



University
of Vermont

Larner College of Medicine
The Teaching Academy

2025 Snow Season Education Retreat

Thursday, January 16 &
Friday, January 17, 2025

PROGRAM

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2025 Snow Season Education Retreat Program

Thursday, January 16, 2025

TIME	SESSION	LOCATION
1:00-1:10 PM	Welcome <i>Katie Huggett, PhD</i> Teaching Academy Director Assistant Dean for Medical Education	Zoom Link Meeting ID: 988 2441 5007
1:15-2:30 PM	Oral Abstracts Presentations Moderator: <i>Arlene Chung, MD, MACM, FACEP</i> <ul style="list-style-type: none"> • Using the “Open Book” Approach to Achieve Continuous Quality Improvement (CQI) <i>Lejla Pasic; Jan Carney, MD, MPH; Katie Huggett, PhD</i> • Is Racial Bias Present Amongst Medical Students Caring for a Simulated Cardiac Arrest Patient? <i>Claudia Tarrant, MS2; Hannah Miller, MD; Miles Lamberson; Cate Nicholas, EdD, MS, PA, FSSH; Katie Dolbec, MD</i> • Assessing the Impact of Updated Video Resources for Teaching Gross Anatomy <i>Nicki Nikkhoy, MS2; Abigail Mercier, MS2; Abigail Hielscher, PhD; Nathan Jebbett, PhD</i> • Professional Identity Formation in a Longitudinal Pediatric Concentration for Fourth-Year Medical Students <i>Hillary Anderson, MD, MPH; Lisa Greffe, MS; Molly Rideout, MD</i> • Exploring Group Mentorship as an Effective and Sustainable Model for Scholarship <i>Michelle Cangiano, MD; Alicia Jacobs, MD</i> 	Zoom Link Meeting ID: 988 2441 5007

BREAK 2:30-2:45 PM

2:45 PM-4:00 PM 1st Breakout session

A	Integrating Artificial Intelligence into Your Teaching and Learning <i>Garth Garrison, MD; Mitchell Tsai, MD</i>	Zoom Link Meeting ID: 990 8150 0816
B	Bedside Teaching: How to Develop and Maximize Teaching Opportunities <i>John Miller, MD; Jason Bartsch, MD</i>	Zoom Link Meeting ID: 958 1361 7125
C	How to Get Published: A Primer for Medical Education Researchers <i>Arlene Chung, MD, MACM, FACEP; Jaime Jordan, MD, MA</i>	Zoom Link Meeting ID: 991 1459 3530

Friday, January 17, 2025

TIME	SESSION	LOCATION
8:00-9:00 AM	<ul style="list-style-type: none"> • Poster Session • Continental Breakfast 	Grand Maple Ballroom, 4th Floor, Dudley H. Davis Student Center
9:00-10:00 AM	<p>Welcome <i>Katie Huggett, PhD</i> Teaching Academy Director Assistant Dean for Medical Education</p> <p>Plenary The Role of Museum-based Education in Healthcare Teaching and Practice <i>Margaret Chisolm, MD</i> Professor of Psychiatry and Behavioral Sciences Professor of Medicine Director, The Paul McHugh Program for Human Flourishing Johns Hopkins University School of Medicine</p>	Grand Maple Ballroom, 4th Floor, Dudley H. Davis Student Center

BREAK 10:00-10:15 AM

10:15 - 11:30 AM 2nd Breakout session

A	Restorative Justice Practices in Academic Medicine: Building a Culture of Healing and Accountability <i>Leila Amiri, PhD</i>	Chittenden Bank Room, 4th Floor, Dudley H. Davis Student Center
B	Putting Words Together: Writing Meaningful Letters of Recommendation and Narratives While Avoiding Biased Language <i>Jill Rinehart, MD; Molly Rideout, MD</i>	Jost Foundation Room, 4th Floor, Dudley H. Davis Student Center
C	Creating Effective Surveys in Medical Education <i>Yichen Zhao, PhD; Cara Simone, MA</i>	Williams Family Room, 4th Floor, Dudley H. Davis Student Center

TIME	SESSION	LOCATION
11:30 – 12:00 PM 12:00 – 1:00 PM 1:00 – 1:30 PM	<ul style="list-style-type: none"> • Lunch • <i>Teaching Academy Induction and Award Ceremony</i> • Poster Session 	Grand Maple Ballroom, 4th Floor, Dudley H. Davis Student Center

1:30 - 2:45 PM 3rd Breakout session

A	Inclusive Teaching Practices for Healthcare Educators <i>Katie Wells, MD, MPH</i>	Chittenden Bank Room, 4th Floor, Dudley H. Davis Student Center
B	Sitting with the Story: Reflecting with Narrative Medicine <i>Jeremiah Dickerson, MD; Adama Aja, MS3</i>	Jost Foundation Room, 4th Floor, Dudley H. Davis Student Center
C	Clinical Reasoning Skills? Can Get There from Here! <i>Melissa Davidson, MD; Alissa Thomas, MD</i>	Williams Family Room, 4th Floor, Dudley H. Davis Student Center

2:45 PM Conference concludes. Please complete the online evaluation. If you wish to receive CME credit, login to [MyCredits](#) and complete the required documentation within 30 days of the retreat.

Plenary Information

The Role of Museum-based Education in Healthcare Teaching and Practice



Margaret Chisolm, MD

Professor of Psychiatry and Behavioral Sciences
Professor of Medicine

Director, The Paul McHugh Program for Human Flourishing
Johns Hopkins University School of Medicine

Dr. Chisolm will present evidence supporting the fundamental role of the arts and humanities in health professions education, including a contemporary model of their functions. Participants will experience two highly interactive museum-based learning activities, discuss their relevance to healthcare, and reflect on ways they might integrate museum-based learning activities into their own teaching and practice.

Session Learning Objectives

Plenary

The Role of Museum-based Education in Healthcare Teaching and Practice

Margaret Chisolm, MD

Dr. Chisolm will present evidence supporting the fundamental role of the arts and humanities in health professions education, including a contemporary model of their functions. Participants will experience two highly interactive museum-based learning activities, discuss their relevance to healthcare, and reflect on ways they might integrate museum-based learning activities into their own teaching and practice.

Session Objectives:

1. List four functions that the arts and humanities serve in health professions education.
2. Name two museum-based learning activities.
3. Discuss the relevance of museum-based teaching to healthcare teaching and practice.
4. Reflect on ways to integrate museum-based learning activities into one's own teaching and practice.

Integrating Artificial Intelligence into Your Teaching and Learning

Garth Garrison, MD; Mitchell Tsai, MD

In this session, we will introduce foundational concepts in artificial intelligence and discuss the opportunities for integrating into educational curricula.

Session Objectives:

1. Describe common terms used in discussion of artificial intelligence including machine learning and generative AI.
2. Understand the risks and potential benefits of integrating AI into the teaching environment.
3. Identify targets for integration of AI into the attendee's current teaching efforts.

Bedside Teaching: How to Develop and Maximize Teaching Opportunities

John Miller, MD; Jason Bartsch, MD

In this workshop you will learn strategies to develop and maximize opportunities for effective bedside teaching.

Session Objectives:

1. Identify the steps needed to achieve effective bedside teaching.
2. Identify barriers to bedside teaching and implement strategies to resolve them.
3. Understand how Entrustable Professional Activities (EPAs) can help inform faculty and resident training for bedside teaching.

How to Get Published: A Primer for Medical Education Researchers

Arlene Chung, MD, MACM, FACEP; Jaime Jordan, MD, MA

This workshop will equip medical education researchers with practical strategies for successfully publishing their work in peer-reviewed journals. Participants will explore suitable publication venues for medical education research, learn to avoid common manuscript preparation mistakes, and gain valuable insights into best practices that increase the likelihood of acceptance.

Session Objectives:

1. Identify specific peer-reviewed journals and other ways to disseminate medical education research.
2. Review the common pitfalls when preparing and submitting a manuscript for publication.
3. Present pearls and best practices that lead to successful publication.

Restorative Justice Practices in Academic Medicine: Building a Culture of Healing and Accountability

Leila Amiri, PhD

This session introduces restorative justice practices to address harm, foster accountability, and promote healing within academic medicine. Through discussions, role-playing, and group exercises, participants will gain an understanding of RJ principles and explore how they can be applied to navigate conflict, enhance communication, and create a more just and supportive academic environment.

Session Objectives:

1. Define restorative justice and its core principles.
2. Understand the value of restorative justice in academic medicine (e.g., addressing power imbalances, promoting inclusivity, improving communication).
3. Explore common conflicts in academic medicine (e.g., student-faculty relationships, issues of bias and discrimination, peer collaboration challenges).
4. Practice using RJ tools, such as restorative circles and dialogue, in conflict resolution.
5. Identify ways to integrate RJ practices into our academic institutions' daily culture and policies.

Putting Words Together: Writing Meaningful Letters of Recommendation and Narratives While Avoiding Biased Language

Jill Rinehart, MD; Molly Rideout, MD

During this workshop we will discuss the importance of and techniques for writing meaningful narratives for all levels of learners/trainees and ways to mitigate bias.

Session Objectives:

1. Discuss the importance of writing meaningful narratives and their potential impact on professional development.
2. Discuss patterns of bias in narratives and ways to recognize and mitigate biased language.

3. Review examples of more meaningful and less meaningful narratives and letters of recommendation.
4. Practice using a template and structure for writing narratives that allows for meaningful content while minimizing bias.

Creating Effective Surveys in Medical Education

Yichen Zhao, PhD; Cara Simone, MA

This workshop guides participants through the essential steps of survey design, from formulating research questions to refining survey items. Participants will learn to construct clear, focused survey questions, apply cognitive interviewing techniques to enhance item clarity, and develop a pilot testing plan to validate their surveys. By the end, attendees will have practical tools and strategies to create reliable and valid surveys for medical education research.

Session Objectives:

1. Develop clear, focused research questions to guide survey design.
2. Learn the basics of survey item construction and response option design.
3. Apply cognitive interviewing techniques to refine survey questions.
4. Plan a pilot testing approach to evaluate survey items in medical education research.

Pre-Workshop Preparation:

Participants should review the following key readings:

- Ratan, S. K., Anand, T., & Ratan, J. *Formulation of Research Question—Stepwise Approach. Journal of Indian Association of Pediatric Surgeons.* 2019.
- Hill J, Ogle K, Santen SA, Gottlieb M, Artino AR Jr. *Educator's blueprint: A how-to guide for survey design. AEM Educ Train.* 2022.
- Willis GB, Artino AR. *What do our respondents think we're asking? Using cognitive interviewing to improve medical education surveys. J Grad Med Educ.* 2013.

Inclusive Teaching Practices for Healthcare Educators

Katie Wells, MD, MPH

This session will focus on building inclusive teaching practices in healthcare education in a changing public landscape. The session emphasizes how to create a learning environment where all students feel valued, respected, and supported while working to understand the impacts of structural drivers of health on patient outcomes. It involves recognizing the diversity of learners, their varied lived experiences, and fostering a safer learning environment for medical education. By integrating inclusive practices, educators can prepare healthcare professionals to better understand and address the diverse needs of the populations they serve.

Session Objectives:

1. Develop and implement teaching strategies that promote inclusion within healthcare education settings.

2. Ensure that all educational materials, case studies, and discussions use language and examples that reflect the diversity of patient populations, avoid stereotypes, and are inclusive of all identities and experiences.
3. Foster an inclusive learning environment that actively addresses bias and promotes respectful dialogue and incorporates principles of cultural humility.

Sitting with the Story: Reflecting with Narrative Medicine

Jeremiah Dickerson, MD; Adama Aja, MS3

At the bedside, in the lab, in the classroom, and in ourselves, stories are everywhere, but how often do we pause to radically listen and reflect? Narrative medicine is a discipline that seeks to foster one's ability to attend to stories, widen the clinical gaze, and make meaning that can positively affect patient care and build self-awareness. In this workshop, principles of narrative medicine will be reviewed, and participants will engage in exercises that cultivate curiosity and encourage creative reflection.

Session Objectives:

1. Describe the benefits of integrating the arts and humanities into teaching curricula and medical practice.
2. Understand how narrative medicine is a pedagogy that can help to cultivate attentive attunement, curiosity, perspective-taking, and empathy.
3. Appreciate the value of simple, intentional close reading exercises to accompany a story and connect to others.

Clinical Reasoning Skills? Can Get There from Here!

Melissa Davidson, MD; Alissa Thomas, MD

Session Objectives:

1. Define and describe clinical reasoning, with application of Type 1 and Type 2 reasoning in the discussion.
2. Discuss the challenges of teaching clinical reasoning, both in general terms and through each participant's specialty lens (proposing their own examples).
3. Apply skill frameworks to focus one's teaching efforts in a structured fashion.

CMIE Information

In support of improving patient care, The Robert Larner College of Medicine at The University of Vermont is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

The University of Vermont designates this live activity for a maximum of *5 AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Meeting Disclaimer: Regarding written materials and information received, written or otherwise, during this Conference: The scientific views, statements, and recommendations expressed during this activity represent those of the authors and speakers and do not necessarily represent the views of The Robert Larner College of Medicine at The University of Vermont.

Financial Interest Disclosures: As a joint accredited organization for interprofessional education, The Robert Larner College of Medicine at The University of Vermont Medicine is required to disclose any real or apparent financial interests from ineligible companies from anyone who has control of the content (speakers, planners, moderators, reviewers).

- **None of the planners/speakers or CMIE reviewers have any relevant financial relationships with ineligible companies.**

Support received from Ineligible Companies:

- **We have not received any support for this activity.**

The Robert Larner College of Medicine at The University of Vermont requires that each speaker/planner/moderator participating in an accredited program to disclose any financial interest/arrangement or affiliation with a corporate organization that may impact on his/her presentation (i.e. grants, research support, honoraria, member of speakers' bureau, consultant, major stock shareholder, etc.). In addition, the faculty member must disclose when an unlabeled use of a ineligible product or an investigational use not yet approved for any purpose is discussed during the educational activity.

*Having a financial interest or other relationship with a corporate organization, or discussing an unlabeled use of a ineligible product, may not prevent a speaker from making a presentation. However, the existence of the relationship must be made known to the planning committee prior to the conference, so that any possible conflict of interest may be resolved prior to the talk.

Snow Season Education Retreat Contributors

Workshop Presenters and Facilitators

Adama Aja, MS3

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*Indicates Teaching Academy Member

Teaching Academy New and Advancing Members Inducted January 17, 2025

Distinguished Educator

Karen George, MD, MPH; OBGYN

Deirdre O'Reilly, MD, MPH, FAAP; Pediatrics

Expert Teacher

Michelle Cangiano, MD; Family Medicine

Christopher Kanner, DO; Radiology

Joseph Kennedy, MD; Emergency Medicine

Shamima Khan, MBA, PhD; Medicine (Public Health)

Member

Estelle Bishop, PhD; Neurological Sciences

Alan Chant, PhD; Microbiology and Molecular Genetics

Benjamin Depo, MD; Medicine

Jeremy Dressler, MD; Surgery

Georgia Farrell, MD; Medicine

Thomas Griffin, PhD; Medicine (Public Health)

Brady Heward, MD; Psychiatry

Peter Jackson, MD; Psychiatry

Laura Mulvey, MD; Emergency Medicine

Adrienne Pahl, MD; Pediatrics

Merima Ruhotina, MD; OBGYN

Heidi Schumacher, MD; Pediatrics

Associate Member

Erika Dorff, MD; Medicine

Matthew Ferrell, DO; Medicine

Marga Kempner, MD, Psychiatry

Pooria Khoshnoodi, MD; Pathology and Laboratory Medicine

Jennifer Liao, MD, Medicine

Aaron O'Brien, MD; Medicine

Dhruv Shah, DO; Psychiatry

Vall Vinaithirthan, MD, Medicine

Amelia Winter, MD; Medicine

Victoria Zhou, MD; Emergency Medicine

Teaching Academy Members January 2025

Distinguished Educator

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Charles Irvin, PhD
Alicia Jacobs, MD
Amanda Kennedy, PharmD
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Judith Lewis, MD
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Jesse Moore, MD
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Massoud Saleki, MD
Amy Schumer, MD
Dhruv Shah, DO
Sean Till, MD
Vall Vinaithirthan, MD
Amelia Winter, MD
Victoria Zhou, MD

Awards for Teaching and Educational Excellence
Conferred at the Teaching Academy Induction and Award Ceremony
on January 17, 2025

Teaching Academy Awards

Innovation in Curriculum Development or Pedagogy

Deirdre O'Reilly, MD, MPH, FAAP
Department of Pediatrics

Educational Scholarship

Abigail Hielscher, PhD
Department of Neurological Sciences

Outstanding Contribution

Nathan Jebbett, PhD
Department of Neurological Sciences

Medical Group Education Awards

UVM Health Network Medical Group Educational Scholarship Award

PI: David Nelson, MD
Co-I: Laura Mulvey, MD; Daniel Ackil, MD
Department of Emergency Medicine

Continuing Medical and Interprofessional Education (CMIE) Educator of the Year

Isaura Menzies, MD
Department of Medicine

Graduate Medical Education (GME) Educator of the Year

Ashley Weisman, MD
Department of Emergency Medicine

Poster Session Abstracts

1. Filling the Virtual Gap: Peer-led Innovations in Medical Student Shelf Preparation

Authors: Arif Ahsan; Emily Battle; Jasmine Bazinet-Phillips; Jennifer Toner; Erin Morris, MD
Category: Quality Improvement

Introduction: Minimal research has explored how learning tools are used by medical students to prepare for NBME Shelf Exams, and thus the relationship between resource use and exam scores remains unclear. Importantly, social media is another poorly understood learning resource with increasing utilization by medical students (MS). We assessed the needs of 3rd year MS preparing for the OBGYN Shelf Exam by evaluating the effectiveness of an Instagram campaign and Shelf Review Teaching Program (TP) designed and managed by 4th year MS.

Methods: This TP is comprised of a weekly review posted on Instagram and a peer-led presentation delivered via zoom. The presentation is divided into lecture, case-based questions, fill-in-the-blank, and image-based review. Content for the TP was determined by analysis of past NBME practice exam questions and outlines. Pre- and post-presentation surveys assessed preferred teaching methods and perceptions of social media as a resource.

Results: To date, 33 of 36 respondents report using social media for approximately 3-5 hours per week, most often Instagram. Most frequently reported study resources include UWorld (86%), NBME practice tests (83%), APGO uWISE Quizzes (52%), and Anki (55%). Case-based questions and lectures are reported as the most helpful teaching methods with rapid fill-in-the-bank and image-based review as supportive measures, but less high-yield measures.

Conclusions/Implications: Our Shelf Review TP provides accessible, cost-free resources for NBME content review. The interactive presentation and Instagram campaign also offer educational and mentorship opportunities for 4th year MS. Our survey data serves as a needs assessment of learning gaps. Future directions include expansion of the social media campaign and further acquisition of MS feedback.

IRB Determination: Project Not Requiring IRB Review



Poster Session Abstracts

2. Professional Identity Formation in a Longitudinal Pediatric Concentration for Fourth-Year Medical Students

Authors: Hillary Anderson, MD, MPH; Lisa Grefe, MS; Molly Rideout, MD
Category: Innovation

Objective: To explore aspects of professional identity formation in participants of a longitudinal pediatric concentration for fourth-year medical students.

Background: Many institutions have general or specialty-specific courses focused on the transition to residency, typically occurring at the end of medical school. The authors explored student experiences in an innovative longitudinal pediatric concentration extending throughout the fourth year and how participation related to professional identity formation.

Methods: Authors designed questions for semi-structured interviews based on a conceptual model of professional identity. Study participants were randomly selected from former students completing the concentration between 2019 and 2021 with a goal of 4 graduates from each class cohort of 12-16 students. Three interviewers held individual zoom interviews that were recorded and transcribed. Two investigators (HA, MR) individually coded interviews and performed interrater reliability on three questions. Subsequently, they made iterative changes to categories and subcategories, created a codebook, and re-coded the transcripts using the codebook. Authors used grounded theory to develop themes and a conceptual model. The study was exempt by the University of Vermont IRB.

Results: Eleven former students agreed to participate and completed interviews. Following initial independent coding, interrater reliability for three sample questions was 80%. Five major categories included almost all of the codes: Role Models, Skills, Community, Learning Environment, and Career Development. Of these, two major themes emerged across categories: Creating a Sense of Belonging and Gaining Confidence. Relating to belonging, students relayed the importance of connecting with peers, having a sense of camaraderie, and knowing they were with future colleagues. They also valued relationships with faculty and residents who they considered role models. A supportive learning environment and longitudinal relationships including frequent formal and informal touchpoints helped to foster belonging. A second theme was gaining confidence. Participants felt more confident and prepared for internship from learning and practicing skills. They also felt more confident in career advising areas such as the residency application process and non-clinical areas such as teaching, advocacy, and work-life balance.

Conclusions: A longitudinal pediatric concentration for fourth-year medical students was highly effective in creating a sense of belonging and helping participants gain confidence leading into internship. Longitudinal fourth-year specialty-specific programs have the potential to develop aspects of professional identity that could assist with the transition to residency and that aren't typically measured. The model of this program could be used at other institutions and in other specialties. Limitations of this study include small numbers from a single institution.

Previous dissemination: Transition to Residency Symposium, October 2024

Poster Session Abstracts

3. Anatomical Variation of High Brachial Artery Bifurcation with Crossover of the Ulnar and Radial Arteries: A Case Report

Authors: Kyle Bergeron; Madeline Cohen; Mirella A. Fernandez; R. Henry Powell; Abigail Hielscher, PhD

Category: Research

Background: The arm is supplied mainly by the brachial artery, a continuation of the axillary artery after the lower border of the teres minor muscle. Usually, this artery branches into the radial and ulnar arteries at the cubital fossa (e.g. elbow). The ulnar artery is expected to course medially in the forearm on the same side as the little digit and supplies both the muscles of the anterior and posterior forearm and palm and dorsum of the hand. The radial artery moves laterally down the forearm toward the thumb and supplies the muscles of the anterior forearm along with those in the palm and dorsum of the hand.

Methods and Results: During dissection of the right upper limb of an 84-year-old male donor, a variant origin and course of the radial and ulnar arteries was observed. The brachial artery bifurcated into radial and ulnar arteries at the lower border of the teres minor. The radial artery typically courses laterally while the ulnar artery courses medially in the forearm. Once these vessels reached the cubital fossa (e.g. elbow), they switched courses so that the radial and ulnar arteries were on the medial and lateral aspects of the forearm, respectively.

Discussion/Conclusions/Lessons Learned: The brachial artery usually divides into the radial and ulnar arteries at the level of the cubital fossa. We observed an abnormally high division as well as an abnormal, crossing course. Since the radial artery has become a common choice for use in coronary artery bypass grafting (CABG) procedures, it is essential that surgeons become aware of any variations to ensure safe harvesting practices.

IRB Determination: Electronic consent to include images of the donor's arm was obtained from the next of kin.



4. Exploring Group Mentorship as an Effective and Sustainable Model for Scholarship

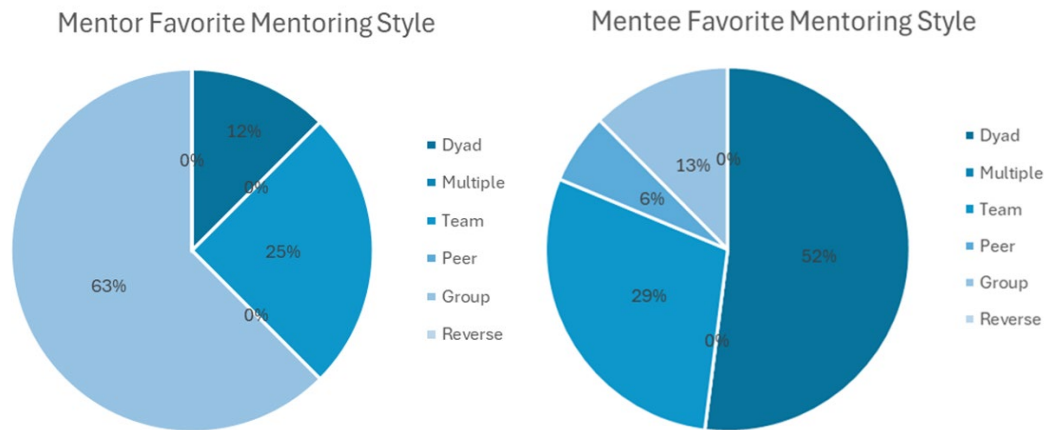
Authors: Michelle Cangiano, MD; Alicia Jacobs, MD

Category: Research

Background: Traditionally mentorship is defined as a more experienced colleague providing guidance and support for a more junior colleague. Mentoring of medical students has been described as a pillar of medical education (Farkas et al.). However, mentoring any number of students can be burdensome in several ways: time, expertise, connections, and consistency. The changing medical landscape has called for new and innovative mentoring models. The objective of our study was to evaluate mentor and mentee perception on mentoring, as well as preferences on mentoring model.

Methods: A study was designed and approved by UVM IRB using the exempt procedures set forth under 45 CFR 46.104. Study number STUDY00003152. The surveys were distributed to students and mentors participating in the AHEC Scholars Summer Research projects. Study data was collected and managed using REDCap electronic data capture tools hosted at The University of Vermont.

Results: Both mentors and mentees had overwhelming positive response to mentorship. Students preferred more one on one mentorship models as opposed to the group model whereas the opposite was true for mentors.



Discussion: The study showed that group mentors appreciated the flexibility and work life balance. This may be a way to increase mentors in our system. Students felt the need for more support and appreciated dyad mentoring. We question if this is due to students having more experience with this model and therefore are more likely to state they prefer it. Next steps include surveying a broader range of mentors and mentees. We also plan to validate the tool, so it can be used more broadly to evaluate effectiveness of mentorship.

The data from this survey was previously discussed during a Mentorship presentation at the Society of Teachers of Family Medicine Conference on Quality and Practice Improvement in Denver, CO in September 2024.

Poster Session Abstracts

5. Supporting the Development of Mentoring Skills in a Team-Based Online Graduate Public Health Course

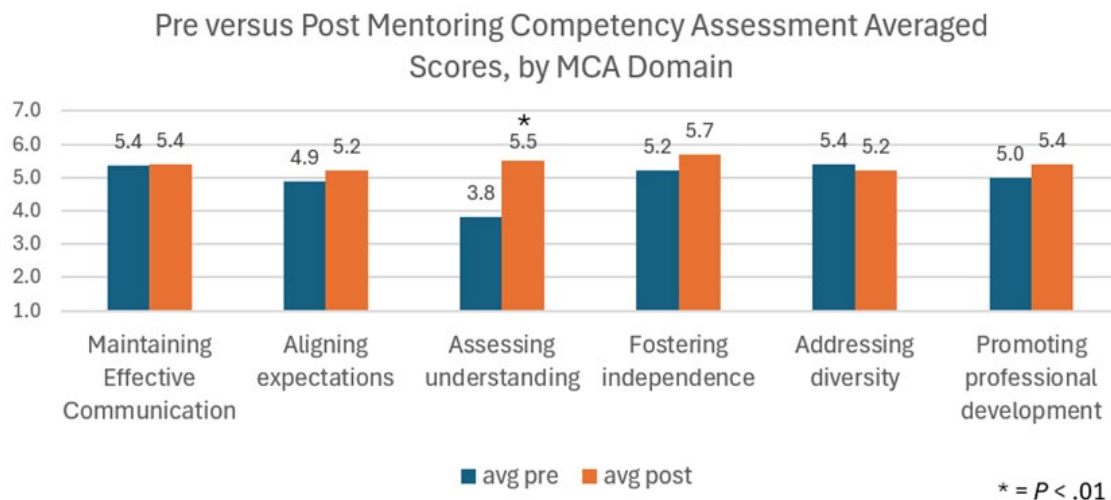
Authors: Tom Delaney, PhD; Elzerie de Jager, MBBS, PhD; Shamima Khan, MBA, PhD; Erika Ziller, PhD; Jan Carney, MD, MPH

Category: Innovation

Effective mentoring is essential for supporting graduate public health learners' academic success. In the LCOM course PH6920: *Culminating Project Experience* (CPE), mentors are matched with a team of MPH students who design, implement and report on an original research project. Previous mentors reported feeling inadequately prepared for this role and desired additional supports for working with student teams. We added mentoring supports and aimed to determine the extent to which mentors gained skills and confidence related to mentoring during the CPE course.

The course co-directors implemented several changes for the 2023-2024 CPE course. Mentors were provided expanded materials about expectations for the mentor role, participated in synchronous meetings twice per semester with the other mentors and course co-directors, and reviewed as a group written guidance on key mentoring skills. Mentors were reminded to engage the course co-directors with any concerns about supporting their team. Eight mentors completed the Mentoring Competency Assessment (MCA) prior to the course and after its conclusion. Change was assessed on six previously identified MCA scales and 26 individual items that each used a seven-point self-rating of skills scale. Analyses used descriptive statistics and *t* tests for independent groups ($\alpha = .05$).

The figure below presents averaged pre and post scores for the MCA domains. The Assessing Understanding domain showed a significant increase ($P < .01$) as did two items in other domains ($P_s < .05$).



Mentoring is not often taught in professional education programs and is assumed to be a skill learners will develop on their own. The results of this pilot study suggest mentors benefit from active engagement around their mentoring practices and support from experienced course instructors. Qualitative follow-up with the 2024-2025 mentor cohort will examine the extent to which improvements are driven by the provision of mentoring supports versus simply the experience of mentoring.

Poster Session Abstracts

6. Advancing Abortion Education for Widespread Health Impact

Authors: Hannah Donovan; Julie Connor, MD; Erin Morris, MD

Category: Research

Background: As the political climate surrounding abortion continues to shift, access to and training on abortion care have become more variable. This makes formal education on abortion for medical students increasingly essential. At our institution, we implemented an educational session on abortion during the third-year Obstetrics and Gynecology clinical clerkship. The goal of this project was to assess the impact of this session on medical students' knowledge, comfort, and attitudes toward abortion care.

Methods: Participants included an experimental group (n=86) who received the education and a control group (n=123) who did not. The session covered early pregnancy counseling, medical and surgical termination, and complications. Both groups completed a baseline survey. The experimental group completed the same survey again 6-12 weeks following the educational intervention.

Results: 100% of students in the experimental group indicated that abortion education is important, compared to 89.5% in the control group. Comfort discussing abortion care with friends and family increased significantly between the pre- and post-intervention surveys ($p=0.005$), as did knowledge about medication abortion ($p=0.0027$). Performance was higher for knowledge of dilation and curettage, age of viability, and morbidity but lower on the timeline for medication abortion and the use of dilation and evacuation.

Conclusions: Ensuring medical students receive comprehensive abortion education is crucial in the post-*Roe* landscape. This study highlights the importance of providing abortion education for medical students and provides data to support future training. Educational development is imperative, particularly in states where abortion is not legally limited, to foster accurate knowledge and scaffold future medical practice and family planning counseling across specialties and locations.

IRB determination: Project Not Requiring IRB Review and Approval

Poster Session Abstracts

7. Preparing for the Unthinkable: A Collaborative Biothreat Assessment Exercise Provides Deeper Understanding of Epidemiological Principles

Authors: Rebecca L. Guy, MLS (ASCP), PhD

Category: Innovation

In this collaborative biothreat assessment exercise, undergraduate students engage in a structured evaluation of public health threats using the European Centre for Disease Prevention and Control (ECDC) framework, employing a Multi-criteria Decision Analysis (MCDA) approach. Through this problem-based learning activity, students deepen their understanding of epidemiological principles by synthesizing theoretical knowledge with practical application. Utilizing the ECDC framework, students work in small groups to systematically assess factors such as pathogen characteristics, transmission dynamics, and potential impact on public health. The MCDA approach allows them to prioritize and weigh these criteria based on their significance and uncertainty. Through active collaboration, students not only develop critical thinking and analytical skills but also enhance their ability to work effectively in teams. By simulating real-world scenarios, this exercise prepares students to make informed decisions in public health emergencies, reinforcing the importance of rigorous assessment and evidence-based reasoning in epidemiology and biothreat management.

This work was presented as a “microbrew-on-a-poster” at American Society for Microbiology Conference for Undergraduate Educators (ASMCUE) in November 2024.

Poster Session Abstracts

8. M4 Student Chiefs: Professional Identity Growth, Near-Peer Mentorship, and Preparation for Residency

Authors: Justin Henningsen; Merima Ruhotina, MD; Erin Morris, MD

Category: Innovation

Fourth year medical students are preparing to step into the role of educators but often lack experience or training in pedagogy. By taking a leadership role as a student chief, fourth year students can develop a professional identity as an educator and mentor and provide practical help for faculty. This poster describes the inaugural year of a “Ob/Gyn 4th Year Medical Student Chiefs” program. We outline the formation of the program, describe duties of the chiefs, and present qualitative reflections from student chiefs and clerkship students who were exposed to the program. We describe the integration of the program as an official part of the curriculum as a fourth-year elective that can be used to fulfill a scholarly project requirement. We posit that the chiefs program and the projects that chiefs undertake are opportunities for students to begin developing a professional identity. By developing skills in time management, giving and receiving feedback, and adaptive learning and teaching, students who have lacked these opportunities will increase their readiness and success in residency.

Poster Session Abstracts

9. All Hands On Deck: Incorporating Hands-On Simulation into Undergraduate Radiology Education

Authors: Christopher Kanner, DO; Naiim Ali, MD; James Graham, MD; Bryan Eckhart, MD
Category: Quality Improvement

Research into educational methods has shown that interactive and hands-on learning opportunities can provide a more robust educational experience than didactics alone.

With this in mind, the curriculum design team for the UVM undergraduate course entitled “Introduction to Medical Imaging” operated by the UVM Radiology Department implemented a new hands-on laboratory course component to supplement the existing curriculum, first incorporated into the Spring Semester 2024 offering.

In addition to the existing format of twice weekly lectures given by subspecialty-trained radiologists providing an overview of medical imaging, new sessions were added focusing on first-hand exposure to ultrasound and fluoroscopy imaging modalities. For the ultrasound component, students engaged in faculty- and resident-supervised scanning sessions in the UVM Simulation Center using standardized patients with demonstrations, feedback and interactive teaching. For fluoroscopy, students donned lead aprons and attended live demonstrations in the UVM Radiology department fluoroscopy suite, learning how real-time x-ray imaging can be used to elucidate anatomy and pathology.

In addition to enhancing the undergraduate students’ experience with these sessions, the new lab components also create an opportunity for UVM Radiology Residents to hone their teaching skills, thereby creating a multi-faceted cross-level collaboration to benefit trainees at multiple levels.

Feedback obtained from the undergraduate students through anonymized surveys following the sessions revealed an overwhelmingly positive response.

Future directions will include optimizing and expanding the simulated laboratory course components to provide the most robust educational experience possible for these students, and to shift the labs earlier in the semester to better coincide with the classroom learning sessions.

The “Intro to Medical Imaging” course curriculum has previously been disseminated at local and national conferences, however this new innovative and engaging unique hands-on lab component for the course has not previously been disseminated. The authors of this abstract have no relevant financial disclosures.

Poster Session Abstracts

10. Progress Towards an Inclusive Preclinical Medical Curriculum: Assessing Improvements in Skin Tone Representation within Dermatology Educational Materials

Authors: Shani Legore; Cara Simone, MA; Karen Lounsbury, PhD

Category: Quality Improvement

Background: Medical education often lacks diversity in the representation of skin tones, especially in dermatology-related curriculum, where visual examples are essential for both diagnostic accuracy and promotion of health equity. As part of a larger effort by the Larner College of Medicine to reduce bias in the medical curriculum, this study assessed specific progress in skin tone representation and student satisfaction relative to preclinical dermatology-related materials.

Methods: Curriculum materials from dermatology sessions were reviewed over academic years 2020-2023, including preparatory and in-class materials for all classroom, lab, and simulation sessions. Progress in the total number and percent of images reflecting darker skin tones was quantified, and student evaluations of curriculum inclusiveness provided additional quantitative (Likert) and qualitative (narrative) feedback.

Results: Over four years, the presentation of diverse skin tones increased, and student evaluations indicated appreciation for inclusive representation. Images depicting darker skin tones increased from 17% to 30% and the total number of images increased from 640 to 1,018, suggesting that diversification was through additional images rather than replacement. Student satisfaction with inclusive materials remained consistent by Likert score (4.0 to 4.1 of 5) and percent positive/very positive narratives (63% to 62%). Calls for further improvements were notable, with seven comments each year requesting greater diversity. Recommendations were made to include a broader range of skin tones, particularly in conditions that manifest differently across skin types.

Conclusion: The iterative review of dermatology materials highlighted significant improvements in skin tone diversity, positively impacting student perception of inclusivity in their medical education and training. Continuous enhancement of educational content with diverse representations is essential for preparing culturally competent physicians. This approach serves as a model for other areas in medical education seeking to address representation in educational resources.

IRB Determination: Exempt

Poster Session Abstracts

11. Improving Cardiac POCUS Education in Underserved Settings

Authors: Jennifer Liao, MD; Kramer Wahlberg, MD

Category: Research

Background and Description: Underserved cardiology service fills a much-needed gap for low resource areas while providing incredible learning opportunities. When advanced imaging may not be available, skills such as cardiac point-of-care ultrasound (POCUS) are especially valuable to provide an affordable and efficient means to rapidly diagnose routine and life-threatening conditions. Although there has been increased emphasis on POCUS training, there remains no standardized curriculum. This study aims to explore current practices and research in POCUS education and propose potential methods to improve training and access in underserved areas.

Methods: A literature search was conducted in PubMed, Cochrane, ERIC, Embase, Web of Science, and Science Direct with the search terms “POCUS”, “Cardiology”, and “Education”. Initial search generated 283 articles. Articles irrelevant to education or cardiac POCUS were eliminated, yielding 60 articles.

Results: Three primary themes were identified: barriers to knowledge acquisition and retention in cardiac POCUS, prerequisites and length of training for proficiency, and the utilization of technology. Common barriers include a lack of structured curriculum and insufficient time. While the length of training to reach competence varied significantly, studies recommended avoiding single, short sessions, and instead emphasized longitudinal, spaced learning. Technologies such as e-learning, simulation, and social media were beneficial supplements to didactic lectures.

Conclusion: Cardiac POCUS in the context of service learning involves complex learning tasks that integrate diagnostic knowledge, imaging skills, and humanism. Cognitive load theory suggests such tasks impose a high intrinsic load, and as such, we propose two potential solutions. The first is to integrate technology, such as e-learning, to facilitate self-regulated pre-learning, and utilize artificial intelligence-based tools to improve image acquisition and interpretation. The second is to construct a curriculum that gradually increases task fidelity from didactic lecture to simulation, hands-on training, and direct patient care, to decrease intrinsic cognitive complexity.

Poster Session Abstracts

12. Organizational Partnerships to Improve Student Wellbeing and Meet Accreditation Standards

Authors: Harsimran Multani; Elise Everett, MD; Garth Garrison, MD; Christa Zehle, MD
Category: Quality Improvement

The purpose of this project was to address student dissatisfaction with the available study and relaxation space resulting in an LCME citation in Element 5.11.

Our student satisfaction with space on the AAMC Graduation Questionnaire (GQ) has been steadily declining. Satisfaction with study space fell to 62.8% and with relaxation space fell to 35.1%. Attempts to address the issue with existing university facilities were unsuccessful.

Space was identified to support the relocation of a newly designed student lounge and construct a new student fitness center. Additional space improvements included repurposed office space for prayer and meditation within the college and two work/study rooms within the medical center, one which is specific for medical students.

Preliminary data from the Larner Student Analysis survey conducted in the Fall of 2024 indicate that 88% of students agree that they have access to space where they can read about their patients at hospitals/clinical sites.

Collaboration between Larner College of Medicine and the University of Vermont Medical Center leadership was essential in addressing learner concerns regarding space in support of their education, wellbeing, and role in patient care.

Our evaluation will continue to utilize both quantitative (GQ and internal surveys) and qualitative methods (focus groups) to assess the effectiveness of newly renovated student spaces and identify opportunities for future improvements.

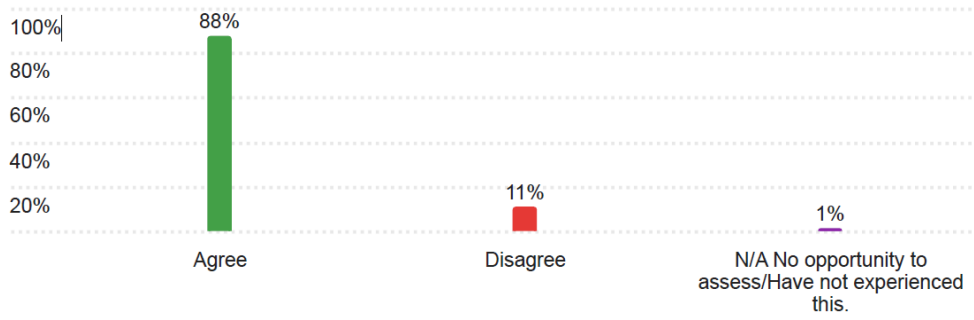
Identifying additional student spaces within existing facilities is challenging and requires cooperation between stakeholders. We anticipate that new and renovated spaces will support students' functional and well-being needs, and further facilitate conversations about how to best support students in their medical journey. Improvements in study, relaxation, and clinical workspaces can positively impact culture, a sense of belonging, patient care, and workforce development.

Presented as a poster at AAMC GBA/GIP meeting in Boston April 2024 and GIP Facilities Planning & Space Management Subcommittee Call in September 2024.

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Q22* - I have access to space where I can read about my patients at hospitals/clinical sites.

165 Responses





Poster Session Abstracts

13. Assessing the Impact of Updated Video Resources for Teaching Gross Anatomy

Authors: Nicki Nikkhoy; Abigail Mercier; Abigail Hielscher, PhD; Nathan Jebbett, PhD

Category: Quality Improvement

Background: In response to the COVID-19 pandemic, the University of Vermont Anatomy faculty created a series of educational videos for gross anatomy, which have since become a core educational tool for medical and physical therapy students.

Methods: Each video provides a focused tour of a cadaveric donor, replacing older videos produced with less advanced tools and minimal editing. Surveys were conducted over the subsequent 3 years to assess student feedback.

Results: From 2020 to 2023, most students (70%) agreed the videos were useful and done well. This is particularly notable as videos were optional resources. Positive comments included: diagrams within videos aided learning (27%) and editing choices enhanced quality (12%). Constructive feedback included: requesting additional videos at this higher quality (13%) and specific videos such as instructional dissections (25%). Surveys also revealed unexpected uses of videos (e.g., building quizzes from still frames, watching at 2x speed) which will guide the next iteration of improvements to UVM's video catalogue.

Discussion: Our observations support regularly updating medical education materials, as students' concept of an effective academic experience has come to include high-quality digital resources. Additionally, as medical knowledge constantly improves, the emphasis on which topics are most clinically relevant and will best prepare students for standardized exams also changes. Our future goals include quantifying the effects of this intervention on student performance longitudinally. A possible limitation is this innovation does require time, access, and experience with tools such as recording equipment and editing software. We propose, however, that the returns are worth the costs, and that this approach may also be applied to updating more accessible materials, such as study guides.

IRB Determination: Use of donor images is for educational purposes. Potential donors are informed of the use of images for such purposes in their registration forms. A signature implies consent.



Poster Session Abstracts

14. Using the “Open Book” Approach to Achieve Continuous Quality Improvement (CQI)

Authors: Lejla Pasic; Jan K. Carney, MD, MPH; Kathryn N. Huggett, PhD

Category: Quality Improvement

*“Transforming data into actionable information to drive effective accreditation systems” is the ultimate goal of the Continuous Quality Improvement (CQI) process. A variety of survey data and sources are used to assess progress and set priorities for improvement. Together those tools allow us to use the LCME Self-Study Survey Report (*Open Book*) which reflects the actual questions LCME site visitors use to generate their report and identify potential gaps to assess progress in meeting accreditation requirements. This ultimate responsibility rests with the self-study task force including individuals like the medical school administrators, department chairs and section heads, junior/senior faculty members, medical students and graduates in residency, representatives of clinical affiliates, etc. [Liaison Committee on Medical Education \(LCME\)](#) focus is on actionable information that helps “*gauge effectiveness of those actions/interventions and, if needed, to redesign (if ineffective) or repeat (to document sustainability) the targeted data collected in the next cycle.*”*

The CQI Committee conducts a review of materials and makes recommendations guided by a *stoplight assessment framework*:

1. Green – Element satisfies LCME accreditation requirements.
2. Yellow – the committee has follow-up/clarifying question(s)
3. Red (PDSA) – Element did not satisfy LCME accreditation requirements; a PDSA (Improvement Plan) is necessary.

The Plan Do Study Act (PDSA) approach “provides a simple model for communicating expectations to faculty and other stakeholders,” and in using this method post-2021 accreditation, the college was able to test changes before committing to permanent changes and updates.

Conclusion: Response to the Open Book questions/tables reflects the deep commitment of the organization to the process of continuous quality improvement. It is only achieved through the involvement of faculty, students, and identified stakeholders in the Institutional Self-Study and iterative improvements. The quality of change and progress depends on the level or quality of response to those questions in the LCME Self-Study Guide.

Poster Session Abstracts

15. Positive Psychiatry Seminar Series for Residents

Authors: Andrew Rosenfeld, MD; Dhruv Shah, DO; Kristina Foreman, MD; Lianna Karp; Mari Kurahashi; Alan Schlechter, MD

Category: Innovation

Positive psychiatry remains in its early stages of development and implementation (Jeste & Barton, 2015). This sub-field adds the science and practices of positive psychology, social psychiatry, and humanistic psychology to the existing tools of psychiatry-as-usual.

We developed an inter-institutional 5-session seminar series delivered to 2nd and 3rd year general psychiatry residents at UVM. The curriculum combined didactic content with active learning and discussion to introduce learners to concepts, skills, and practices in selected domains. Topical foci included Compassion, Mindfulness, Self-Care in Supervision, the Positive Approach to Clinical Interviewing, and Building from Character Strengths.

A pre-/post-survey allowed tracking whether goals were met. We found learners initially had a good degree of familiarity with most of the relevant concepts but were not as comfortable operationalizing these in clinical practice. This improved after the seminar series in line with the learning objectives.

Next steps include opportunities for reinforcing this learning, observation in clinical settings, faculty training, and research utilizing a control group to deconstruct mechanisms and barriers.

The project was IRB exempt, and co-instructors had no conflicts of interest to disclose.



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16. Is Racial Bias Present Amongst Medical Students Caring for a Simulated Cardiac Arrest Patient?

Authors: Claudia Tarrant; Hannah Miller, MD; Miles Lamberson; Cate Nicholas, EdD, MS, PA, FSSH; Katie Dolbec, MD

Category: Research

Background: Racial bias is pervasive in society and medicine and can be propagated by medical schools. It is not known whether skin tone influences inclusion of substance use disorder (SUD) on medical students' differential diagnosis for a simulated cardiac arrest.

Description of project: We compared rates of inclusion of SUD on the differential diagnosis in a clinical simulation using dark- versus light-skinned manikins to identify whether there existed a pattern of overdiagnosis of SUD in the dark-skinned manikin or underdiagnosis of SUD in the light-skinned manikin.

Methods: In this observational study, all medical students enrolled in an Emergency Medicine (EM) Course participated in a manikin-based cardiac arrest case. After the first shock was delivered, students individually wrote down their differential diagnoses on deidentified research forms [Figure 1]. Two equally equipped, life-sized manikins, one dark-skinned and one light-skinned, were alternated each course section. Forms were excluded if they were left blank, filled out by a non-medical student, or could not be associated with the manikin skin tone. Rates of inclusion of SUD in the differential diagnosis were compared using Pearson's Chi Square.

Results: 271 surveys were returned; 75 were excluded. Of the remaining 196 surveys, 96 were associated with the light-skinned manikin and 100 with the dark-skinned manikin. One survey respondent participating in a simulation using the dark-skinned manikin listed SUD as the leading diagnosis. 20% of students in each group listed SUD somewhere on the differential diagnosis ($p = 1.00$) [Table 1].

Table 1. Survey Data

	Total	Even	Odd	p-value
	N=196	N=96	N=100	
Was the primary diagnosis related to Overdose, Opioids or Toxicology?	1% (1)	0% (0)	1% (1)	1.00
Were any of the differential diagnoses related to Overdose, Opioids or Toxicology?	20% (39)	20% (19)	20% (20)	1.00
Absent from differential	80% (157)	80% (77)	80% (80)	1.00

Discussion/Conclusions: Among 4th year medical students participating in a simulated cardiac arrest, there was no observed difference in rate of inclusion of SUD on the differential diagnosis depending on manikin skin tone. The overall rate of consideration of SUD is low regardless of manikin skin tone,

Poster Session Abstracts

suggesting that there is work to be done to increase medical student awareness of this serious cause of cardiac arrest.

IRB Determination: The study was deemed exempt by the Institutional Review Board.

Disclosures: None

Figure 1. Data Collection Form

Circle education level M4 STUDY ID _____
PA

PLEASE RANK YOUR DIFFERENTIAL DIAGNOSIS FOR THE PATIENT'S CARDIAC ARREST	
Primary Diagnosis	Rationale
Differential in order of likelihood	Rationale

Poster Session Abstracts

17. Improving the Handoff Process in an Internal Medicine Residency: A Focus on Resident Feedback and Standardized Solutions

Authors: Vall Vinaithirthan, MD; Maggie Gray, MD; Massoud Saleki, MD; Aaron Levit, MD
Category: Quality Improvement

In an academic internal medicine residency program, patients receive care from multiple providers at varying training levels, making effective handoffs essential for continuity of care, patient safety, and minimizing errors. The ACGME recommends a standardized approach to transitions of care, including both verbal and written handoffs. The University of Vermont Internal Medicine Residency Program (IMRP) implements these recommendations, incorporating to-do lists, if-then statements, and structured verbal handoffs. Despite this, handoffs were ranked as unsatisfactory during the 2023 ACGME survey distributed to all residents. Here, we explore resident perspectives on the handoff process at the University of Vermont IMRP. Based on these findings, we propose implementable changes to the standardized handoff process.

We conducted two focus groups to gather feedback – one with the PGY-1 class and the other with senior classes. We administered a Likert scale survey to identify residents' feedback and current handoff practices within the residency program.

Survey responses using a Likert scale showed that overall satisfaction with the handoff process was low, with 61% of senior respondents rating the process as unsatisfactory. Barriers to handoff satisfaction included time constraints and high workload. 92% of respondents agreed that written handoffs were important for patient safety, while only 69% of respondents indicated that verbal handoffs were important for patient safety.

Handoffs are essential for safe transitions of care, but our study identified gaps despite following best practices. Survey responses highlighted barriers, such as high workload and limited time. Notably, residents prioritized written over verbal handoffs for patient safety, aligning with studies showing no difference in adverse events between written and face-to-face handoffs. Our findings highlight a need for a more standardized handoff process focused on improving efficiency and reducing cognitive burden. Proposed improvements include standardizing if/then smart phrases, educational sessions, and improving the culture surrounding handoffs.

IRB Determination: Not applicable.

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18. Near-Peer Teaching to Integrate Medical Imaging into the Medical School Curriculum

Authors: Andrew Warfield; Curtis Plante; Ryan Walsh, MD; Abigail Hielscher, PhD

Category: Research

Background: Medical student education in imaging in the U.S. is lacking. Reasons for this include lack of time in the curriculum as well as limited availability of radiologists to teach. Recent work from our group similarly demonstrated that M3 and M4 students perceived their imaging knowledge to be lacking. We incorporated near-peer teaching (NPT), wherein students in later portions of a program teach those in the earlier portions, for the instruction of anatomical imaging in Foundations of Clinical Sciences (FoCS). Here, we report the findings of an ongoing imaging NPT program in FoCS.

Description of project/program/innovation:

1. PowerPoint presentations made by M2's incorporated FoCS anatomy and imaging concepts, clinically relevant questions, and labeling exercises.
2. Multiple-choice pre-session and post-session quizzes (PPQ) were used to gauge student knowledge before and after the sessions.
3. Post-session surveys (PSS) allowed student feedback.

Methods: Attendance was recorded using a sign-in sheet. PPQ's and PSS's were administered anonymously using Qualtrics. Differences in overall student performance on PPQ's was analyzed using an unpaired T-test. Student perception of preparedness for quiz questions was calculated by assigning a number value of 1 to 5 representing "Not ready at all" to "Completely ready" as reported on PSS's then analyzed using a paired T-test.

Results: Attendance was 25-57 students. Overall student performance on PPQ's improved post-session (85.19% vs 77.68%, $p=0.0082$). Additionally, student perception of their preparedness to answer questions was improved (4.38 vs. 3.58, $p<0.0001$). Most students indicated that these sessions helped clarify what material is most important. Comments indicated that practice questions and focus on high-yield topics have been helpful.

Discussion/Conclusions/Lessons Learned: Sessions have received strong attendance and have shown a benefit to student learning. We plan to assess longer-term benefits of these sessions through optional summative quizzes.

IRB Determination: IRB approval was obtained for individual sessions.

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19. Improving appropriateness of urinalysis and urine culture testing in hospitalized adults at the University of Vermont Medical Center

Authors: Amelia Winter, MD; Lindsay Smith, MD; Juvena Hitt, MPH; Bradley Tompkins, MS, MPH; Preetika Muthukrishnan, MBBS
Category: Quality Improvement

Background: Antibiotic misuse from the unnecessary treatment of asymptomatic bacteriuria (ASB) contributes to antibiotic resistance, increased morbidity, and higher healthcare costs. A significant factor in this misuse is the overuse of diagnostic tests, such as urinalysis (UA) with reflex to urine culture (UC). Ordering a UA in patients without symptoms of a urinary tract infection (UTI) can result in incidental positive cultures, which may be misinterpreted as a true UTI, leading to inappropriate antibiotic prescribing. A review of 56 patient records at the University of Vermont Medical Center (UVMCC) found that UA with reflex to UC was ordered inappropriately in 39% of cases, indicating a knowledge gap among clinicians about the appropriate use of these tests.

Purpose: This study aimed to develop, implement, and evaluate a case-based educational intervention for Internal Medicine and Family Medicine residents, attendings, and advanced practice providers at UVMCC. The goal was to improve knowledge and modify ordering practices related to UA with reflex to UC.

Study Description: The authors created five case-based scenarios highlighting appropriate indications for UC testing. The content was delivered through four interactive, hour-long sessions over six months. Participants completed pre- and post-intervention knowledge assessments. A manual chart review of 195 patients admitted to UVMCC between May 2023 and August 2024 tracked changes in ordering practices.

Results: Seventy participants completed the pre-survey, and thirty-one completed the post-survey. We saw an improvement in the number of correct responses between pre- and post-intervention surveys (75% vs. 80%, respectively). Chart review showed a decrease in inappropriate orders for five months, but an increase after July 2024, possibly due to new residents.

Conclusions: The intervention improved clinician knowledge and practices, but the effect was not sustained, underscoring the need for ongoing education.

Previous Dissemination: Poster presentation at 2024 ACP VT Chapter Scientific Meeting.

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20. From Simulation to Reality: A Resuscitation Leadership Curriculum for Emergency Medicine Residents

Authors: Victoria Zhou, MD; John Priester, MD; Samuel Paskin, MD; Daniel Ackil, DO; Arlene Chung, MD, MACM, FACEP

Category: Innovation

Background: Effective leadership skills are crucial in the field of Emergency Medicine (EM), as EM physicians frequently lead multidisciplinary teams in high acuity situations. The University of Vermont (UVM) EM Residency Program does not currently have a structured leadership development curriculum for the management of critically ill patients. A Resuscitation Leadership Curriculum will allow residents to apply skills learned in the simulation lab to leading real-life patient critical care cases.

Description of Innovation: The Resuscitation Leadership Curriculum consists of an initial didactic training on leadership principles, communication skills and crisis resource management (CRM). Residents will apply these skills during high-fidelity simulation scenarios, taking turns serving as team leader in critical care cases. Trained faculty will observe residents leading simulation cases and then assist in debriefing, giving feedback on residents' resuscitation leadership skills.

Methods: Pre-curriculum implementation, EM residents will be observed by faculty while leading real-life resuscitations on-shift in the Emergency Department. Their team leadership skills will be evaluated using the Ottawa CRM Global Rating Scale (Ottawa GRS). This is an evaluation tool that has been previously used to measure the CRM skills of EM residents.

The Resuscitation Leadership Curriculum will be integrated into the existing conferences of the UVM EM residency program; it will be spaced out between two separate dates in early 2025. Target learners will be EM residents of all years.

Post-curriculum implementation, EM residents will again be observed leading resuscitations in the Emergency Department and assessed using the Ottawa GRS. Average Ottawa GRS scores pre- and post-curriculum implementation will be compared.

Results: Data collection will take place between late 2024-mid 2025.

Discussion: The Resuscitation Leadership Curriculum represents an innovative approach to developing leadership skills for EM residents. This targeted, experiential approach is anticipated to enhance residents' team leadership capabilities in high-stakes clinical settings.

IRB Determination: In-process