.

There was also a difference in OKAP performance over time based on ABO-WQE first time success. On average, residents who passed the ABO-WQE on first attempt maintained a relatively stable OKAP percentile across three years, whereas those who failed showed a decline in their average OKAP percentile during their residency.

Finally, resident survey data indicated a high rate of satisfaction with the board review course. Resident perception of educational quality improved significantly after institution of the regular teaching sessions. Our program ABO-WQE passage rate of 66.7% compares unfavorably to the overall ABO-WQE passage rates of 84-99%. We hope that our attention to program wide ABO-WQE passage rate increases ease and predictability of Board Certification for our trainees.

Data on the efficacy of weekly board review sessions is limited by small samples size and short duration of intervention, but there are several positive signals. We plan to continue this analysis and use the results to refine our curriculum. We hope that this program-specific data will be useful for residency programs and for residents to craft targeted impactful interventions to maximize WQE passage rate.

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Transforming a STEM MPH certificate to support interdisciplinary environmental health training using a skills-based approach

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Introduction/Background: STEM-focused MPH certificate programs, including those in environmental health, are often designed to prepare basic science-oriented students for careers in the laboratory or academic research. However, at BUSPH, the majority of incoming MPH students come from non-science academic backgrounds and do not seek careers in the lab or research. Our MPH students bring interests and enthusiasm around equity-informed environmental health work, community engagement, consulting, government service, and translation of public health science into practice and are trained primarily in the social sciences. Recognizing the misalignment between our program offering and our students' needs, we launched a comprehensive revision of the MPH Environmental Health certificate to better reflect student interests, public health workforce trends, and institutional strengths.

Purpose/Objectives: Our objective was to redesign a STEM-oriented MPH certificate in Environmental Health into a program that provides employable skills for the MPH-level public health workforce, while centering equity and community-driven practice. The program had to be accessible to all incoming students, including those without pre-existing training in the basic sciences, and had to prepare students for their desired environmental health careers. The goal was to create an interdisciplinary and practice-based curriculum that prepares students from diverse backgrounds for applied environmental health careers and best leveraged our faculty expertise.

Methods: Over an 18-month period, we undertook a multi-pronged curricular redesign process involving: (1) a landscape analysis of peer certificate programs to identify curricular gaps and opportunities; (2) stakeholder engagement with support from the Career and Practicum Office and the Education Office; and (3) a department-wide faculty retreat focused on aligning pedagogy with real-world applications. Faculty brainstormed key content areas and practice-relevant skills, which were iteratively refined through working groups and faculty feedback sessions.

Findings/Results: The revised certificate, "Environmental Health and Justice" is organized around three core skill clusters: (1) data analysis and visualization; (2) environmental health assessment approaches and technologies; and (3) equity-informed policy and practice. A newly developed introductory course introduces key, MPH-level professional skill sets and aligns them with public health content areas such as climate and health, air pollution, water and sanitation, chemical products, metals, infectious disease, and occupational health. Faculty input was critical to ensure each cluster integrates foundational scientific concepts with translational applications. Additionally, a novel Integrative Learning Experience (ILE) was developed to provide a structured, department-wide simulation of a public or community hearing, enabling students to synthesize content across courses and practice stakeholder engagement, public communication, and evidence-informed advocacy.

Conclusions/Discussion: This curricular transformation demonstrates how a STEM-oriented public health curriculum can be redesigned to accommodate students from a wide range of academic and professional backgrounds, while emphasizing applied, equity-centered skills. The process highlighted the importance of faculty engagement, school-wide collaboration, and attention to workforce alignment in program development. Our revised certificate serves as a model for integrating scientific content with interdisciplinary, community-informed public health practice. Future evaluations will assess student academic outcomes, satisfaction, and employment.

BEST RESIDENT ABSTRACT

Cross-cultural Adaptation of the Flipped Classroom Pedagogy in Dental Education

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Introduction: Educational methodologies are evolving to meet the needs of diverse student populations, especially in dental education where effective knowledge and hands-on skill transfer is critical. The flipped classroom approach represents a significant transformation in teaching methodology, where students review materials before class and engage in interactive activities during class time. While studies have examined the effectiveness of flipped classroom, few have analyzed its implementation across different cultural contexts. This gap is particularly relevant as dental education becomes increasingly globalized.

Objectives: This systematic review aimed to analyze the cultural adaptation patterns and effectiveness of flipped dental curricula across international settings. We sought to identify: (1) how the implementations of flipped dental curricula vary across cultural contexts; (2) the comparative effectiveness of flipped classroom in different regions; and (3) culturally specific challenges and solutions in flipping dental curricula.

Methods: We conducted a search of PubMed, Embase, Web of Science, and Cochrane library for published studies examining the effectiveness of flipped dental curricula. We analyzed outcomes related to satisfaction, awareness, behavior, performance, and confidence. Risk of bias assessment was conducted. Cultural adaptation patterns were analyzed through evaluation of implementation strategies, student responses, and reported challenges across geographical regions.

Findings: Twenty-five eligible studies from nine countries were identified, encompassing 4,832 dental students or practicing dentists. Studies originated from the US (n=9), Malaysia (n=4), UK (n=3), Germany (n=3), China (n=2), and single studies from Australia, Korea, Canada, Japan, and India. Key cultural differences emerged in implementation approaches: North American and European institutions emphasized independent learning and critical thinking in dental curricula, while Asian institutions focused more on collaborative learning and structured guidance. Performance outcomes varied by cultural context, with 13 of 22 studies reporting improved academic performance compared to traditional methods, though the degree of improvement differed regionally. Student satisfaction showed cultural variation, with 7 of 13 studies reporting satisfaction levels above 50%, with highest satisfaction rates in East Asian contexts (mean 67%) compared to Western contexts (mean 58%).

Conclusions: Effective implementation of flipped dental curricula requires cultural adaptation rather than a one-size-fits-all approach. The transformation of traditional teaching into culturally-appropriate flipping methodologies involves balancing universal educational principles with culturally-specific learning preferences.

BEST FACULTY/STAFF ABSTRACT

The Thrive Liaison Initiative: Outreach to New Students to Increase Belongingness and Connection to Support Staff and Campus Resources

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Background. In response to declines in college student engagement and wellbeing, the Thrive Liaison Initiative (TLI) was implemented as a strategy designed to help new graduate students in public health ground themselves in the school community. The rationale for TLI is to introduce a method to enhance students' perception of and opportunities for connection and engagement, reduce loneliness, and serve as an "Early Warning" system for intervention with students who are struggling.

Method. At the start of three consecutive semesters, each new student received an introduction email from one of 11 Thrive Liaisons, comprised of staff in both the Career and Practicum and Graduate Student Life offices. The 'Thrive Liaison Welcome' email was a warm introduction in which each Liaison related something personal; offered an invitation to students to ask their Liaison about the school, resources, general orientation to Boston; and their experiences with settling in. Students were also asked to respond to a brief survey, rating the degree to which they 'felt they were thriving' on 8 dimensions of wellbeing: Social connection, Academics, Career/Work, Food Security, Financial, Mental health, Physical Health, and Spiritual Care (**Sociopolitical identity was included in Fall 2024). Students rated these dimensions, which included descriptions of high or low responses, based on how they were feeling that week. For example: Social connection: High = satisfactory family, friends, community connections; Low = feeling disconnected, isolated, lonely. Students also could respond to an open-ended optional question: "Feel free to share any details or comments to explain your responses". Each cohort of students received additional emails and survey links at midterm and at end of term. In spring 2024, two focus groups were conducted to more deeply investigate the TLI and students' sense of belongingness and connection.

Results. While not all students responded to each email and survey request, a sizeable number did. At the start of the 3 semesters for which we have data, a total of 915 Thrive Liaison Welcome messages were delivered, with responses from 269 students. In addition to the quantitative survey questions on wellbeing, 50 students responded to an open-ended question for additional comments. Results for survey data, responses to the opened ended questions and themes from the focus groups will be presented.

Discussion. Survey results indicate that while the majority of students are thriving, it was important to note which areas of wellbeing show lower scores so that Thrive Liaison staff could offer extra support and connect students with additional campus resources. For example, if a student scored low on Social Connection, the Thrive Liaison would reach out with some suggestions for social activities on and off campus. If a student reported struggling with Academics, they could be referred to campus resources for tutoring, writing coaching and research library assistance. TLI is a useful tool for tracking student wellbeing in real time, enabling student-facing staff to offer ways to connect with others in the school community, and to connect with resources as needed,

This was previously presented at the Association for Schools and Programs for Public Health Annual Meeting, 2025

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Creating educational tools to improve care of incarcerated patients

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INTRODUCTION/BACKGROUND: There are nearly two-million people incarcerated in jails and prisons in the United States with Black and other people of color disproportionately impacted. People impacted by the criminal legal system have increased rates of chronic conditions and substance use disorders. Despite this, healthcare providers receive limited education regarding best practices and health concerns in this population, leading to disparities in care and perpetuation of bias. Therefore, there is a critical need for targeted interventions and formal education to improve care for this population.

PURPOSE/OBJECTIVES: The purpose of this study is to design education aimed at improving knowledge surrounding care of incarcerated patients and reducing bias among health care providers. The first step was to perform a needs assessment to understand the knowledge gaps of community healthcare workers in order to best design education to meet these needs. The results of the needs assessment informed the creation of educational materials to increase awareness of this population and foster equitable care.

METHODS: To design educational materials, a survey was distributed to Internal Medicine (IM) residents at Boston Medical Center (BMC). Responses were then analyzed to determine areas in which residents feel uncomfortable or lack understanding in care of incarcerated patients. Lectures were then constructed based on these results and were tailored to specific knowledge gaps. These lectures were delivered and presented to all second and third year IM residents at BMC. Surveys were again collected before and after these educational sessions to determine changes in understanding and to improve future educational modules.

FINDINGS/RESULTS: Results show that only 32.6% of respondents have had education in treating incarcerated patients. Most (83.7%) encounter incarcerated patients at least monthly in the inpatient setting. Over the course of one month, all PGY2 and PGY3 IM residents received instruction in care of incarcerated patients. A total of 43 residents attended these sessions. 100% completed the pre-survey and 90.7% completed the post-survey. We found the biggest improvements in knowledge in understanding rules regarding whether correctional officers were bound by HIPPA, rules around shackling assessments and “capacity is for the jails/prisons”. Other domains showed surprisingly high pre-knowledge considering results of the needs assessment. Of the surveyed residents, 100% stated that they felt better prepared to care for incarcerated populations after the session.

CONCLUSIONS/DISCUSSION: Incarcerated patients face disparities in care and present unique challenges in the inpatient healthcare setting and yet education to this group is often lacking. We sought to improve this knowledge gap by creating education targeted at Internal Medicine Residents as informed by a needs assessment. Based on pre- and post-lecture surveys, educational sessions significantly increased knowledge surrounding incarcerated patients. Higher than expected pre-survey knowledge as compared to a needs assessment indicates that people may underestimate their knowledge and confidence in caring for this population because of limited exposure. Education can enhance confidence in care as well and this pilot study helps inform future efforts at education. Overall, healthcare workers are eager to learn more about equitable and adequate care for this population, and it was clear that educational lectures increased knowledge in this area.

The Impact of Student Activity Groups on Medical Student Community, Leadership, and Well-being

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Introduction: Participation in student activity groups is a crucial element in fostering community and connection amongst medical students. Within our medical school, there are currently 101 student organizations that provide diverse opportunities for engagement and leadership.

Methods & Findings: A survey conducted among 101 student leaders in February 2025 revealed that medical student leadership is perceived as highly enriching, with an average rating of 4.56 on a Likert scale where 5 represents the highest level of enrichment. Furthermore, 68% of these student leaders believe that involvement in leadership roles within student activities contributes to a reduction in burnout.

Conclusions: These findings underscore the importance of student activity groups in enhancing the educational experience and well-being of medical students

Development of an echocardiography simulation curriculum for the Boston Medical Center Cardiovascular Medicine Fellowship

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Introduction: Echocardiography is a core component of cardiovascular medicine training. Cardiology fellows are often asked to perform echocardiograms on-call to assess cardiac emergencies. Standard cardiology fellowship training comprises lecture-based echo training as well as hands-on training using patients or volunteers.

Objectives: Our study aimed to assess the effectiveness of a simulation based echo curriculum to enhance fellow comfort with performing on-call echocardiograms. We also aimed to assess the utility of simulation in enhancing knowledge retention of common cardiovascular diseases.

Methods: The cardiology fellowship curriculum was divided into consecutive simulation and non-simulation blocks. Fellows were randomly assigned to these blocks. A pre- and post-test was administered during each block. During simulation blocks, fellows participated in one or two hour-long sessions which included standard didactics as well as scanning on an echo simulator. During non-simulation blocks, fellows participated in standard didactics which included lectures as well as hands-on training in interpreting images. First-year fellow comfort with scanning was also assessed qualitatively by interviews conducted by one of the investigators (AS).

Results: In the simulator group, there were 24 pre-test responses and 13 post-test responses. The mean pretest score was 44% and the mean post-test score 54% (p=0.14). In the control group, there were 16 pre-test responses and 11 post-test responses. The mean pretest score was 51% and mean post-test score was 42% (p=0.25).

Phone interviews were conducted with first-year fellows pre- and post-simulation modules. Pre-simulation, fellows expressed nervousness about performing echoes on call. Representative phrases included overnight on-call shifts being described as “the scariest thing in the world.” Fellows reported concerns about “being able to turn on the machine,” how to “find the best echo windows,” and how to determine common pathologies including “ejection fraction, tamponade and valvulopathies.” After completion of sim modules, fellows were reinterviewed and reported that the simulator mannequin was “definitely helpful” providing a “good feeling of where the probe should be” and finding “specific [ideal] windows.” It helped to build “muscle memory” and was a “confidence boost in answering [consultant’s] questions.”

Conclusions: A simulator-based echocardiography curriculum is effective in enhancing knowledge delivery and retention of common cardiovascular pathophysiology. In addition, this curriculum appears to help allay first year fellow anxiety and promote comfort with performing echocardiograms on call.

Exploring How Predoctoral Dental Schools Prepare Graduates to Assist in Ending the HIV Epidemic

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Introduction/Background: The U.S. Department of Health and Human Services' Ending the HIV Epidemic (EHE) initiative is a plan to reduce the number of new HIV infections by 90% by 2030 through the pillars of diagnosis, treatment, prevention, and response. While it is known that dentists can play an important role in EHE through screening, rapid testing, and referrals, little is known about how dental schools prepare graduates to be meaningful collaborators in their future practice.

Purpose/Objectives: The objective of this study is to better understand how dental schools teach HIV related topics and prepare graduates to screen, counsel, test, and refer patients as collaborators of the EHE.

Methods: A 23 item REDCap survey was emailed to 81 academic deans from CODA-accredited dental schools in June 2024. The survey was open for four weeks. Two reminders were sent: one at two-weeks and one the day before it closed. Descriptive statistics were calculated using REDCap. The project was approved by the BUMC IRB (H-44119).

Findings/Results: 10 Academic Deans responded to the survey (10/81, 12%). Respondents represented schools across the US and Canada (20% (2/10) Southeast, 20% (2/10) West Coast, 20% (2/10) Midwest, 20% (2/10) Canada, 10% (1/10) Northeast, and 10% (1/10) Southwest). Two (20%) respondents confirmed location within CDC designated hot spot areas for new HIV infections, while four (40%) were unsure. All respondents (n=10, 100%) reported instruction on HIV epidemiology, pathogenesis, and treatment considerations were included in the didactic curriculum, while one (10%) respondent reported integration of HIV curriculum through rapid testing in the dental school clinic. Only one respondent (10%) reported incorporation of the National HIV Curriculum.

Conclusions/Discussion: Dental school curricula cover essential aspects of HIV, but practical integration, such as rapid testing and the use of the National HIV Curriculum, remains limited. Comprehensive training in these areas could better prepare dental graduates to support the EHE initiative effectively. Next steps include the development, design and evaluation of educational interventions that prepare dental students to be such collaborators in their future practice.

A Qualitative Analysis to Define Key Elements in Flipped Classroom Prework

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INTRODUCTION / BACKGROUND: The flipped classroom (FC) model, increasingly used in preclerkship medical education, emphasizes active learning by delivering content outside the classroom, with in-class time devoted to problem-solving and application. While existing literature has found the FC model to be generally effective in fostering critical thinking, the success of FC relies heavily on the quality of prework materials, which aim to engage and prepare students for in-class application sessions. Despite widespread adoption, the specific factors that make prework effective remain underexplored, especially in medical education.

PURPOSE / OBJECTIVES: To analyze the key elements in prework that assist with student learning, with the ultimate goal of developing a resource for faculty to assist with prework creation.

METHODS: This study analyzed student course evaluations from the 2023-24 academic year at the BU Chobanian and Avedisian School of Medicine, where the FC model was newly implemented. An inductive thematic analysis was conducted on deidentified student course evaluations to identify factors contributing to prework effectiveness.

FINDINGS / RESULTS: Four major themes for prework design emerged from the analysis and aligned with existing literature: 1) incorporation of multiple learning modalities; 2) sequential and cumulative presentation of concepts; 3) strategic alignment of prework, in-class sessions, and assessments; and 4) standardization of quality via administrative oversight.

CONCLUSIONS / DISCUSSION: Quality prework forms the backbone of a successful FC model implementation in medical education. Our study provides actionable steps for faculty to create effective prework materials that can enhance student learning and key principles for leadership to consider.,

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Decolonizing Public Health Education: A Student-Centered Toolkit for Transformative Learning

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Background: While antiracism has gained prominence in the U.S., decolonization remains underexplored in educational settings. As institutions work toward creating inclusive and equitable learning environments, students have emerged as key drivers of change. Decolonization in public health goes beyond addressing traditional historical injustices—it requires critically examining how colonial and neocolonial power structures have shaped today's health systems, global health agendas, and educational institutions. These legacies influence what is taught, who produces knowledge, and which voices are amplified or silenced. Embedding decolonial and antiracist frameworks into public health education is essential to reimagining a more just and inclusive future for the field.

Purpose: To address this gap, the Boston University School of Public Health (BUSPH) Education Innovation Fund supported the development of a student toolkit aimed to integrate decolonization and antiracism into public health education and practice by equipping learners with knowledge and practical resources to identify, challenge, and address colonial and racist structures in academic and professional settings.

Methods: The toolkit was developed collaboratively by students, faculty and staff. A multi-phase approach was used, including a literature review and gap analysis of the online foundation in public health course and existing diversity, equity, inclusion, and justice (DEIJ) campus policies. Additionally, a thematic and grading analysis of key decolonial terms relevant to public health was performed. Two student feedback sessions were held with around 30 graduate students, the primary audience for the toolkit. These sessions, along with peer reviews from students and faculty, helped refine the toolkit and ensure its relevance and usability.

Results: The developed student toolkit has three main sections:

1. Conceptual Foundations: Overview of how colonialism persists in global and local public health practices, along with definitions of decolonization and neocolonialism
2. Tools for Understanding and Action: A guide to decolonial terminology, power dynamics, and strategies for rethinking public health education.
3. Application and Practice: Practical guidance for applying decolonial and antiracist principles in master's theses, practice, classroom settings, and professional work.

Student feedback revealed a strong desire for resources that bridge theoretical frameworks with actionable strategies. The toolkit expanded students' critical consciousness and offered pathways for integrating these ideas into their academic and professional work. Students also expressed interest in a digital platform to enhance accessibility and usability. Faculty who engaged with the toolkit reported increased awareness of how to support inclusive and transformative pedagogy.

Conclusion and Discussion: The Student Toolkit towards Decolonization and Antiracism provides a replicable and scalable model for integrating decolonial and antiracist practices into public health education. It serves as a critical educational resource for students seeking to challenge systemic inequities and reimagine public health through a decolonial lens. The toolkit promotes critical thinking, inclusive education, and actionable steps towards dismantling systemic racism in public health. Future efforts will focus on integrating the toolkit into public health curricula and evaluating its long-term impact on student learning and institutional policies.

Resident Survey on Perspectives in Confidence-based Feedback

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Background: In resident education, “confidence” is one point of feedback, yet its frequency of use and emotional implications are unclear.

Objective: This study aims to provide a resident perspective on “confidence”-based feedback examining how residents perceive this feedback.

Methods: In July 2023, an eight-question survey was administered obtaining quantitative and descriptive data regarding resident experiences receiving “confidence”-based feedback to all Internal Medicine residents at Boston University Medical Center. Residents were asked a series of self-identified demographic data questions. Survey respondents were asked if they have received “confidence”-based feedback, the emotional impact of this feedback, what was the role of the feedback giver, as well as two open-ended questions regarding the role of confidence in feedback and training.

Results: The survey had a 47% (65/137) completion rate, with the study population having similar demographics to nation-wide statistics. 70% (48/69) of respondents received “confidence”-based feedback during their training, most of the time coming from attending physicians. Compared to men, women were both more likely to receive this type of feedback and have a negative emotional impact from the feedback. Asian and Black identifying respondents were less likely to receive “confidence”-based feedback yet those that did had a more negative emotional impact compared to White identifying respondents.

Conclusions: This novel survey demonstrated that most residents received feedback about their “confidence”, and differences across gender and race/ethnicity highlight the need to reconsider educator utilization of “confidence” as a feedback point. Institutions should work on faculty development in this area to limit bias in feedback.

Evaluating the Impact of Item Writing Flaws in Multiple-Choice Questions on Student Performance in Physiology

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Introduction / Background/Purpose: Graduate and professional level students are frequently evaluated through multiple-choice question (MCQ) examinations, a widely used format that enables efficient assessment of diverse topics across large groups of students. While MCQs enhance the standardization of exams, they may present challenges for test-takers. Technical flaws in these questions can introduce irrelevant difficulty or advantages for students with strong test-taking skills, potentially compromising the fairness and effectiveness of the assessment. Moreover, such flaws may disproportionately affect students from underrepresented groups, including first-generation students and non-native English-speaking students.

Purpose / Objectives: In this study, we investigated the influence of technical item flaws on test outcomes across two schools of medicine. We analyzed demographic factors and the relationship between the presence of item flaws and item analysis factors such as item difficulty and point biserial correlation.

Methods: A total of 54 first-year medical students from the University of Central Florida College of Medicine (UCF) and 31 first-year dental students and graduate students in the medical science program at Boston University Chobanian & Avedisian School of Medicine (BU) completed a 20 question physiology assessment and demographic survey. An evaluation instrument based on the National Board of Medical Examiners (NBME) item writing guide was employed to identify the item writing flaws in each question. Quantitative analysis included two independent sample t-tests for demographic factors, Spearman's rank correlation, and Mann-Whitney U test. The demographic factors observed were sex, accommodations, race (White vs non-White), English proficiency (native vs non-native), birthplace (born in the US vs not born in the US), and home language (English vs non-English).

Findings / Results: Based on the evaluation instrument, we found 75% of the 20 question assessments contained at least one item flaw. Results showed no significant differences in test performance between demographic groups at either institution and no significant relationship between the number of flaws and item difficulty. However, a moderately positive correlation between the number of flaws and point biserial correlation was observed by student performance at BU. Student performance at BU also showed differences in point biserial correlation with items containing unclear stems and lead-ins.

Conclusions / Discussion: This study highlights the influence technical item flaws can have on student performance. High-performing students may be better equipped to navigate technical writing flaws, recognize misleading distractors, and manage higher cognitive loads. Additionally, weaker students may struggle through items with unclear stems and lead-ins more often. Assessments play an important role in decision-making processes and healthcare students' career trajectories. These results call attention to the importance of careful question design to ensure assessments are fair and accurately reflect student performance. Promoting equitability in assessments may contribute to diversifying the healthcare workforce needed to match the increasingly diverse U.S population.

This was previously presented at the American Physiological Society Summit (2025)

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Cultivating Belonging: Formalizing a Mentorship Program and Growing Affinity Groups at the Graduate Medical Sciences Community Catalyst Center

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Introduction: Graduate education presents a complex array of academic, professional, and personal challenges, with support structures playing a critical role in student persistence and success. For students from historically underrepresented backgrounds, these challenges are often compounded by systemic barriers, including limited access to mentorship, social isolation, and decreased engagement in institutional activities. Research has shown that the absence of inclusive support networks can negatively impact academic performance, mental health, and overall retention in graduate programs. In response, institutions are increasingly adopting targeted interventions to promote equity and inclusion. Among these strategies, affinity groups have emerged as effective mechanisms for fostering community, enhancing peer support, and cultivating a stronger sense of belonging. Responding to student needs, Graduate Medical Sciences at Boston University Chobanian & Avedisian School of Medicine founded the Community Catalyst Center (C3) in August 2021 to foster holistic success and wellbeing among the diverse GMS student body. At C3, efforts to formalize mentorship programs and expand affinity group offerings represent a data-informed approach to advancing student support and institutional inclusivity.

Purpose: C3 aims to enhance student engagement by implementing a structured mentorship program and designing events that reflect student interests and needs. A primary objective of this initiative is to increase attendance and meaningful participation in C3 programming by increasing mentor participation and fostering a more inclusive and responsive environment.

Methods: We employed a student-centered, data-informed approach to enhance engagement and foster inclusion. Affinity group offerings were expanded to reflect student identities, interests, and community needs. A formal mentorship framework was developed to define mentor roles, expectations, and responsibilities in event planning, including the implementation of a mentorship training. Mentors were asked to be actively involved in the design of C3 events to promote investment and leadership within affinity groups. Surveys were administered to students and mentors to assess event preferences, program satisfaction, and perceived sense of belonging, guiding continuous program refinement.

Results: Since its founding, C3 has founded eight affinity groups for students with shared lived experiences and identities, supporting LGBTQIA+ students, first-generation students, international students, students of color, the disability advocacy group, and military-affiliated and veteran students. In 2024, C3 expanded its affinity group offerings to better reflect the diverse needs of the graduate student body, launching two new groups to support non-traditional graduate students and students who are pregnant or parenting. In parallel, C3 developed a formal mentorship handbook outlining roles, expectations, and planning guidance, and adopted Slack as a centralized communication platform to streamline mentor-student interaction. These initiatives, along with mentor-led event planning, contributed to a measurable increase in attendance and engagement at C3 events throughout the year, with a particular interest in social and community building events. Notably, over 200 students attended the Fall semester Mix and Mingle event, reflecting heightened interest in C3 programming. Survey responses indicated improved perceptions of inclusion and strengthened community connections. Participants highlighted that the most valued aspects of affinity group meetings included opportunities for social engagement, meeting peers from other programs, and fostering a sense of community.

Conclusion: Through the expansion of affinity groups, formalization of our mentorship program, and improved communication tools, the Community Catalyst Center (C3) has strengthened student engagement and fostered a more inclusive graduate environment. These efforts have not only addressed gaps in support for underrepresented and non-traditional students but also empowered mentors and participants to take active roles

in building community. Continued evaluation and student-driven program development will be key to sustaining this momentum and further enhancing the graduate student experience.

Preparing Students to Incorporate Artificial-Intelligence in Clinical Decision Making

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Introduction/Background: Health professions educators must prepare their students for the changing landscape of medicine, particularly on the usage of Artificial Intelligence (AI). Many hospitals have already incorporated predictive models into their electronic health records. Thus, understanding how to apply AI will be a necessary skill for future clinicians. However, knowledge on how to incorporate AI findings into clinical decision making is limited. Clinicians working with AI tools perform similarly to those without and worse than AI alone. Thus, there is a need to prepare healthcare students on the use of AI tools in clinical practice.

Purpose/Objectives: This presentation provides a curriculum to:

- provide students the foundational knowledge of AI and its applications in healthcare
- prepare students to recognize and address potential biases and ethical dilemmas with its use, and
- help students to effectively integrate AI findings into clinical decision-making.

Methods: The topic of AI was incorporated longitudinally into the didactic phase of the physician assistant curriculum through a mixture of didactics, discussions, and journal clubs. As part of a discussion on biases within clinical algorithms students were introduced to the social impact of AI algorithms. In the Introduction to Research course, students were lectured on the basics of algorithms, sources of bias, and how to interpret findings from AI research reports. This was expanded upon through two journal club discussions where students began to integrate research findings into clinical practice. To facilitate discussion in journal clubs, students submitted questions to faculty on the article. These questions were analyzed using a published set of competencies for the use of AI by healthcare professionals as a framework to determine students' comprehension.

Findings/Results: One cohort of students (N=20) has completed the curriculum. Students were able to show basic knowledge of AI, as well as demonstrate more advanced competencies, such as Evidence-Based Evaluation of AI-Based Tools and the Social and Ethical Implications of AI. Investigations into how the students use and apply this knowledge during the clinical phase of the program are ongoing.

Conclusions/Discussion: Given the paucity of regulations and rapid growth, it is paramount that students can understand the appropriate usage of AI in healthcare. Further, while students are excited to learn about how AI can impact clinical care, most medical science curricula lack instruction on the topic. Here we provide an effective new framework for educators to use and adapt to incorporate the subject into their program.

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Medical educator preparedness to teach about sexual and gender minority topics

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Introduction: One way to address the well-established health disparities experienced by sexual and gender minority (SGM) people is to ensure that physicians are trained to provide competent and respectful care for these patients. However, current medical educator faculty report uncertainty about SGM topics, which often leads to these topics being inadequately addressed, avoided, or poorly modeled in medical training. This study examines what factors influence medical educators' readiness to teach SGM topics.

Methods: The Faculty Readiness about Sexual and Gender Diversity survey was developed to investigate correlations between educator characteristics and their knowledge and attitudes about and clinical preparedness to treat SGM people, as measured by the validated Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills Scale (LGBT-DOCSS). Our survey was distributed to all medical educators at our institution (N=308; 23.51% response rate). Respondents most commonly identify as resident educators (72.1%) and/or teaching faculty in clerkships (31.5%) or pre-clerkship courses (17.1%) with 48.1% holding multiple roles. 80.2% identify as heterosexual, 18.2% as lesbian or gay, bisexual, or another orientation, and 2.6% reported being nonbinary or genderqueer.

Results: Analysis of variance (ANOVA) tests were used to explore associations between LBGT-DOCSS scores and institutional, professional, and personal factors in medical educators. Higher scores were found in respondents who reported receiving training to teach about health and healthcare for SGM people ($F=15.8$, $p<0.001$), who believe their institution provides adequate resources for working with SGM populations ($F=23.1$, $p<0.001$), and who perceive strong institutional support for SGM populations ($F=10.8$, $p=0.001$). Other factors moderately associated with higher scores include having more SGM people in one's friend/family network ($F=2.4$, $p=0.05$) and the number of weeks teaching per year ($F=2.0$, $p=0.10$). Contrary to our predictions, clinical factors such as type of care provided (acute vs. longitudinal) and younger vs older respondent or age of patient population did not correlate with DOCSS scores.

Several items assessed educators' growth mindset with respect to teaching about SGM topics. Individuals with stronger sense of duty to care for LGBTQI+ clients/ patients reported agreement that mistakes are opportunities for learning ($p<0.001$) and comfort receiving feedback from students ($p<0.01$) and colleagues ($p<0.002$). Individuals who reported using inclusive classroom practices such as using inclusive language also reported significant agreement with these growth mindset perspectives ($p<0.001$ for all)

Discussion: Institutional support, professional training, and personal exposure to SGM populations are associated with stronger knowledge, attitudes, and behaviors toward these populations. These findings reveal the powerful role of local culture and educator training can have on faculty, who in turn are better able to foster an inclusive educational environment,

This has been presented previously at the LGBTQ Health Workforce Conference, 5/3/2025