Taking the Trauma Out of Treating Patients with Cancer: A Quality Improvement Project

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INTRODUCTION

Trauma is ubiquitous in our society. Studies show that in the US alone almost 90 % of adults have experienced at least one episode of trauma (traumatic encounter/traumatic event (TE).

Childhood developmental trauma is very significant to the individual's functioning and general physical as well as mental health, risk of death in adulthood, and use of medical services.

Receiving a diagnosis of cancer is stressful and for vulnerable people can be traumatic. The care needed for cancer can also be perceived as traumatizing. For those who have a prior history of trauma this convergence and overlap of past experiences with current care can be daunting. Staff treating those with cancer can also develop direct or vicarious stress and trauma, as well as a sense of helplessness about how to approach or interact with those patients who have cancer.

Trauma-informed-care can a helpful approach for those dealing with cancer and its sequelae. The American College of Obstetrics and Gynecology in 2021 recommended universal screening for trauma exposure. It has also been proposed that TIC be considered a "universal precaution", There has been much interest in education about TIC in medical student curricula as well as in some residencies such as Pediatrics, OB-GYN, Family Medicine, and Psychiatry. However, there is much less interest in educating and empowering those who are already interacting with and treating patients with cancer.

Our hypothesis for this QI project was that radiation therapists, oncology nursing staff, and other providers feel a lack of competency to recognize that patients with cancer who are trauma survivors, are more likely to experience an acute stress reaction during treatment. They are unsure how to identify an acute stress reaction. They also lack knowledge about what to do if the patient has troubling behavioral or emotional reactions during their cancer journey.

PURPOSE

1. Authors described how to recognize those who are vulnerable to adverse reactions, and how to recognize stress reactions in those receiving cancer treatment. This will increase staff knowledge and understanding of the intersection of trauma and cancer treatment, and why some patients are vulnerable to these responses.
2. Authors presented techniques that can be employed by cancer center staff and physicians to ameliorate negative responses to cancer treatments. Providers/staff will be able to describe these interventions, and apply them appropriately in the clinical setting, and describe those to whom they can turn for help.

METHODS

Perceived competence and preparedness of nurses and radiation therapists was assessed via a questionnaire, pre and post training.

A set of 10 questions were administered blind to radiation-oncology nursing, provider and radiation therapists as a baseline, and then again after a training about trauma, trauma responses and interventions.

Questions dealt with three areas: perceived competence to recognize stress responses, effective responses to a patient experiencing a trauma response, and to whom to reach out to for help.

Seven Responses pre and post training were collected and assessed.

RESULTS

Recognizing Stress Responses
All 7 subjects responses improved after training.

Feeling competent to respond to a stress reaction, fright/flight/freeze response.
5 of 7 subjects perceived improvement.

How to get help
Two of 7 subjects reported improvement,. Most already knew who can help.

DISCUSSION

1. This pilot quality improvement project shows that oncology staff perceive a lack of competency in recognizing and responding to acute stress responses in patients with cancer.
2. It also showed that a training can be effective in increasing oncology staff's recognition of an acute trauma response , their perceived competence to help a patient having a stress/fright/flight reaction, but not how to get help if an acute reactions occurs.

FUTURE DIRECTIONS

1. Improve staff's ability to recognize those patients with cancer who are vulnerable to an acute stress response. Explore use of screening tools.
2. Survey medical oncology staff, pre- and post training.
3. Record the training so that it can be offered to other network community cancer center staff.
4. Improve interventions offered to patients who are at increased risk of a stress reaction during treatment.

REFERENCES

1. Burns,C J et al, Trauma-Informed Care Curricula for the Health Profession: A Scoping Review of Best Practices for design, Implementation, and Evaluation. Academic med : vol 98; 3, March 2023)
2. Teicher, M H et al, Recognizing the importance of childhood maltreatment as a critical factor in psychiatric diagnoses, treatment, research, prevention, and education. Molec. Psychiatry; https://doi.org/10.1038/s41380-021-01367-9
3. Felatti VJ, et al: Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. Am J Prev Med 1998, 14: 245-258), (Gillock KL, et al; PTSD in primary care. Prev and relationship with physical symptoms and medical utilization)
4. (Slovak K, and Singer, M Children and violence: Findings and implications from a rural community. Child and ADoles Social Work Journal: 19; 35-56, 2002). (Something To Despair: Gender Differences in Aces among rural patients)

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The Art of Unlearning: Using Visual Thinking Strategies (VTS) to Challenge Bias in Care of Perinatal Patients with Substance Use Disorder (SUD)

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BACKGROUND

Accidental overdose and substance misuse are leading causes of maternal mortality in VT. Despite advances in Medication Assisted Treatment (MAT) and growing awareness of perinatal SUD, stigma and bias contribute to the increased risk of maternal mortality.

INNOVATION

VTS, developed in the early 1990s by Elizabeth Housen and Philip Yenawine, is an art education methodology. VTS promotes observation, evidence-based reasoning, and collaborative meaning-making. Within medical education, VTS has been shown to enhance metacognition, empathy, and awareness of implicit bias. As Ker at al. note, VTS facilitates recognition of "preconceived notions, implicit biases, and lapses in judgement," encouraging reflection and reduction of bias when engaging with patients.

The innovation is a virtual (Zoom) 60-minute VTS session for third-year OBGYN clerkship students. Prior to the session students complete a 15-minute online module: March of Dimes, "What can you do about substance use." The initial iteration of the session included three visual pieces:

"Dead Mother" (1910)
Artist: Egon Schiele

Created by VCHIP, PQC-VT, and the BLISS Initiative

"Recovering Loudly!" Video by Lund

Following learner feedback from the first cohort (n=15), adjustments were made to address time constraints. The revised session focuses on Dead Mother (1910) and Recovery Loudly! Ashlee's Story, allowing deeper discussion and sustained engagement.

The innovation is intentionally iterative and designed for ongoing refinement based on student feedback, with particular attention to selecting visual materials that support ambiguity, narrative medicine, and reflective dialogue around perinatal patients with SUD and bias in clinical care.

METHODS

Ob/gyn clerkship students complete the Best Intentions Questionnaire (BIQ) before and after the session to measure shifts in bias. BIQ is a survey designed in 2010 for healthcare trainees to measure an individual's understanding of their own biases. The survey is validated in prior studies and previously implemented in VTS curricula. Additionally, seven open-ended questions are included in the post-survey to explore students' perception of the session. Change in bias awareness was assessed by comparing pre- and post-survey responses. Discriptive statistics and Wilcoxon signed-rank tests were used to compare pre- and post-survey responses using R statistical software (version 2025.09.0+387).

Best Intentions Questionnaire (BIQ) *Pre-Survey*

Best Intentions Questionnaire (BIQ) *Post-Survey*

RESULTS

Fifteen students completed the pre-intervention survey and attended the session, and 13 students completed the post-survey.

Prior Training: Students reported variable degrees of exposure to perinatal SUD care prior to the session. (Figure 1)

Pre-Intervention Bias Awareness: All students surveyed agreed moderately or strongly with the following statements: "Physicians can have biases about patients which they are unaware of," "Personal biases that go unrecognized can have an impact on medical decision-making," and "It is likely that I have biases about patients which I am unaware of." (Figure 2)

Post-Intervention Bias Awareness: 77% of students reported the 60-minute VTS intervention increased their awareness of potential personal biases toward perinatal patients with SUD, (median *5 or Slightly Agree,* IQR 1). (Figure 3)

Figure 1

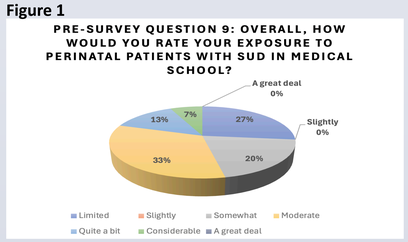


Figure 2

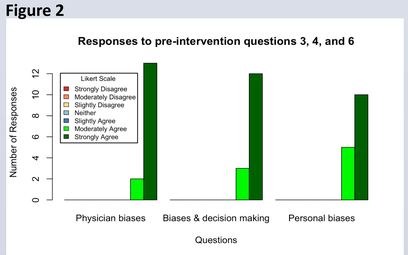
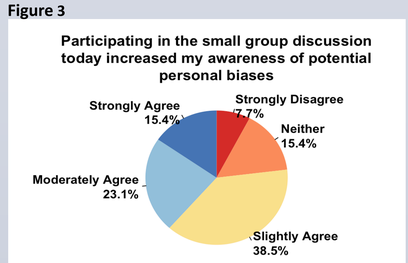


Figure 3



- **Novelty:** 10 of 13 students identified Visual Thinking Strategies (VTS) as a new or unique curricular approach.
- **Format Preferences:** Students expressed mixed views on virtual vs. in-person delivery; some favored maintaining a virtual format for logistical reasons, while others preferred in-person delivery or placement earlier in the rotation.
- **Perceived impact:** Few students reported a change in thinking; most noted prior awareness of personal biases.
- **Valued Elements:** Students valued patient narratives, educational value, and select visual media (particularly opening and closing images).
- **Suggested Improvements:** Fewer images and additional discussion time; some found VTS restrictive.

Curricular Adaptation:
Following disclosure of lived experience with SUD, an acknowledgement slide and learner support resource to connect with the Vermont Practitioner Health Program was added to promote psychological safety.

CONCLUSION & DISCUSSION

- Overall, students reported a high awareness of bias prior to the intervention, which may be attributable to prior exposure to bias awareness discussions in the Professionalism, Communication, and Reflection (PCR) course curriculum.
- Integrating VTS into the Ob/gyn Clerkship offers a promising approach to cultivating reflective practice and bias awareness among trainees, key competencies for improving care of perinatal patients.
- A larger sample size is needed to determine the effectiveness of this intervention in improving student awareness of implicit bias.
- Student feedback will continue to inform the optimal balance between image-led discussion, content review, including whether didactic material is best delivered before, during, or after the VTS-based session.

Quick poll for faculty:
VTS in the Larner curriculum, scan here:

REFERENCES

American College of Obstetricians and Gynecologists. (2017). *Opioid use and opioid use disorder in pregnancy (Committee Opinion No. 711).* https://www.acog.org/-/media/project/acog/acogorg/clinical/files/committee-opinion/articles/2017/08/opioid-use-and-opioid-use-disorder-in-pregnancy.pdf

American College of Obstetricians and Gynecologists. (2011). *Substance Abuse Reporting and Pregnancy: The Role of the Obstetrician-Gynecologist (Committee Opinion No. 473).* https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2011/01/substance-abuse-reporting-and-pregnancy-the-role-of-the-obstetrician-gynecologist

Benau, E., Jaffe, R., & Zavodnick, J. (2024). Initial evidence of reliability and validity of an IAT test assessing attitudes toward individuals who use substances. *PubMed*. https://pubmed.ncbi.nlm.nih.gov/38295383/

Callahan, E. J., Banks, M., Medina, J., Disbrow, K., Soto-Greene, M., & Sánchez, J. P. (2017). Implicit bias recognition and management in interpersonal encounters and the learning environment: A skills-based curriculum for medical students. *MedEdPORTAL, 13*, 10661. https://doi.org/10.15766/mep_2374-8265.10661

Elkamel, E., Guerra, D., Samuels, M., Stumbar, S. (2024). Exploring bias in health care: Using art to facilitate a narrative medicine approach among third-year medical students. *MedEdPORTAL*. https://pubmed.ncbi.nlm.nih.gov/39366688/

Frank, E. L., Sabin, J. A., Noronha, G., & Isaacs, E. (2022). Fostering awareness of implicit bias using an adapted visual thinking strategy and reflection. *MedEdPORTAL, 18*, 11225. https://pubmed.ncbi.nlm.nih.gov/35511460/

Ike, J. D., & Howell, J. (2022). Quantitative metrics and psychometric scales in the visual art and medical education literature: A narrative review. *Medical Education Online, 27*(1), 2010299. https://doi.org/10.1080/10872981.2021.2010299

Johnston, M. J., Hussain, S. A., & Williams, D. T. (2018). Art as sanctuary: A four-year mixed-methods evaluation of a visual art course addressing uncertainty through reflection. *Medical Humanities, 44*(2), 97–104. https://pubmed.ncbi.nlm.nih.gov/30365424/

Ker J, Yenawine P, Chisolm MS. Twelve Tips for Facilitating Visual Thinking Strategies with Medical Learners. Adv Med Educ Pract. 2024 Nov 23; 15:1155-1161. https://pmc.ncbi.nlm.nih.gov/articles/PMC11602429/

Klein, M. D., Brown, M. A., & Williams, L. A. (2015). Evaluation of a training to reduce provider bias toward pregnant patients with substance abuse. *Social Work in Public Health, 30*(4), 336–345. https://pubmed.ncbi.nlm.nih.gov/26207103/

Arts-Based Workshops in Promoting Interactive Engagement with Anatomical Learning

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BACKGROUND

- Anatomy requires rote memorization and 3D spatial knowledge
- Traditional approaches to learning anatomy are often passive, relying on atlases to learn anatomical relationships
- Creative learning methods are active and emphasize spatial awareness

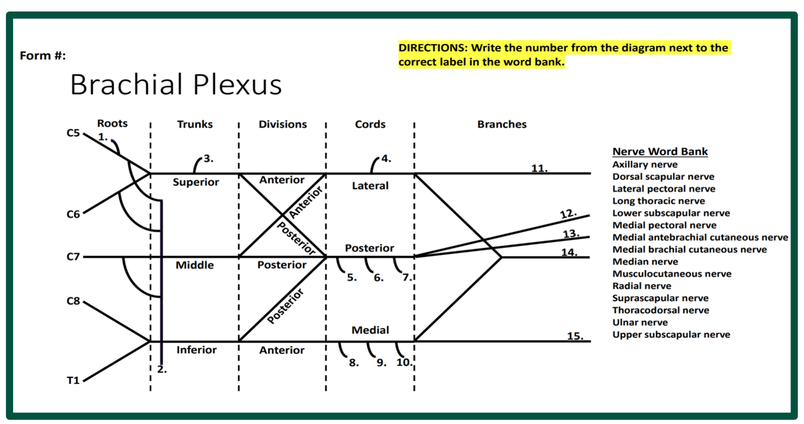
HYPOTHESIS

Arts-based painting workshops facilitate improved short-term retention of brachial plexus knowledge

METHODS

- M1 class was invited via email and Discord server
- Student-designed and facilitated optional workshops were offered
- Occurred September and March of the M1 year, utilizing step-wise painting of the brachial plexus interspersed with anatomy and clinical correlate reviews
- Pre- and post- session labeling quizzes were administered as a measure of short-term knowledge retention (please see example below)

Figure 1. Pre- and Post-session Quiz

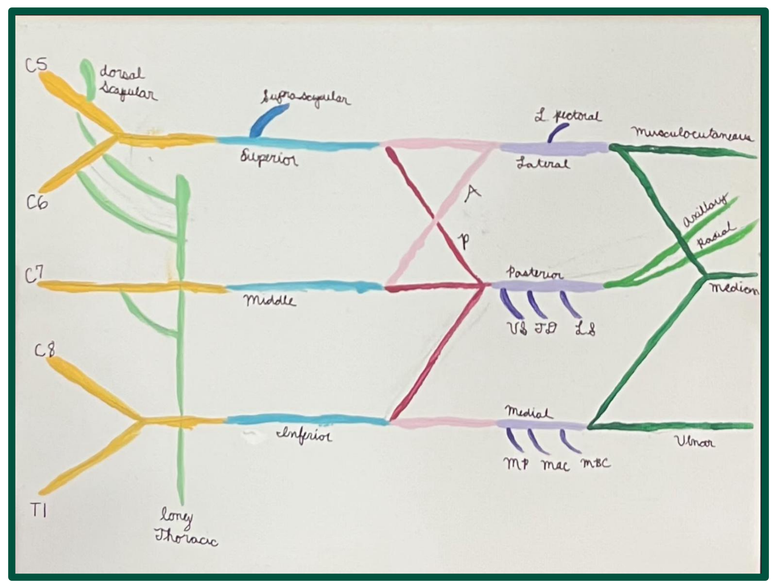


RESULTS

Table 1. Percent Improvement in Medical Student Post-session Scores

M1 Cohort (n=)	Average pre-test	Average post-test	One tailed p-value	Improvement (%)
First semester student (n=16)	13.8	14.8	0.03	6.8
Second Semester Student (n=8)	8.5	12.5	0.007	47.0
Combined (n=24)	12.0	14.0	0.001	16.3

Figure 2. Images from Sessions and Examples of Completed Brachial Plexus Workshop Paintings



DISCUSSION

- Post-session scores were significantly higher in both cohorts, indicating improvement in short-term brachial plexus knowledge retention
- The September workshop demonstrated a larger increase in post-session score improvement
- These findings suggest measurable benefits in short-term retention using art-based methods

CONCLUSIONS

- Differences in improvement may be attributed to the timing of each session in the curriculum for M1s
- Future studies should assess how art-based workshops correlate with scores on standardized tests and long-term retention

LIMITATIONS

- Small sample size (n=24)
- Sampling bias towards students who are motivated to attend anatomy workshops

DISCLOSURES & ACKNOWLEDGEMENTS

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- We gratefully acknowledge the LCOM Teaching Academy for funding that supports this project

REFERENCES

1. Chun, S., Liang, C., Thomann, C., Amin, S., Trinh, C., Araujo, C., & Hassan, S. S. (2025). Art in Anatomy Session as a Method of Formative Feedback in Pre-Clerkship Medical Education. *AJP Advances in Physiology Education*. https://doi.org/10.1152/advan.00233.2024
2. Heisler, C. A. (2011). Importance of adequate gross anatomy education: The impact of a structured pelvic anatomy course during gynecology fellowship. *Anatomical Sciences Education*, *4*(5), 302–304. https://doi.org/10.1002/ase.235
3. Kermanian, F., Zamani, S., & Mahakizadeh, S. (2023). Art-based assignment in head and neck anatomical course, a dynamic experience. *Journal of Education and Health Promotion*, *12*(1). https://doi.org/10.4103/jehp.jehp_1269_22
4. Kooloos, J. G. M., Bergman, E. M., Scheffers, M. A. G. P., Schepens-Franke, A. N., & Vorstenbosch, M. A. T. M. (2019). The Effect of Passive and Active Education Methods Applied in Repetition Activities on the Retention of Anatomical Knowledge. *Anatomical Sciences Education*, *13*(4). https://doi.org/10.1002/ase.1924

Incorporating Coaching in the Moment and Coaching Over Time to support EPA-based assessment in Pathology Residency Training

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Background

Entrustable professional activities (EPAs) are a method of incorporating competency-based assessment into graduate medical education (GME); however, EPAs cannot fulfill their potential without effective training in how to use and deliver EPA-based feedback during clinical encounters and in summative reviews. A coaching approach for feedback offers many advantages over traditional advising and mentoring and has been used successfully for adult learners in a variety of settings.[1] Coaching has been applied in GME, however it has rarely been linked to EPAs. This project leverages Coaching in the Moment (CiM) to support one-time coaching conversations for individual EPA assessments, as well as Coaching Over Time (CoT) to address the longitudinal progression of the learner based on the volume of EPA data. Our goal is to develop and evaluate coaching methodologies within an EPA-focused program.

Methods

EPAs as a workplace-based assessment lends itself well to Coaching in the Moment (CiM) to support one-time conversations for individual EPA assessments, as well as Coaching Over Time (CoT), to address the longitudinal progression of the learner based on the volume of EPA data.[2] This program leverages our previously validated and published EPA training and assessment tools[3] and our consortium of pathology residency programs who use EPAs in their assessment portfolio. Training in coaching conversations have been incorporated into current faculty and resident development materials. Quick-reference trifolds are provided (picture to right;).

Coaching follows the R2C2 model (adapted from Lockyer[4]):

1) Establish Rapport
2) Reflection
3) Confirm Content
4) Co-Create a Plan

An online EPA coaching toolkit with modifiable resources is in development and will be publicly available for other specialties to adapt to their practice setting.

To measure the satisfaction with and effectiveness of coaching training among faculty and compare the impact of coaching on EPA feedback, participating programs will receive pre- and post-surveys. Survey questions are adapted from a previously validated metric used in a medical school coaching program[5] and the previous EPA survey tools.[3] This study will run from January-September 2025.

Usage Data

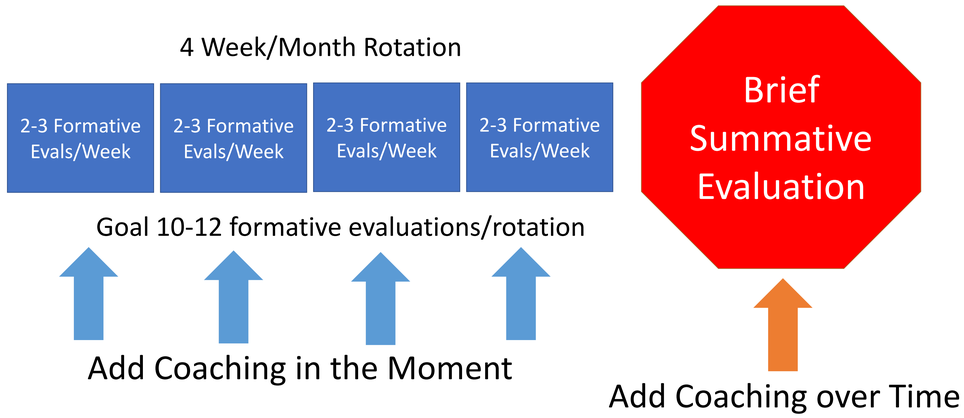
On-Demand Faculty Development Usage:

EPA	Trainings completed
Autopsy	20
Frozen	19
Peripheral Smear	11
Transfusion Reaction	10
Total certificates:	32, across 3 institutions

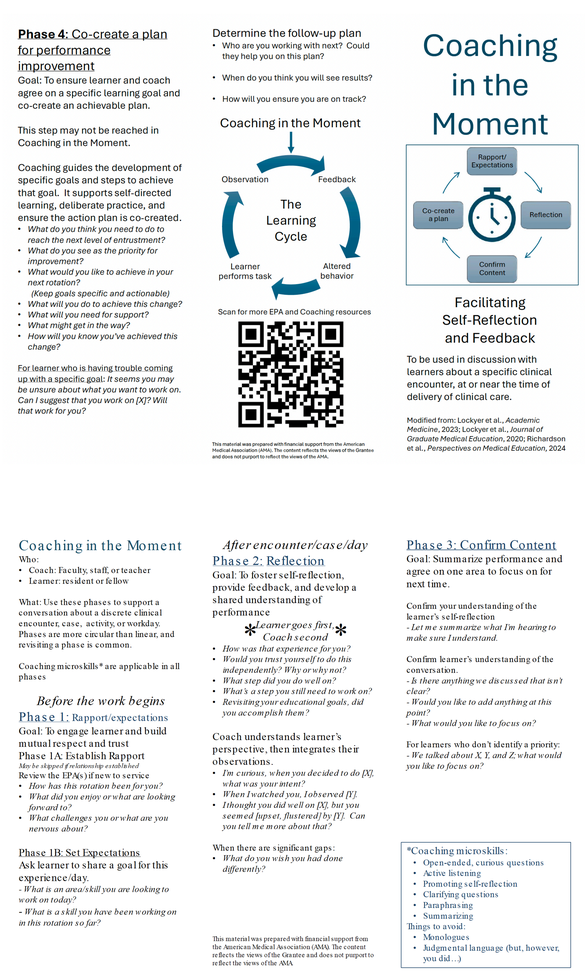
Coaching Resources Usage:

Trifold	Downloads
Coaching in the Moment	102
Coaching over Time	90
	* Includes 40 copies printed

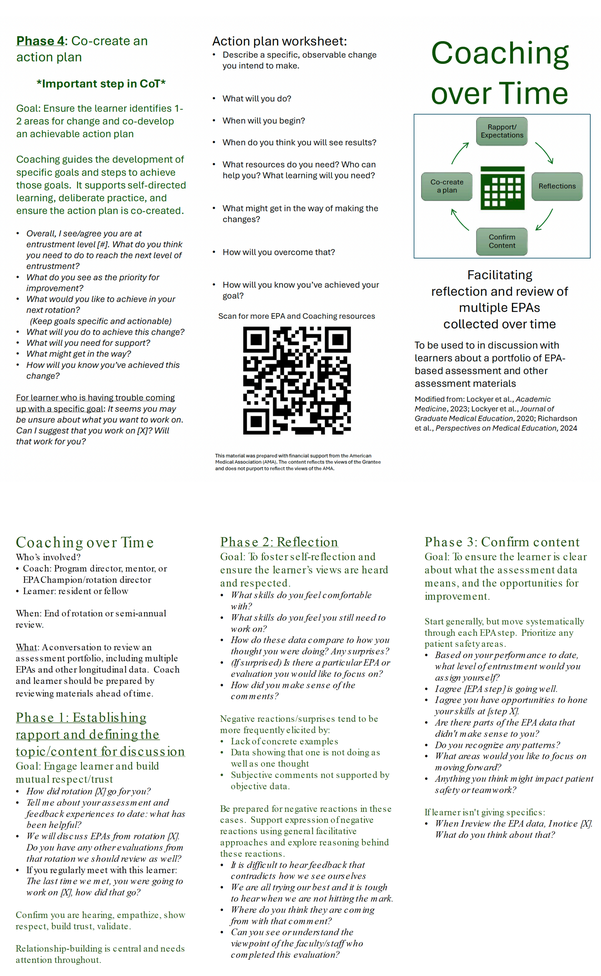
How we use EPAs in Pathology Residency Training:



Coaching in the Moment Trifold

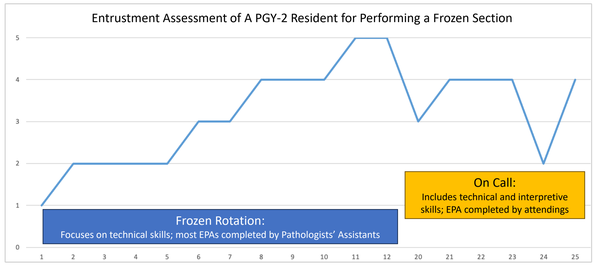


Coaching over Time Trifold



Coaching over Time Examples:

Example #1: Ahead of the semi-annual clinical competency committee review, the EPA report is downloaded. If there are >2 formative EPAs (usually 10+), the entrustment rating is graphed over time. The Rotation Director for the Frozen Rotation sets up a meeting to discuss the graph with the resident. They set a goal for the next 6 months focusing on how to reach the next entrustment level.



Example #2: Coaching is built into the individualized learning plan that the residents prepare for their semi-annual evaluation. At the time of the semi-annual evaluation, they go over their self-assessment and plan with the advisor and sign off on the plan together.

- The ILP includes:
  - Self-reflections
  - Review of assessment data (EPAs included)
  - Goal Setting and Action Plan

Next Steps

While the proposed effort is specific to pathology, we have and will continue to adapt all tools with a modular and modifiable framework in mind that can be adapted to additional EPAs in Pathology as well as to EPA implementation in other specialties. We will continue to expand the use of EPAs in pathology through presentations at national meetings, expanding the online assessment platform, and expanding the menu of EPA-tasks available. Tools above will be shared as possible with the American Board of Pathology and via ongoing ACGME and American Board of Medical Specialties co-sponsored GME-wide Competency Based Medical Education Symposia. The eventual goal is to conduct a multi-institutional validation study of EPAs in Pathology to support competency-based assessment in pathology residency.

References

1. Wolff M, Hammoud M, Santen S, Deiorio N, Fix M. Coaching in undergraduate medical education: a national survey. *Med Educ Online*. 2020;25(1):1699765. doi:10.1080/10872981.2019.1699765
2. Landreville J, Cheung W, Frank J, Richardson D. A definition for coaching in medical education. *Can Med Educ J*. 2019;10(4):e109-e110.
3. Bryant BH, Anderson SR, Brissette M, et al. National pilot of entrustable professional activities in pathology residency training. *Academic Pathology*. 2024;11(2):100110. doi:10.1016/j.acpath.2024.100110
4. Lockyer J, Armson H, Könings KD, Lee-Krueger RCW, des Ordons AR, Ramani S, Trier J, Zetkulic MG, Sargeant J. In-the-Moment Feedback and Coaching: Improving R2C2 for a New Context. J Grad Med Educ. 2020 Feb;12(1):27-
5. Carney PA, Bonura EM, Kraakevik JA, Juve AM, Kahl LE, Deiorio NM. Measuring Coaching in Undergraduate Medical Education: the Development and Psychometric Validation of New Instruments. *J Gen Intern Med*. 2019;34(5):677-683. doi:10.1007/s11606-019-04888-w

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Exploring Attendance as a Professionalism Indicator in Medical Education

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INTRODUCTION

- **Professionalism is 1 of 6 core competencies** in undergraduate medical education[1].
- **Historically, attendance has been viewed as a proxy for professionalism[2]**, yet non-mandatory pre-clinical attendance policies and student utilization of third-party resources result in greater flexibility for students to decide when and where they learn[3].
- **39%** of 2024 second-year medical students reported **"Almost never"** or **"Occasionally"** attending in-person pre-clerkship courses[4].
- Many studies have investigated trends between in-person pre-clinical attendance and academic performance, **with mixed results[5,6].**
- However, the impact of pre-clinical attendance behaviors on professionalism outcomes remains underexplored.

STUDY AIMS

This study explores whether pre-clinical attendance patterns are associated with later professionalism measures to clarify whether regular, in-person participation early in medical education supports professional identity development.

METHODS

Literature Review
Medical Student Professionalism Evaluation & Attendance Trends in Pre-Clinical Medical Education

Data Collection
Medical student attendance and professionalism measures were deidentified and collected for **370 students** across three classes.

Attendance Measures
- **Daily, Non-Mandatory** Pre-Clinical Class Attendance
- Attendance at **Required** Pre-Clinical Curricular Events

Professionalism Measures
- Professionalism Evaluation in Clerkship
- Clerkship Clinical Skills Exam (CSE) Professionalism Score

Subject Inclusion
Students with incomplete data, for reasons such as a leave of absence or joining a later class (n=10), were excluded from data analysis.

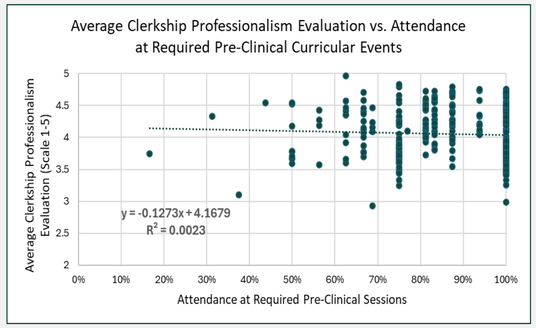
Data Analysis
T-tests & Linear Regression

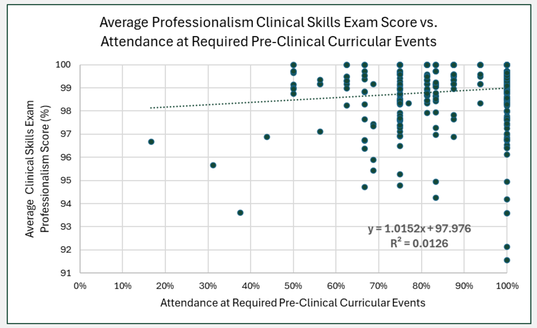
RESULTS

Attendance Rate at Pre-Clinical Required Events	Number of Students (n=360)	Average Professionalism Clerkship Evaluation (Scale 1-5)	Average Clerkship Clinical Skills Exam Professionalism Score (%)
0-20% of required events	1 (0.3%)	3.74	96.67
20-40% of required events	2 (0.6%)	3.71	**94.63[b,c,d]**
40-60% of required events	14 (3.9%)	4.03	**99.04[b]**
60-80% of required events	86 (23.9%)	**3.98[a]**	**98.60[c,e]**
80-100% of required events	257 (71.4%)	**4.09[a]**	**98.98[d,e]**

Significant Group Differences (a-e):
a: p = 0.03 b: p = 0.00004 c: p = 0.00007 d: p = 0.00007 e: p = 0.02

- Students attending 80-100% of required events scored **significantly higher** than those attending 60-80% of required events in **both clerkship professionalism evaluation (p=0.03) and CSE professionalism scores (p=0.02).**
- Students attending 60-80% AND students attending 40-60% of required events scored **significantly higher** than those attending 20-40% of required events in **CSE professionalism scores**.

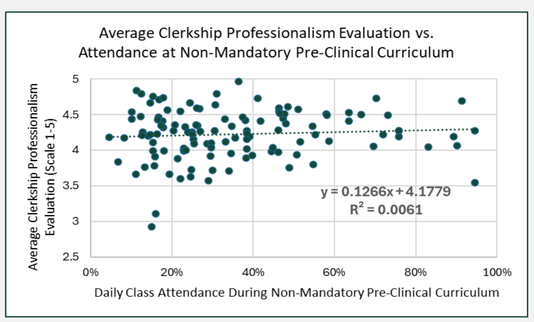


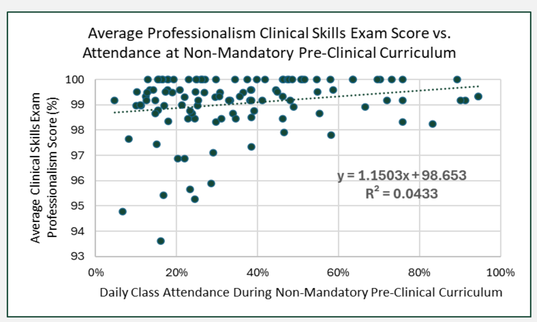


Daily Attendance Rate at Non-Mandatory Pre-Clinical Curriculum	Number of Students (n=123)	Average Professionalism Clerkship Evaluation (Scale 1-5)	Average Clerkship Clinical Skills Exam Professionalism Score (%)
0-20% of classes	34 (27.6%)	4.20	98.88
20-40% of classes	49 (39.8%)	4.18	**98.87[a]**
40-60% of classes	23 (18.7%)	4.30	**99.46[a]**
60-80% of classes	11 (8.9%)	4.37	99.56
80-100% of classes	6 (4.9%)	4.13	99.21

Significant Group Differences (a):
a: p = 0.03

- There is a large distribution of daily attendance patterns at **non-mandatory** curricular activities.
- Students who attended 40-60% of daily, non-mandatory class scored **significantly higher in CSE professionalism scores** than those who attended 20-40% of class.
- Other attendance group comparisons did not meet statistical significance.





DISCUSSION

- In general, higher attendance at **required** curricular activities **was associated with improved professionalism scores** evaluated in this study.
- There was a weak positive trend between attendance at daily, non-mandatory curriculum and improved professionalism outcomes.
- In the setting of a non-mandatory attendance policy, attendance at **required** events seems to be a more sensitive indicator of later professionalism performance.
- The utility of optional, in-class attendance as a professionalism indicator **within non-mandatory attendance policies** is complex, as student reasoning for attending or not attending class during the pre-clinical curriculum is **multifactorial**.
- While statistically significant results represent consistent differences between attendance groups, the magnitude of change may not be **academically meaningful.**

LIMITATIONS

- Professionalism is a subjective concept not wholly encompassed by a single metric. Only two formal measures of professionalism were evaluated in this study.
- This study investigated outcomes from a single institution, representing a single institutional culture and evaluation methodology, limiting generalizability.

FUTURE DIRECTIONS

- Investigate further professionalism measures, such as **1) professionalism accolades** or **lapses** as reported by peers and faculty, **2) exam delays,** and **3) excused absences.**
- Explore a **% threshold for absences** at required events that may identify students who need additional support.

REFERENCES

1. Association of American Medical Colleges, American Association of Colleges of Osteopathic Medicine, & Accreditation Council for Graduate Medical Education. (2024). *Foundational competencies for undergraduate medical education*. AAMC/AACOM/ACGME.
2. Zazulia, A. R., & Goldhoff, P. (2014). Faculty and medical student attitudes about preclinical classroom attendance. *Teaching and learning in medicine*, *26*(4), 327–334. https://doi.org/10.1080/10401334.2014.945028
3. Bockus, C., Truong, G., Bartholomew, K. S., Sarandos, S. L., Binney, K., & Catalanotti, J. S. (2025). Declining medical student attendance: a single institution thematic analysis of reasons students do not attend a preclinical public health course. *Medical education online*, *30*(1), 2587387. https://doi.org/10.1080/10872981.2025.2587387
4. Association of American Medical Colleges. (2026, January 7). *2024 Year Two Questionnaire (Y2Q) All Schools Summary Report*. https://www.aamc.org/data-reports/students-residents/report/year-two-questionnaire-y2q
5. Eisen, D. B., Schupp, C. W., Isseroff, R. R., Ibrahimi, O. A., Ledo, L., & Armstrong, A. W. (2015). Does class attendance matter? Results from a second-year medical school dermatology cohort study. *International journal of dermatology*, *54*(7), 807–816. https://doi.org/10.1111/ijd.12816
6. Nagappan, P. G., Tan, S. R. X., Absar, S., Brown, S., Sayers, S., McManus, A., Arora, A., Kuhn, I., Khan, F., Lau, E., & Tulinius, C. (2025). Changes in medical student attendance at in-person teaching sessions: a systematic review. *BMJ open*, *15*(5), e091768. https://doi.org/10.1136/bmjopen-2024-091768

Transfers & Interfacility Transports (IFTs):

Implementing and Assessing a Novel GME Curriculum

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Larner College of Medicine

University of Vermont Health

Background

- National trends in rural health care demonstrate increasing need and occurrence of transfers to tertiary care centers.
- The Emergency Treatment and Active Labor Act (EMTALA) of 1986 defines the legal requirements for screening, stabilizing, and transferring patients between healthcare settings. There are many misconceptions and differences in practice that can expose providers and institutions to legal actions and large monetary fines, as well as delays to patient care with poor outcomes.
- There is a distinct lack of standardized education regarding this in EM textbooks and Residency Programs. We conducted a literature search which uncovered only one established curriculum.
- In 2025 the Accreditation Council for Graduate Medical Education (ACGME) established a new core requirement (4.11.f.11.) for EM Residency Programs must receive structured experience in "transfers and transitions of care … including appropriate application of Emergency Medical Treatment and Labor Act (EMTALA) principles."

Local Context

- The University of Vermont Health System is comprised of
  - 6 hospitals between Vermont and New York
  - Over 1,400 licensed inpatient beds
  - Around 181,600 ED visits in 2024.
- The Care Coordination System (CCS) at UVM serves patients spread over
  - 40,000 square miles
  - More than 20 hospitals and 25 EMS agencies
  - Servicing a population of nearly 1,000,000 people.
- The longest ground transport distance between one rural hospital and the tertiary care center is over 108 miles, up to 2.5 hours driving time.
- Efficient patient transfers are fundamental to Emergency Medicine (EM), especially throughout a growing, rural, multi-state network.

Acknowledgements

Research Supported by Frymoyer Scholar Program

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Objectives

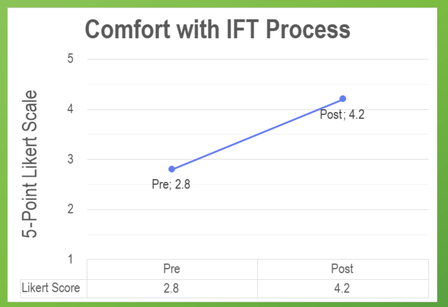
- Improve patient care with increased knowledge of transfer and EMS capabilities
- Enhance network-wide speed and accuracy of transports and EMTALA compliance
- Apply knowledge through high-fidelity simulations of complicated transfer scenarios
- Expand degree of comfort around IFT processes and EMTALA obligations

Methods

- Our project is an iterative process over two academic years:
  - The didactic portion of the IFT Curriculum was integrated into the existing conferences of the UVM EM residency program in Fall 2025
  - Dedicated lectures were conducted as part of the EM Residency Didactic series, covering EMTALA, Transfer Centers, and EMS Considerations
- Our team also developed simulation sessions consisting of four transfer scenarios to challenge our EM Residents and expose them to complicated cases requiring creative solutions
  - Stable NSTEMI that becomes unstable as transport arrives and is no longer appropriate for transport method or to remain at sending ED
  - Laboring mother at sending ED without OB or birthing coverage
  - EMS utilizing hospital property for helicopter EMS landing zone (HEMS LZ), but the patient decompensates on hospital property
  - Critically ill patient in rural setting with cultural restrictions regarding care and transport
- A Likert scale was used to assess confidence and comfort before and after the didactic sessions and simulated experiences
- A guided focus group was conducted following the completed didactic sessions

Survey Results and Focus Group Feedback

		Comfort Pre		Comfort Post		Post - Pre		
	N	Mean (SD)	Median (IQ range)	Mean (SD)	Median (IQ range)	Mean (SD)	Median (IQ range)	Paired t-test p-value
All	14	2.9 (1.1)	3 (2-4)	4.1 (0.7)	4 (4-5)	1.2 (1.1)	1 (0-2)	0.001
Attendings	3	4.0 (0.0)	4 (4-4)	4.7 (0.6)	5 (4-5)	0.7 (0.6)	1 (0-1)	0.18
Residents	11	2.6 (1.0)	2 (2-4)	4.0 (0.6)	4 (4-4)	1.4 (1.1)	1 (0-2)	0.002



- **Critical Need and Relevance**
  - Participants emphasized that interfacility transfer education addresses a significant gap in their training. Many residents plan to work in critical access hospitals where transfers are a central part of practice, and they felt they would be "massively underprepared" without this curriculum.
- **Simulation Effectiveness**
  - The simulation sessions were highly valued for making the curriculum "real." Participants appreciated experiencing the time pressure of making phone calls while managing a crashing patient, and the realistic branching scenarios (like patients refusing helicopter transport) effectively highlighted the multitasking and decision-making challenges.

Focus Group Statements

- "…We want to work in critical access hospitals, and this is, like, a huge crux that I feel like we'd be massively underprepared for without this curriculum"
- "I think as a learner, it was a really good foundation. It also proved a lot of what I didn't know."
- "…You're going through the motions of calling the transfer center and making these things happen, but I didn't necessarily understand all the nuances. Like, I did not even know that we were responsible for the patient until they got to the next facility"
- "I need 10 more lectures like that"
- "..The sims were very, very helpful"
- "I hope we do more Sims"

Limitations

- Statistically significant study with small sample size (n = 14)
- Subjective assessment of comfort using Likert scale
- No control group for comparison
- Increased comfort in newly learned skills may not belong lasting
- Curriculum may not be transferable to other healthcare systems or specialties

Next Steps

- A third, remote survey should be conducted to assess retention of comfort and learned skills
- Additional specialties that frequently initiate or receive transfer patients should be assessed for comfort and considered for enrollment in the curriculum
- The efficacy of the simulations should be assessed with a control group, prior to their enrollment in the curriculum

References

Microsoft PowerPoint - UVMHN VT Legislature PPT - 2.6.25_SHW.pptx (UVM service area metrics)

Overview of the Emergency Medical Treatment and Active Labor Act (EMTALA) and Emergency Abortion Services | Congress.gov | Library of Congress

110_EmergencyMedicine_RC_02122025 (ACGME mandate)

IMPROVING INTERNAL MEDICINE RESIDENT CONFIDENCE IN DIAGNOSING AND TREATING ANXIETY

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UVMHealth.org/MedCenter

BACKGROUND

- Anxiety disorders represent some of the most common mental health conditions in the United States, affecting over 20% of primary care patients and 34% of adults during their lifetime
- Many primary care physicians report limited confidence in accurately diagnosing and managing these disorders
- This lack of confidence can contribute to suboptimal treatments with questionable efficacy and safety profiles
- Benzodiazepines, remain among the most widely prescribed anxiolytics globally, even as evidence mounts regarding their high risks and limited effectiveness
- Addressing the educational gaps around diagnosing and managing anxiety disorders is essential for improving patient outcomes and ensuring comprehensive care

OBJECTIVES

- This study aims to assess the impact of an intensive educational intervention on internal medicine residents' confidence in diagnosing and treating anxiety disorders
- The study aims to assess if an intensive educational intervention can change anxiolytic prescribing practices among participating internal medicine residents

METHODS

- Internal medicine residents participated in a structured educational intervention designed and co-taught by an interdisciplinary team from the departments of medicine and psychiatry
- The educational intervention consisted of two separate sessions involving didacts and interactive case-based discussions using evidence-based guidelines for anxiety disorder management
- The educational sessions took place in the Burlington Adult Primary Care outpatient clinic over the course of two months
- 36 internal medicine residents attended at least one educational session.
- Confidence in diagnosis and management of anxiety disorders was measured before and after the intervention on 5-point Likert scales
- Quality measures were obtained using chart review of patients prescribed benzodiazepines

RESULTS

Highlights from session 1:

- 97.1% felt the topic was appropriate for their needs
- 97.1% had a favorable impression of the program
- 96.7% said it will have an impact on patient care

Highlights from session 2:

- 100% felt the topic was appropriate for their needs
- 100% had a favorable impression of the program
- 100% said it will have an impact on patient care

Highlights post-intervention

- 28 internal medicine residents completed both initial and follow-up confidence surveys obtained 3 months following the intervention
- No significant changes were seen in quality measures surrounding benzodiazepine prescribing

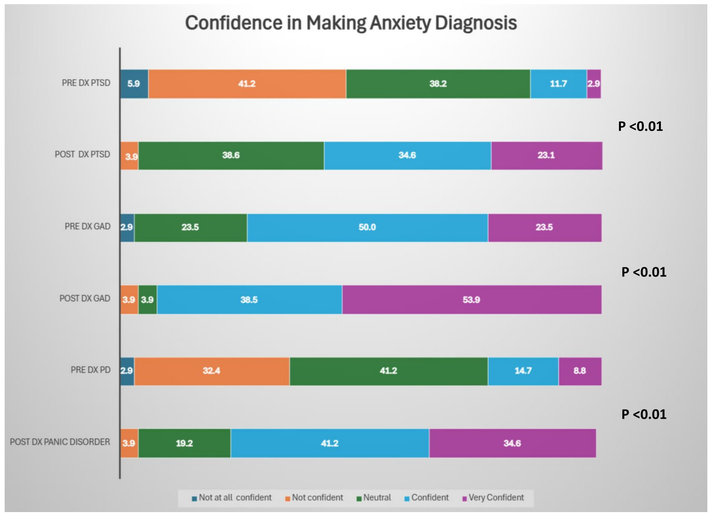


Figure 1: Changes in Confidence in Making Anxiety Disorder Diagnoses
Pre- and post-intervention confidence in diagnosing anxiety disorders among 28 internal medicine residents. Residents demonstrated significant improvements in confidence for diagnosing generalized anxiety disorder (GAD), post-traumatic stress disorder (PTSD), and panic disorder (PD) following the intervention. P values were generated from a Wilcoxon rank sum analysis.

REFERENCES

1. Bostwick JB, Casher MI, Yasugi S. Benzodiazepines a versatile clinical tool. Current Psychiatry. 2012;11:55-63.
2. Casini, F., Sighinolfi, C., Tedesco, P. et al. Primary care Physicians' perspective on the management of anxiety and depressive disorders: a cross-sectional survey in Emilia Romagna Region. BMC Fam Pract 14, 75 (2013). https://doi.org/10.1186/1471-2296-14-75
3. Coventry, P. A., Meader, N., Melton, H., Temple, M., Dale, H., Wright, K., ... & Gilbody, S. (2020). Psychological and pharmacological interventions for posttraumatic stress disorder and comorbid mental health problems following complex traumatic events: Systematic review and component network meta-analysis. PLoS medicine, 17(8), e1003262.
4. Donovan LM, Malte CA, Spece LJ, Griffith MF, Feemster LC, Engelberg RA, Au DH, Hawkins EJ. Risks of Benzodiazepines in Chronic Obstructive Pulmonary Disease with Comorbid Posttraumatic Stress Disorder. Ann Am Thorac Soc. 2019 Jan;16(1):82-90. doi: 10.1513/AnnalsATS.201802-145OC. PMID: 30309243; PMCID: PMC6344455.
5. Guina, J., & Merrill, B. (2018). Benzodiazepines I: upping the care on downers: the evidence of risks, benefits and alternatives. Journal of clinical medicine, 7(2), 17.
6. Kroenke K, Spitzer RL, Williams JBW, et al. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. Ann Intern Med. 2007;146:317-325.
7. Skapinakis, P., Caldwell, D. M., Hollingworth, W., Bryden, P., Fineberg, N. A., Salkovskis, P., ... & Lewis, G. (2016). Pharmacological and psychotherapeutic interventions for management of obsessive-compulsive disorder in adults: a systematic review and network meta-analysis. The Lancet Psychiatry, 3(8), 730-739.

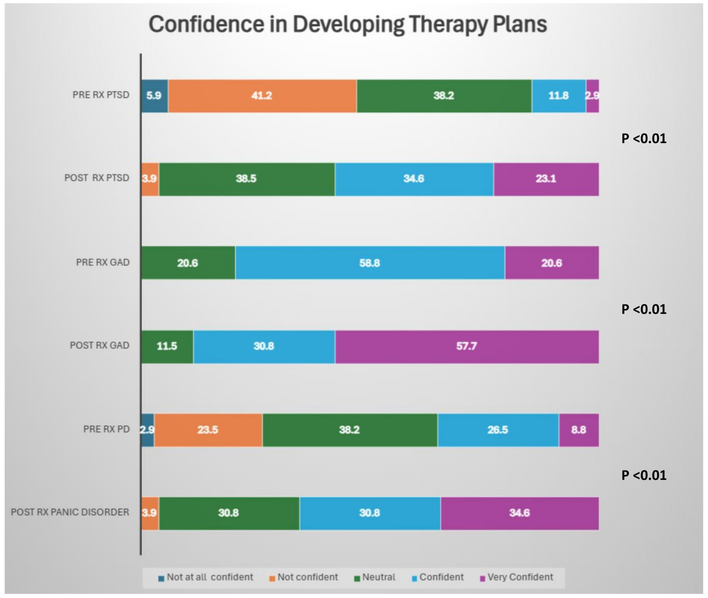


Figure 2: Changes in Confidence in Anxiety Disorder Management
Pre- and post-intervention confidence in treating anxiety disorders among 28 internal medicine residents. Residents demonstrated significant improvements in confidence for developing therapy plans for generalized anxiety disorder (GAD), post-traumatic stress disorder (PTSD), and panic disorder (PD) following the intervention. P values were generated from a Wilcoxon rank sum analysis.

CONCLUSIONS

- Targeted educational intervention on anxiety disorder diagnosis and management significantly enhanced internal medicine residents' confidence in identifying and treating these conditions
- Improvement in confidence was sustained over 3 months following the intervention, suggesting lasting benefits
- Residents reported that the educational sessions positively influenced their clinical practices, suggesting that similar interventions could be effective for other critical practice topics
- No observed change in benzodiazepine prescribing practices among residents, despite increased confidence
- The lack of change in prescribing practices may be due to the absence of personal chart review or audit assignment in the intervention
- Other patient-specific barriers may have persisted, limiting changes in prescription behavior during the chart review period
- Future studies should incorporate active chart audits and reporting to further support changes in benzodiazepine prescribing practices

Barriers to Medical Student Engagement with Professionalism Accolade Processes

Lindsey Gleason[1], Cassandra Chin[1], Nathalie Feldman MD[1], Elizabeth Hunt MD[1]

[1]University of Vermont Larner College of Medicine

Background

- The Larner College of Medicine (LCOM) Learning Environment and Professionalism (LEAP) Committee has created a platform allowing students to recognize professionalism role models.
- **Recognition of professionalism role models validates medical student contributions to the workplace, fostering a sense of belonging and mattering,** two vital components of professional identity formation.
- Prior qualitative studies of **accolade submission at LCOM revealed a positive impact on both the recipient and the reporter.**
- Despite known positive impacts of accolade reporting, the number of reports from medical students remains relatively low.

Project Intention

- **Identify barriers to student submission of professionalism accolades in LCOM's existing Learning Environment Reporting System**
- Implement changes that promote engagement with the online reporting platform

Methods

- Mixed methods approach using both quantitative and qualitative survey data (REDCap) disseminated to all medical students at LCOM
- Survey consisting of 11 questions, estimated ~5 minutes for completion.

How are accolades reported?

Professionalism accolades at UVM LCOM are confidentially submitted and collected year-round from end of course evaluations or through an online reporting tool using this QR code:

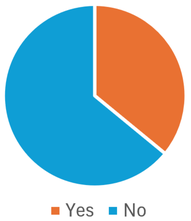
PW: climate1802

Results

Highlights:
- Total **89 respondents** with equal representation across classes
- Only **36% of respondents had previously submitted an accolade**
- **80%** of respondents had **never received an accolade**
- **58%** of respondents **unaware that recipients of accolades are notified**
- **76%** of respondents **unaware that direct supervisors are notified** about accolade recipients

Familiarity with the Submission Process		
Not at all Familiar	10	11%
Somewhat Familiar	36	40%
Very Familiar	43	48%

Have you ever submitted a professionalism accolade?



Have you ever received a professionalism accolade?

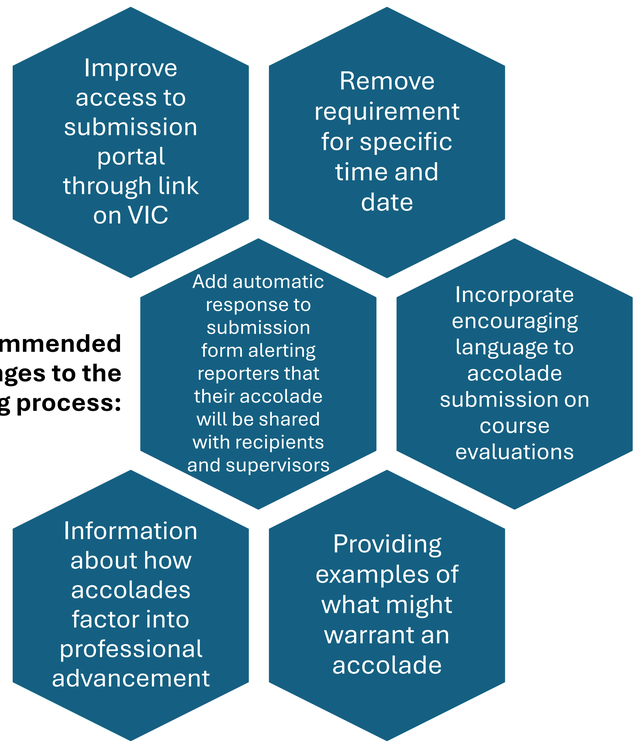
If yes, **can you share any experiences (positive or negative) related to giving a professionalism accolades?**

"Enjoyed submitting an accolade, but wish there had been some follow up down the road (did the recipient ever find out an accolade was submitted?)"

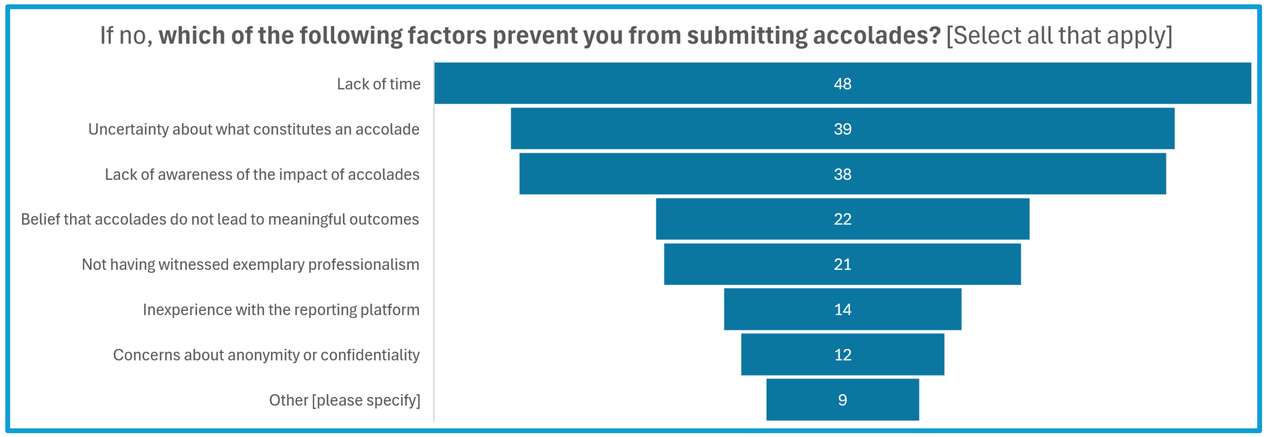
"I am not sure what happened after the accolade was submitted so I did not appreciate any impact. "

"It is nice to acknowledge someone for their excellence and contributions to our learning community. "

Recommended changes to the reporting process:



If no, **which of the following factors prevent you from submitting accolades?** [Select all that apply]



Discussion

- Discrepancy between familiarity with submission process and experience with having submitted an accolade suggests that awareness alone is insufficient to drive engagement.
- **Time, uncertainty about what constitutes an accolade, and lack of awareness about the impacts of accolades are major barriers to student submissions.**
- Information sharing about the impact of accolades both to the recipient and to direct supervisors may improve student utilization of the platform.
- Respondents and recipients alike appreciated the sense of recognition and belonging, supporting previous studies.

Future Directions

Increase awareness and visibility:
- Integrate reminders into existing platforms (VIC portal, weekly wire, PCR meetings)
- Provide brief presentations during pre-clerkship sessions

Provide clear guidance and examples:
- Define what constitutes "exemplary" professionalism, share example accolades
- Clarify how submissions impact recipients' professional advancement

Changes to the platform:
- Remove specific date/time requirement to allow for recognition of sustained excellence over time.
- Change "Have you accessed the link?" to "Would you like to submit a professionalism accolade for any of the individuals you just reviewed?" on clerkship evaluation forms to encourage greater engagement

Prospective data gathering:
- Track number of accolades submitted by students before and after implemented changes to assess impact

References

1. Quaintance JL, Ngo TL, Wenrich MD, Hatem D, Keeley MG, Lewis JM, Mavis BE, Olivares SL, Shochet RB, Sardesai MG. Competence, mattering and belonging: An evidence-based and practical approach to understanding and fostering medical student professional identity formation. Med Teach. 2025 May 6:1-12.
2. Sarraf-Yazdi S, Goh S, Krishna L. Conceptualizing Professional Identity Formation in Medicine. Acad Med. 2024 Mar 1;99(3):343.
3. Sullivan E, Thampy H, Gay S. Raising professionalism concerns as a medical student: damned if they do, damned if they don't? BMC Med Educ. 2024 Feb 29;24(1):208.
4. Moore L, Loganathan M, Holterman LA, Feldman N. Assessing the Impact on Medical Students of Identifying and Recognizing Faculty Exemplars of Professionalism.

A Structured, Station-Based Curriculum to Improve Surgical Resident Proficiency in Central Venous Catheter Placement

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University of Vermont
Larner College of Medicine

INTRODUCTION

Surgical education has traditionally relied on an **apprenticeship model**.

Procedural learning requires **balancing stress, autonomy, and opportunity for safe failure**.

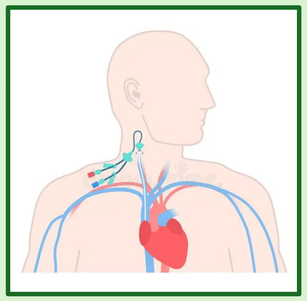
OBJECTIVES

To enhance **resident comfort** and **competence** with **central line insertion** through:

- a **station-based simulation session**
- deliberate technical practice and **applied motor learning principles**

To create a **feasible, reproducible workshop**

To evaluate **resident perceptions of central line insertion training**



METHODS

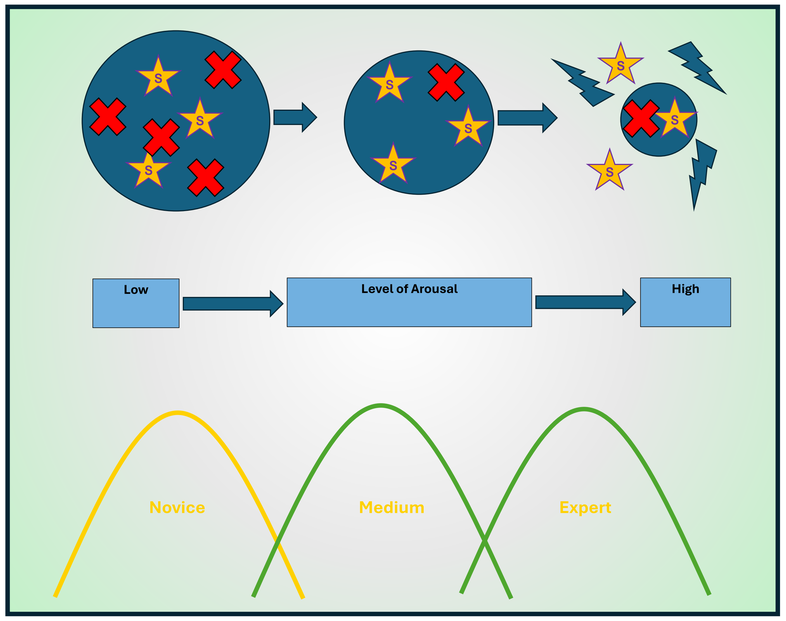
- **Workshop development**
  - Didactic, simulation, and debrief
- **Post-session survey**
- **Analysis** with descriptive statistics and thematic coding

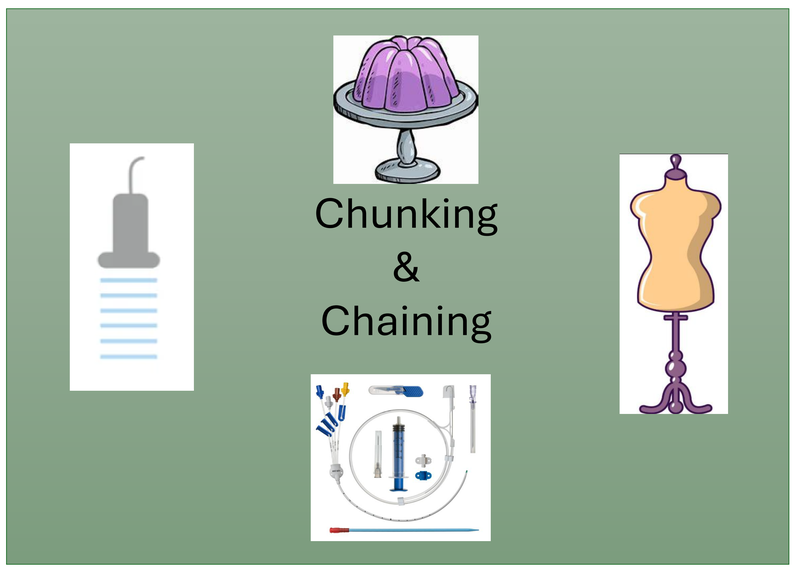
DISCUSSION

- Guided procedural practice early in surgical residency may help **address educational variability** inherent to apprenticeship-based training.
- Divided into **discrete stations**, this workshop operationalized **motor learning principles to reduce cognitive load**.
- Session **participants endorsed achievement of learning objectives, confidence in performance of skills, and takeaway of tips and pearls.**
- Limitations: small sample size, single-institution design, and reliance on self-reported outcomes.

FUTURE DIRECTIONS

- Emphasis on **deliberate practice** of procedural steps and opportunities to reinforce and **assess long-term skill retention.**
- Building off this template for **additional procedural teaching sessions.**





RESULTS

What worked well in this workshop?	
Theme	Quotes
Hands-on practice	• "I have very limited procedure skills so just getting used to all the hands-on equipment is good and was very helpful." • "Rotating stations with majority of time hands on. Fun! Interactive!"
Station-based format	• "Having multiple stations so we have more time with each, and it's less congested." • "Breaking down central line techniques into chunks → focusing on smaller elements at one time."
Ultrasound skill development	• "I think it was very helpful to practice ultrasound on each other rather than the mannequin."
Organization and engagement	• "Very well organized, efficient, didn't waste time getting started or between stations." • "Funny and engaging, makes brief lecture much less painful."

100% of respondents agreed or strongly agreed that the workshop was **organized**, an appropriate use of **time**, had knowledgeable facilitators, and was **interactive**.

What "tip" or "pearl," if any, did you glean from this workshop?	
Theme	Quotes
Subclavian access techniques	• "Blind subclavian insertion, poking clavicle and then pushing needle under to get to SC." • "For the SC, I liked the technique of following the clavicle."
Ultrasound probe handling	• "Pushing the US probe down to push the carotid aside." • "Hold the US probe vertical to track the needle tip while advancing it."
Needle trajectory and advancement	• "Setup same distance away from probe as depth of target + 45-degree angle." • "When needle enters vessel, 'flatten out' and advance US probe a few cm further to watch needle enter vessel."
Preparation and setup	• "Setup, setup, setup."
Operator positioning and ergonomics	• "Park your hand on patient." • "Hand positioning for subclavian."

References: Practice Guidelines for Central Venous Access 2020: An Updated Report by the American Society of Anesthesiologists Task Force on Central Venous Access. *Anesthesiology*. 2020;132(1):8-43. doi:10.1097/ALN.0000000000002864.; Teja B, Bosch NA, Diep C, et al. Complication Rates of Central Venous Catheters: A Systematic Review and Meta-Analysis. *JAMA Intern Med*. 2024;184(5):474-482. doi:10.1001/jamainternmed.2023.8232.; Kehagias E, Galanakis N, Tsetis D. Central venous catheters: Which, when and how. *Br J Radiol*. 2023;96(1151):20220894. doi:10.1259/bjr.20220894.; Halsted W. "The Training of the Surgeon." *Johns Hopkins Hospital Bulletin*. 1904;15:267–275.; Fenz, W.D., & Jones, G.B. Individual differences in physiologic arousal and performance in sport parachutists. *Psychosomatic Medicine*, 1972, 34, 1-8.; Brown PC, Roediger HL III, McDaniel MA. *Make It Stick: The Science of Successful Learning*. Cambridge, MA: Belknap Press of Harvard University Press; 2014.; Miller GA. The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychol Rev*. 1956;63(2):81-97. doi:10.1037/h0043158.; Hick, W.E. On the rate of gain of information. *Quarterly Journal of Experimental Psychology*, 1952, 4, 11-26.; Brown, I.D. Measuring the "spare mental capacity" of car drivers by a subsidiary auditory task. *Ergonomics*, 1962, 5, 247-250.; Keele, S.W. Movement control in skilled motor performance. *Psychological Bulletin*, 1968, 70, 387-403.; Keele, S.W. Personal communication of ideas based on conversations between S.W. Keele and D. MacKay, 1976.; Craik FI, Lockhart RS. Levels of processing: a framework for memory research. *J Verbal Learn Verbal Behav*. 1972;11(6):671-684. doi:10.1016/S0022-5371(72)80001-X .; Sullivan ME, Sullivan M, Baker C, Talving P, Inaba K. A Cognitive-Task-Analysis Informed Central Venous Catheter Placement Curriculum. *MedEdPORTAL*. 2012;8:9135. doi:10.15766/mep_2374-8265.9135.; Good RJ, Mashburn D, Jekich E, Miller K, Leroue MK. Simulation-Based Training for Ultrasound-Guided Central Venous Catheter Placement in Pediatric Patients. *MedEdPORTAL*. 2022;18:11276. doi:10.15766/mep_2374-8265.11276.; Fralliciardi A, Nowicki T, Herbst M, Flores A. A Simulation-Based Emergency Medicine PGY-1 Resident Orientation Curriculum. *MedEdPORTAL*. 2015;11:10115. doi:10.15766/mep_2374-8265.10115.; Bierer SB, Beck Dallaghan G, Borges NJ, Brondfield S, Fung CC, Huggett KN, Teal CR, Thammasitboon S, Colbert CY. Moving Beyond Simplistic Research Design in Health Professions Education: What a One-Group Pretest-Posttest Design Will Not Prove. *MedEdPORTAL*. 2025;21:11527. https://doi.org/10.15766/mep_2374-8265.11527.; Sullivan GM, Artino AR Jr. Analyzing and interpreting data from Likert-type scales. *J Grad Med Educ*. 2013;5(4):541–542. doi:10.4300/JGME-5-4-18.; Harris I. Analyzing Qualitative Data. *MedEdPORTAL*. 2006;2(1):227. doi:10.15766/mep_2374-8265.227.; Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101. doi:10.1191/1478088706qp063oa.; Kirkpatrick JD, Kirkpatrick WK. Kirkpatrick's Four Levels of Training Evaluation. 1st ed. Alexandria, VA: *ATD Press*; 2016.

FILLING A GAP IN OBGYN RESIDENT EDUCATION: A PILOT CURRICULUM ON REPRODUCTIVE RHEUMATOLOGY

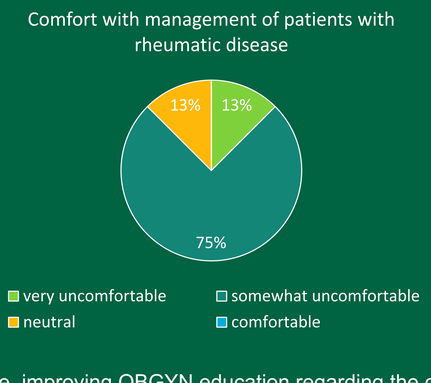
THE University of Vermont MEDICAL CENTER

UVMHealth.org/MedCenter

Sara Heard, DO; Isha Vasudeva, MD; Juvena Hitt, MPH; Jeanne Gosselin, MD

Background

- Rheumatic disease in patients of reproductive age affects contraceptive choices, fertility, and complications during pregnancy.
- According to a needs assessment survey at our institution, 88% of obstetrics and gynecology (OBGYN) residents reported they felt uncomfortable with the management of patients with rheumatic disease.



- Therefore, improving OBGYN education regarding the care of patients with rheumatic disease is an important issue.
- The Council for Resident Education in Obstetrics and Gynecology (CREOG) Core Curriculum lists educational objectives including immune system changes during pregnancy, utilization of contraceptive methods based on medical complexity, and effects of pregnancy and maternal/ fetal outcomes related to autoimmune disorders, but there is no formal curriculum for residents.

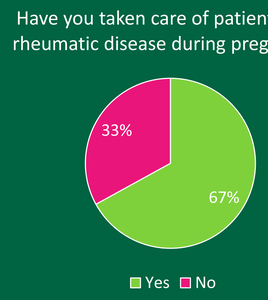
Objectives

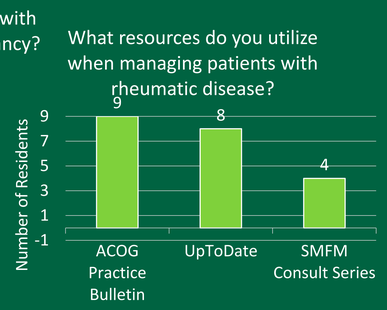
- Understand OBGYN resident access to resources and specialist assistance
- Improve OBGYN resident knowledge regarding management of patients with rheumatic disease during pregnancy

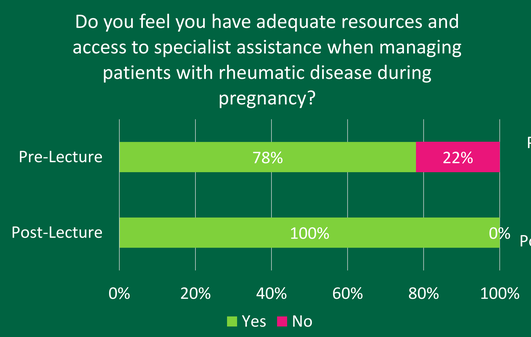
Methods

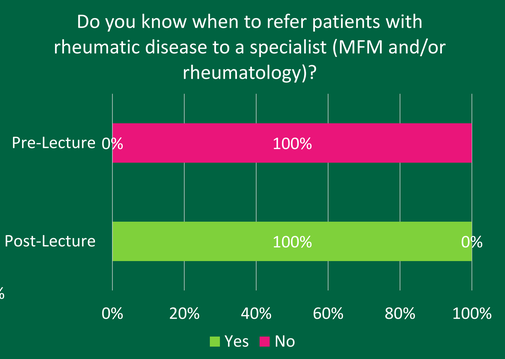
- A REDCap survey was distributed to OBGYN residents and responses were collected anonymously (N=17, 9 pre-lecture, 8 post-lecture).
- OBGYN residents were asked about resources and access to specialist assistance when managing patients with rheumatic disease, if they know when to refer patients to MFM and rheumatology, if they could identify teratogenic medications, and whether they felt they had the knowledge and skillset to manage patients with rheumatic disease during pregnancy.
- OBGYN residents then participated in an interactive pilot lecture about reproductive health in rheumatic disease
- Pre and post lecture survey results were compared using Stata 18 software.

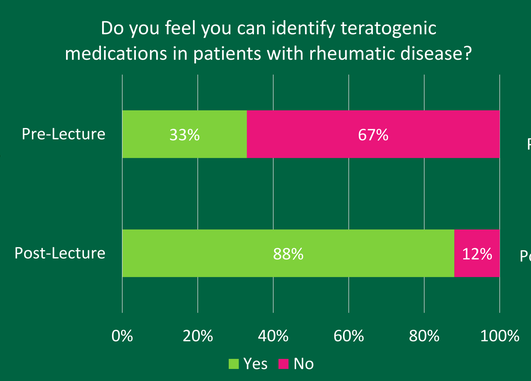
Survey Data

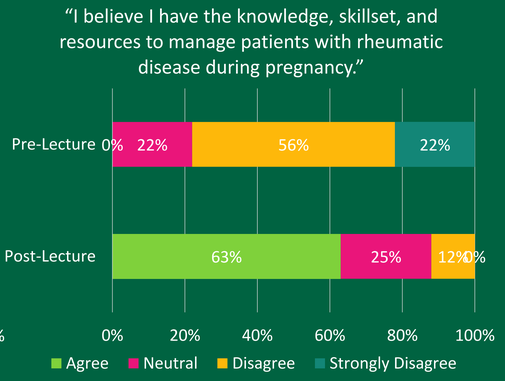












Results

- 67% of OBGYN residents reported they had taken care of patients with rheumatic disease during pregnancy.
- The majority of residents utilize ACOG Practice Bulletin and UpToDate as resources when managing patients with rheumatic disease.
- The percentage of residents who felt they have adequate resources and access to specialist assistance when managing patients with rheumatic disease during pregnancy increased from 78% pre-lecture to 100% post-lecture.
- The percentage of residents who knew when to refer patients with rheumatic disease to MFM and/or rheumatology increased from 0% to 100%, and those who could identify teratogenic medications increased from 33% to 88%.
- Post-intervention data showed an overall increase in percentage of OBGYN residents who feel they have the knowledge, skillset, and resources to manage patients with rheumatic disease during pregnancy, from 0% to 63%.

Conclusions

- We implemented an effective educational intervention that improved OBGYN resident knowledge regarding when to refer patients to rheumatology, with post-intervention data showing a 100% increase from baseline.
- The intervention also increased the percentage of residents who felt they could identify teratogenic medications and felt they had the knowledge, skillset, and resources to manage patients with rheumatic disease during pregnancy.

Next Steps

- Establish a longitudinal reproductive rheumatology curriculum for OBGYN residents at UVMMC

References

1. "EDUCATIONAL OBJECTIVES: Core Curriculum in Obstetrics and Gynecology." Council on Resident Education in Obstetrics and Gynecology. 13th edition.
2. Sammaritano LR, Bermas BL, Chakravarty EE, Chambers C, Clowse MEB, Lockshin MD, Marder W, Guyatt G, Branch DW, Buyon J, Christopher-Stine L, Crow-Hercher R, Cush J, Druzin M, Kavanaugh A, Laskin CA, Plante L, Salmon J, Simard J, Somers EC, Steen V, Tedeschi SK, Vinet E, White CW, Yazdany J, Barbhaiya M, Bettendorf B, Eudy A, Jayatilleke A, Shah AA, Sullivan N, Tarter LL, Birru Talabi M, Turgunbaev M, Turner A, D'Anci KE. 2020 American College of Rheumatology Guideline for the Management of Reproductive Health in Rheumatic and Musculoskeletal Diseases. Arthritis Rheumatol. 2020 Apr;72(4):529-556. doi: 10.1002/art.41191. Epub 2020 Feb 23. PMID: 32090480.
3. Silver R, Craigo S, Porter F, Osmundson SS, Kuller JA, Norton ME. Society for Maternal-Fetal Medicine Consult Series #64: Systemic lupus erythematosus in pregnancy. Am J Obstet Gynecol. 2023 Mar;228(3):B41-B60. doi: 10.1016/j.ajog.2022.09.001. Epub 2022 Sep 6. PMID: 36084704.

Embedding Board-Style Questions into the Pre-Clinical Curriculum to Support Step 1 Readiness

Kristin Karpowicz, MS4[1] and Andrew Hale, MD[1,2]

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University of Vermont
Larner College of Medicine

BACKGROUND

- The transition of USMLE Step 1 to pass/fail grading in 2022 has prompted changes in pre-clinical preparation strategies[1,2]
  - Balance between traditional curriculum and board-specific preparation
- Step 1 failure rates are increasing nationally[1]
- Medical students increasingly rely on commercial question banks (e.g, UWorld, AMBOSS, Osmosis, Bootcamp), yet few studies describe their structured integration into formal curricula[2]
  - Early reports from other institutions show promising student outcomes[3]
- This project aimed to integrate the UWorld question bank into the Cardiology, Respiratory, and Renal (CRR) course for second-year medical students at the Larner College of Medicine (LCOM)
- Provided curated, board-style questions aligned with established course learning objectives

OBJECTIVES

1. Integrate curated UWorld questions into a pre-clinical course
2. Assess feasibility and learner engagement
3. Evaluate perceived impact on Step 1 readiness and course experience

METHODS

- Fifty-four active learning sessions in CRR were reviewed to identify relevant learning objectives
- The UWorld faculty learning platform was used for access to the 3,600 questions within the Step 1 question bank
- Questions were filtered by topic, reviewed for content alignment, and assigned to corresponding sessions
- Individual 5-10 question quizzes were created for each session
- Finalized quizzes were distributed to students via email the weekend prior to each session
- All UWorld quizzes were optional and ungraded
- Student participation and performance metrics were tracked through the UWorld platform
- Student feedback obtained from required CRR course evaluation via Explorance Blue, a feedback analytics platform

RESULTS

Course Evaluation Survey Data

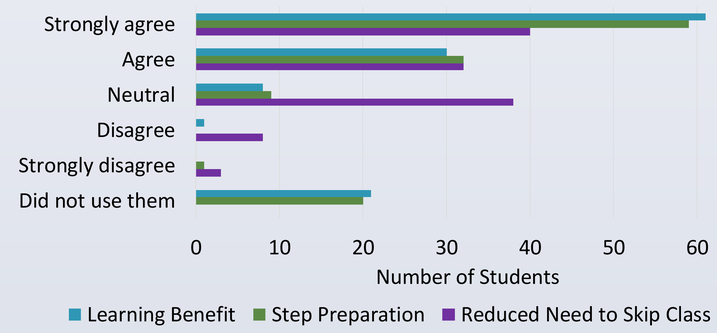
Response rate: 98% (121/124 students)

Survey Items

Learning Benefit
"The matching of the UWorld quizzes to each CRR session was beneficial to my learning."
- Quiz uptake: 82.6% (100/121)
- Mean: 3.73
- Median: 4.51

Step Preparation
"The UWorld quizzes made me feel that CRR was preparing me well for Step 1."
- Mean: 3.73
- Median: 4.45

Reduced Need to Skip Class
"The UWorld quizzes, the in-class sessions with Dr. Hale, and the overall CRR/Step 1 alignment reduced my need to skip class to study for Step 1."
- Mean: 3.81
- Median: 3.86



Selected Qualitative Feedback by Theme

Theme #1: Continued use of UWorld quizzes

> "I found the UWorld quizzes to be one of the most valuable components of the course. I would love to see questions incorporated in all post FoCS sessions, as they were both highly engaging and highly effective learning tools"

Theme #2: Improved alignment between coursework and boards
- "This was a great integration of course work and Step 1 material"

Theme #3: Early Step 1 exposure reduced anxiety
- "Beginning to study for step 1 is daunting, but having questions directly related to what we just learned in class was an easy starting point for me"

Theme #4: Priming by topic limited assessment authenticity
- "I may improve them by combining a few topics into [a single] quiz because sometimes it was obvious what the answer was going to be to the UWorld question just because of what block it was in"

Theme #5: Time constraints limited full participation
- "It was great having the resource, however, due to time allocation struggles, I was not able to use the resource"

DISCUSSION

- Integration of UWorld into CRR was feasible and well-received
- Learning benefit and Step 1 preparation emerged as central reasons for perceived value of UWorld integration
- Students valued early, structured exposure to board-style questions
- Feedback supports refining quiz structure and expanding this model to other courses

Limitations
- Single institution
- Self-reported outcomes
- Variable quiz utilization and unclear reasoning as to why some students did not use the provided quizzes
- No direct Step 1 performance data yet

CONCLUSION

- Board-style question integration can enhance perceived preparation and readiness for Step 1
- Early exposure to board questions supports learner confidence and engagement
- This model is scalable across pre-clinical curricula

Next Steps
- Refine quiz structure in response to student feedback, including combining individual session quizzes
- Determine why students did not use UWorld quizzes
- Compare exam performance (ie. NBME, CRR final, Step 1), timing of initial Step 1 attempt, and rates of Step 1 exam deferral between users and non-users
- Expand integration to other post-FoCS courses

REFERENCES

1. English K. Assessing the Impact of USMLE Step 1 Going Pass-Fail: A Brief Review of the Performance Data. Avicenna J Med. 2024 Dec 24;14(4):228-230. doi: 10.1055/s-0044-1800830. PMID: 40084226; PMCID: PMC11896725.
2. Romer PA, Ko RB, Dasarathy D, Negris OR, Win AK, Leveille LA, Duah BA, Geraghty JR. Navigating Expectations in the Transition to the Pass/Fail Step 1 Exam: Tensions and Recommendations From Student Leaders of the NEXT Step 1 Project. Acad Med. 2025 Nov 1;100(11):1247-1253. doi: 10.1097/ACM.0000000000006088. Epub 2025 May 12. PMID: 40359246.
3. Baños JH, Pepin ME, Van Wagoner N. Class-Wide Access to a Commercial Step 1 Question Bank During Preclinical Organ-Based Modules: A Pilot Project. Acad Med. 2018 Mar;93(3):486-490. doi: 10.1097/ACM.0000000000001861. PMID: 28817433; PMCID: PMC6706270.

Using Checklists as an Inclusive Model for Instructional Design Strategy

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INTRODUCTION

To succeed, students enrolled in asynchronous online courses need to self-regulate and utilize appropriate executive functioning skills

Literature suggests that executive functioning skills are known predictors of achievement in online asynchronous courses. However, students new to online learning, or who consider themselves neurodivergent learners, may find it difficult to keep themselves organized in an online learning environment.

To address this void and as part of an inclusive model for instructional design strategy, a module completion checklist was designed and implemented for all courses within an existing online graduate public health program.

OBJECTIVES

1. Design and evaluate an online course checklist to support student learning, time management and executive functioning skills
2. Analyze student checklist usage among core and elective courses in a Public Health program

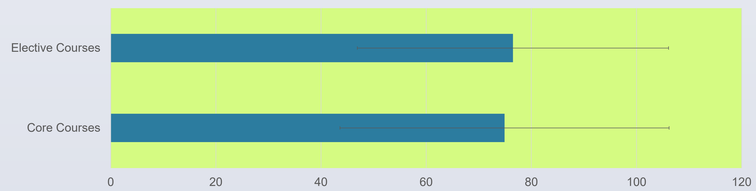
METHODS

- Obtained data on students' checklist usage for Fall 2024, Spring 2025 and Fall 2025 (core and elective course)
- All students enrolled were eligible to participate
- The elective courses offered differed significantly between semesters
- Except for Environmental Public Health, all core courses were offered all 3 semesters
- *N* = 707: core courses = 324 and elective courses = 383
- Used Excel and Statistix® software

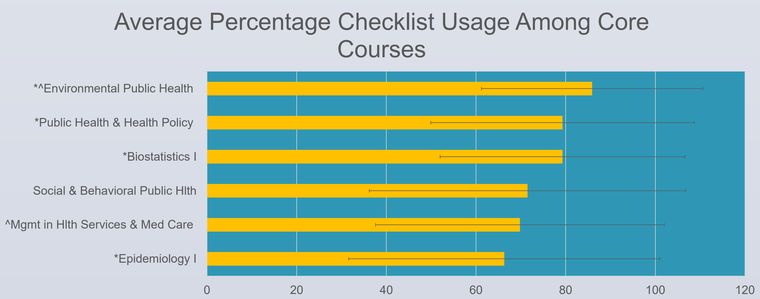
RESULTS

Objective 1:

Objective 2:



Average percentage of checklist usage did not differ between core 74.9 (± 31.3) and elective courses 76.5 (± 29.6) over 3 semesters (p = 0.495).



- Average percentage of checklist usage was significantly different among core courses for the three semesters (p = 0.007).
- Statistically significant differences were observed between Epidemiology I (66.3 ± 34.7), Biostatistics I (79.3 ± 27.3), Environmental Public Health (85.9 ± 24.7) and Public Health & Health Policy (79.3 ± 29.4)
- Significant differences observed between Management in Health Services & Medical Care (69.8 ± 32.2) and Environmental Public Health (85.9 ± 24.7)
- Post checklist implementation, most assignments were submitted ahead of time (67.03%) or on-time (26.3%) versus late (6.7%)

DISCUSSION

- Results show that checklist use may benefit students
- No significant differences between average percentage checklist usage for core vs. elective courses
- Significant differences in checklist usage across core courses, with most usage in Environmental Public Health and least in Epidemiology I
- Checklists can help students with task initiation, planning, prioritizing, time-management, tracking progress, management of complex learning environments, goal setting, self-monitoring and staying motivated
- Checklists help support students transitioning to new and unfamiliar learning environments
- With checklist usage, most students were submitting assignments ahead of due date or on due date, concurring with research that checklists resulted in students turning in assignments 2-5 times earlier than those students working without checklists

FUTURE DIRECTIONS

- Assess the impact of checklist usage on students' grades in both core and elective courses.
- Explore possible drivers of different levels of checklist usage in core courses.
- Develop a manuscript describing these findings.

REFERENCES

1 Anderson, C. (2017). Checklists: A Simple Tool to Help Students Stay Organized and Motivated. *College Teaching*. 65(4). 209-210.

2 NC State University. (2025). Use Moodle Checklists to Help Students Get Organized and Track Progress. https://teaching-resources.delta.ncsu.edu/moodle-checklist/

3 Cavanaugh, T., Hu, H. (2012).Using a Generalized Checklist to Improve Student Assignment Submission Times in an Online Course. *Journal of Asynchronous Learning Networks*, 16 (3), 39-44.

4 Dabbagh, N., Kitsantas, A. (2004, Jan - March). Supporting self-regulation in student-centered web-based learning environments. International Journal on E-Learning, 3(1), 40-47.

5 Darr, K. (2020, December 7). Keeping Your Students On Track with Checklists. *The University of Dayton Blogs*.

Enhancing Master of Public Health (MPH) Students Readiness to Engage in Scholarship: Are Volunteer Partnerships the Answer?

University of Vermont
Larner College of Medicine

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The Robert Larner, MD, College of Medicine, University of Vermont

INTRODUCTION

Very little is currently known about graduate students' volunteerism in academic research contexts. A comprehensive literature review identified only two studies examining academic volunteerism, both focused on humanitarian and health-related crises.[1,2]

Despite this literature gap, creating opportunities for graduate students to develop applied research skills is a core expectation of nationally-accredited public health programs and an essential component of professional public health training.

This study evaluated the perspectives of Master of Public Health (MPH) students who voluntarily participated in a mentored research project conducted outside of their required coursework.

OBJECTIVES

1. To assess MPH students' motivations for engaging in mentored research on a volunteer basis

2. To evaluate student experiences to inform the potential integration of scoping review training into an MPH elective course or module

METHODS

Mentored Scoping Review Project Development

4 MPH students & 1 faculty member developed a research project on an emerging public health topic, with methodological support from medical library faculty

⇩

Volunteer Student Engagement

Students participated in the project on a volunteer basis outside formal coursework and engaged in collaborative research activities over a 14-month project period

⇩

Focus Group Evaluation

2 investigators, who were not involved in the scoping review, conducted an online focus group with the 4 students to explore student motivations, expectations, and experiences

⇩

Qualitative Analysis

The focus group discussion was audio-recorded and transcribed. 3 independent coders conducted a thematic content analysis to identify emergent themes

RESULTS / THEMES

Q1: Why participate?

- Research experience
- Resume building
- Faculty mentorship

Q2: Expectations at the onset?

- Structure with clear timeline
- Guidance & mentorship
- Clear focus & direction
- Explanation of the protocol

Q3: Prior research experience?

- Primarily PubMed-based searching
- Limited exposure to review methodologies
- Conceptual understanding only

Q4: Skills needed for success?

- Self-directed learning
- Self-motivated
- Communication skills
- Patience with iterative processes
- Record-keeping & organized
- Comfortable with limited instructions

Q5: What did you gain?

- Development of research skills
- Real-world applications of methods
- Pride in scholarly contributions
- Supportive team environment
- Professional network

DISCUSSION

Students viewed the project as an opportunity to build research experience and strengthen their resumes, with the volunteer structure providing a lower-stress, time-efficient way to engage in scholarship.

Close collaboration with faculty mentors allowed students to learn about academic scholarship pathways and explore active roles in research beyond traditional coursework.

Partnerships with medical library faculty, which is often underutilized in graduate training, added methodological expertise and create opportunities to expand scholarship-focused experiences within public health curricula.

FUTURE DIRECTIONS

1. Understand factors contributing to unsuccessful student research projects

2. Evaluate the role of student-faculty-librarian partnerships in research training

3. Develop and assess a structured recruitment pathway for student-faculty research engagement

4. Design a scoping review elective course or module

REFERENCES

1. Rab F, Assefa M, Sohani S, Ormel I, Arshad F, Khalid AF. Strengthening public health education and humanitarian response through academic volunteerism. BMC Med Educ. 2025 Jan 20;25(1):93.
2. Patel T, Paudyal V, Hadi MA. A qualitative exploration of pharmacy students' opinions and experiences of volunteering during the COVID-19 pandemic. Curr Pharm Teach Learn. 2022 Aug;14(8):1004-1014.

How is Self-Assessment in Orthopaedic Residents Influenced by Video Review of Own Performance? A Qualitative Research Study

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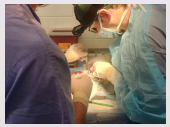
Background

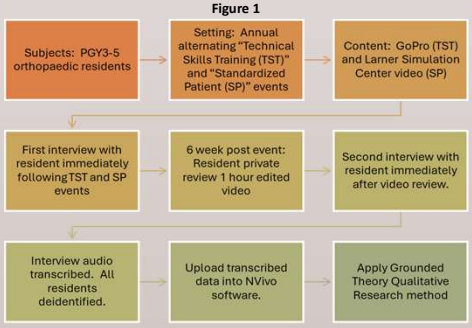
- Surgical residents have difficulty with accurate self-assessment.[1,2]
- Self-Assessment is a core competency with practice-based learning. ***"Residents must demonstrate competence in identifying strengths, deficiencies and limits in one's knowledge and expertise."***[3]
- Video review enhances surgical training and assessment. Head mounted GoPro cameras have been used to capture surgical resident performance.[4]
- The purpose of this study is to explore the effect of self-video review on orthopaedic resident self-assessment. *(UVM IRB Behavioral Study 2546)*

Methods



- ***(Figure 1)*** UVM Orthopaedic PGY 3-5 residents participated in surgical ***Technical Skills Training (TST)*** (2022, 2024) and clinical ***Standardized Patient (SP)*** (2023) events as part of a standardized curriculum. Details of the TST mock operating room (OR) setting have previously been described.[5]
- Semi-structured, private one-on-one interviews were conducted by a single investigator (SM) with each orthopedic resident at two time points:
  - Immediate post TST/SP event
  - Immediate post self-video review, 6 weeks post TST/SP event

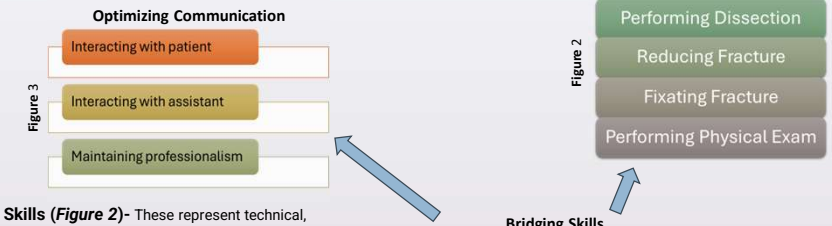
Figure 1



- Interview questions focused on resident perceived strengths and weaknesses. Specific to post TST interviews, residents were asked if they felt they could act as the "*surgeon of record*" with the same procedure in the real OR. (***Table 1***)
- Residents were deidentified. All audio recordings were transcribed and reviewed for accuracy. Transcriptions were uploaded into NVivo software. A grounded theory qualitative research approach was applied.[6]

Results

- 48 interviews were conducted with 13 orthopaedic residents. **4 primary themes** with **multiple subthemes** emerged from the interview coded data.



- **1. Performing Skills (*Figure 2*)-** These represent technical, tangible or physical skills. Significant perceived strengths or weaknesses were reenforced after watching video. More subtle assessment may not have been shared in the initial interview but was then shared after watching the video.
  - *"… my gestalt would be that I could have placed my clamps and all that stuff better just based on , you know , what I was seeing in the video…"* –Resident 5.

- **2. Optimizing Communication (*Figure 3*)-** Communication skills were a more frequent focus of resident self-assessment following the SP event. Residents shared their struggles in balancing adequate patient communication and efficient time management. Subtle criticisms were shared after video review.
  - *"…I feel like I give patients like space to talk , even though in my head sometimes I'm like , okay , let's get to the next question…"*- Resident 4

  Communication with the TST faculty assistant was perceived as a strength more frequently with senior residents.
  - *"…I think one of the strengths that I picked up on was communication that I had with Dr. *** . And that's just the back and forth that we were having and just listening more to the conversation that we had…"* –Resident 3

- **3. Bridging Skills (*Figure 4*)-** Self-assessment of these skills occurred with high frequency. Perceived strengths and weaknesses with these skills were linked frequently to the other 3 primary themes.
  - *"…I think I was thinking of too many different techniques and they kind of blended together…"*- Resident 11
  - *"…I recognized that I stopped working when I was talking, which is kind of interesting…"*- Resident 12
  - *"…if you have a 20-minute encounter and if you're going to spend ten minutes going through imaging , that means ten minutes for everything else…"*- Resident 4

- **4. Reflecting Within Self (*Figure 5*)-** Residents had a high degree of introspection.
  - *"…I feel like I was more critical of myself watching the video than I was even in the immediate post-procedural reflection…"*- Resident 10
  - *"…now have more of a bird's eye perspective . You're just a little bit more observant of things that were going on more around me that I wasn't as in tune with when I was actively doing it…"*- Resident 3
  - *"…It gave me a lot of things to think about, and I feel more prepared for the next time that it happens…"*- Resident 9

If the same surgical case came into the real OR later today, could you be the surgeon of record? (N=16)

Table 1

	Immediate post TST	Post TST video review
Yes	8	5
Yes (with reservation)	7	9
No	1	2

Discussion

- Self-assessment is an essential skill for surgical residents that is developed over time. Self-video review is an effective modality. We explored orthopaedic resident self-assessment through a qualitative grounded theory approach.
- Each orthopedic resident has their own specific strengths and weaknesses. Self-awareness of their strengths and weaknesses evolves as they process more experiences.
- Individual working memory can only process a limited number of tasks simultaneously. Schema development in long-term memory increases the efficiency of working memory. [7] A novice surgical trainee's working memory is likely to be saturated in a complex OR environment. They lack the schemas to draw from their long-term memory. Subsequently, their ability to reflect-in-action and to subsequently self-assess post-event is challenged. Allowing surgical trainees protected time to review their self-video performance allows for more clarity in self-assessment.

Conclusions

- In conclusion, this study explores and provides insight on the effect of self-video review on orthopaedic resident self-assessment.
- Residents shared thoughtful insight when asked if they perceived a change with how they self-assess.
  - *"So I think it's not that I have evaluated myself better or worse, it's what I'm focusing on that has changed over the years."* (Resident 5)
  - *"…looking back on the third-year video a couple of years ago, just how I was using my hands, how I was using the tools, it just didn't seem as fluid as it did on the fifth-year video…I wasn't as comfortable and confident going into that (TST event). And I think it showed in the video, and maybe I didn't necessarily pick that up at the time, but reviewing it again, there's a notable difference in how the procedure progressed."* (Resident 6)
- Several limitations are noted: single investigator (SM) performed all coding, the limited view of a camera is not the same as a real-time experience, the TST/SP events lack some fidelity compared to the real OR and clinic settings.
- Suggested future research: longitudinal tracking of individual resident self-assessment skills, an outside assessor could be added to provide a comparison benchmark.

References

1. Nayer et al, 2020, J Surg Educ. Doi: 10.1016
2. Rizan et al, 2015, Ann R Coll Surg Engl. Doi: 10.1308
3. ACGME, 2025, Program requirements for graduate education in orthopaedic surgery
4. Moore et al, 2018, J Surg Educ. Doi:10.1016
5. Merena et al, 2020, Poster UVM Teaching Academy Snow Season Retreat
6. Charmaz, 2006, Constructing Grounded Theory
7. Sweller, 1988, Cognitive Load Theory

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Peer Teaching in the ICU: A Portable Curriculum

Daniel Moroney MD, Bridget Oei MD, Lou Kirk MD, Emily Stebbins MD

Department of Anesthesiology, University of Vermont Medical Center,
University of Vermont Larner College of Medicine, Burlington, Vermont

Background: One of the challenges of teaching in the ICU is the unpredictability of the workday. It can be difficult to get all members of the team in one room for lectures, and interruptions to provide clinical care are not uncommon. Additionally, critical care medicine is a challenging topic to teach. ICU patients present with a wide variety of complex illnesses and injuries, many of which are difficult to explain without the use of visual aids. With this in mind, we identified core topics in intensive care medicine and created a repository of written, visual, and simulation materials for senior anesthesiology residents to utilize for peer teaching while on rotation.

Methods: We identified core topics and created learning objectives targeting low to middle levels of Bloom's Taxonomy to ensure a common knowledge base for all trainees. We then developed didactic lectures, simulation scripts, clinical cases, and MCQ's utilizing ABA BASIC Exam and USMLE Step 2/3 content outlines, the SOCCA *Resident Guide,* and primary literature in intensive care. Final materials were uploaded to a shared drive.

A

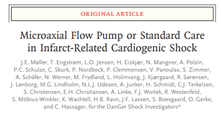
What is a Spontaneous Breathing Trial?

- A ~30 minute "test run" on PS, CPAP, or T-piece
- Sedation vacation
- Criteria to fail:
  - RR > 35 for more than five minutes
  - SpO2 <95%
  - HR >140 or sustained increase HR >20% of baseline
  - SBP >180 or <90
  - Anxiety/diaphoresis

B

DanGer Shock Trial

- Multicenter RCT comparing Impella + standard of care vs. standard of care alone for cardiogenic shock after an MI
- Improved 180 day mortality
  - 45.8% (impella) vs 58.5% (control)
- BUT increased complications like limb ischemia, severe bleeding, hemolysis (24% vs 6% in control group)


ORIGINAL ARTICLE

Microaxial Flow Pump or Standard Care in Infarct-Related Cardiogenic Shock

J.E. Møller, T. Engstrøm, L.O. Jensen, H. Eiskjær, N. Mangner, A. Polzin, P.C. Schulze, C. Skurk, P. Nordbeck, P. Clemmensen, V. Panoulas, S. Zimmer, A. Schäfer, N. Werner, M. Frydland, L. Holmvang, J. Kjærgaard, R. Sørensen, J. Lønborg, M.G. Lindholm, N.L.J. Udesen, A. Junker, H. Schmidt, C.J. Terkelsen, S. Christensen, E.H. Christiansen, A. Linke, F.J. Wolsek, R. Westerfeld, S. Möbius-Winkler, K. Wachtell, H.B. Ravn, J.F. Lassen, S. Boesgaard, O. Gerke, and C. Hassager, for the DanGer Shock Investigators*

C

Board Prep

- An otherwise healthy 51-year-old male with a history of aortic stenosis is scheduled to undergo aortic valve replacement surgery. The case proceeds uneventfully, however, the patient develops an elevation in creatinine on the morning after surgery and is diagnosed with AKI. Administration of the following is most likely to improve this post-operative AKI?

a. Atrial Natriuretic Peptide
b. Fenoldopam
c. Minocycline
d. None of the Above

D

Simulation Case
ICU Management of Septic Shock

- **Setting:** ICU admission, patient transferred from the ED after fluid resuscitation.
- **Patient:** 26-year-old woman, previously healthy.
- **Chief complaint:** "Fever, confusion, and generalized abdominal pain"
- **Phase 1: Initial Management**

What are your next actions?

- **Expected Actions:**
  - Confirm airway stability.
  - Obtain optimal access
  - Fluid resuscitation with balanced crystalloids.
  - Assess for ongoing shock → escalate norepinephrine
  - Obtain full workup
  - **Early source identification**
  - Add **broad-spectrum antimicrobials**
- **Phase 2: Deterioration**
  - After 10 min, BP drops to 68/36 despite norepinephrine 0.3 mcg/kg/min.
  - RR is 36, ABG obtained: pH 7.06, PaCO2 23, PaO2 65.

What do you do now?


https://animalia-life.club/qa/pictures/toxic-shock-syndrome-rash-on-palms

E

IABP

- Usually placed through femoral artery, with tip just distal to left subclavian
- Inflates during diastole to improve **coronary perfusion pressure**
- Deflates during systole to reduce **afterload** and increase **stroke volume**
- Level of support determined by frequency of inflation (1:1, 1:2, 1:3)
- The IABP itself monitors arterial BP

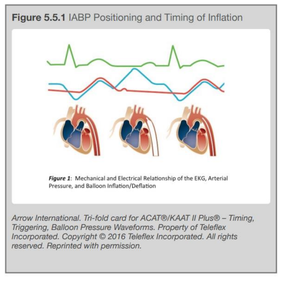


Figure 5.5.1 IABP Positioning and Timing of Inflation

Figure 1: Mechanical and Electrical Relationship of the EKG, Arterial Pressure, and Balloon Inflation/Deflation

Arrow International. Tri-fold card for ACAT®/KAAT II Plus® – Timing, Triggering, Balloon Pressure Waveforms. Property of Teleflex Incorporated. Copyright © 2016 Teleflex Incorporated. All rights reserved. Reprinted with permission.

F

Peer Teaching Curriculum Assessment Survey for Teachers

The materials provided improved my ability to teach critical care medicine:
Disagree Neutral Agree

The materials provided improved learner's understanding of each topic:
Disagree Neutral Agree

The materials were adaptable to my teaching style and learner's needs:
Disagree Neutral Agree

Please share any additional feedback below:

Curriculum Highlights: A. Presentations featured content that was identified by residents as being both board relevant and clinically useful **B.** Recent literature was highlighted to connect evidence to clinical practice **C.** Clinical cases and MCQ's drawn from ABA BASIC and USMLE Step 2/3 Exam content outlines to facilitate application of new knowledge relevant to learners at all levels **D.** Simulation scenarios were included for hands-on learning **E.** Visual aids help learners understand complex topics **F.** Both teachers and learners will be surveyed to assess curriculum effectiveness

Discussion: This project describes the development of a structured, peer-to-peer teaching curriculum designed to facilitate senior resident-led education in the ICU with the goal of applying the knowledge to patient physiology. By providing pre-defined learning objectives, curated content, and discussion questions, this curriculum aims to reduce common barriers to peer teaching including limited preparation time, uncertainty about appropriate depth, and the lack of cognitive aids to facilitate the teaching of complex physiologic concepts. The materials are easily available on the network drive.

Although formal implementation and teacher/learner evaluation was not completed prior to presentation, the curriculum was intentionally designed with principles of adult learning theory and Bloom's Taxonomy. Specifically, the curriculum emphasizes both clinically relevant and highly tested topics, case and question discussions, and graduated cognitive complexity while empowering senior residents to assume a teaching role that reinforces their own knowledge and leadership skills.

Disclosures: None

Organizational Partnerships to Improve Student Wellbeing and Meet Accreditation Standards

University of Vermont
Larner College of Medicine

Harsimran Multani MS2, Elise Everett MD, Garth Garrison MD, Christa Zehle MD

Project Goals

Address student dissatisfaction with available study and relaxation spaces.

Address citation from the Liaison Committee on Medical Education (LCME) for Element 5.11 related to adequate study and relaxation space.

Background

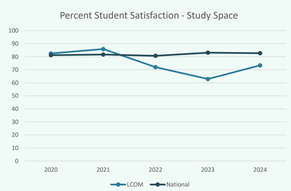
The LCME is responsible for accrediting medical schools in the United States and Canada that confer M.D. degrees. The LCME ensures that schools meet established standards for quality in areas such as curriculum, faculty qualifications, student support and resources.

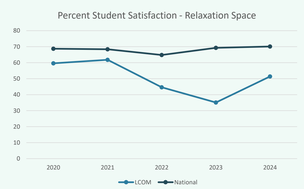
The reaccreditation process occurs on an eight-year cycle for medical schools and interim reviews and progress reports may be required to address unsatisfactory elements or those requiring monitoring.

The Larner College of Medicine underwent a successful LCME reaccreditation in Spring 2021, but was rated unsatisfactory for element 5.11 – study/lounge/storage space/call rooms.

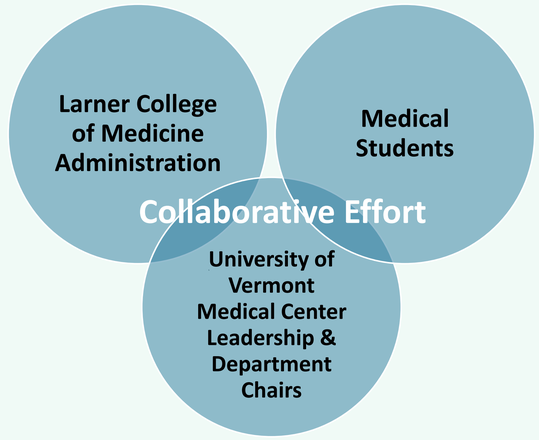
Problem Identified

Based on LCOM's Independent Student Analysis data, the adequacy of study and relaxation space, particularly within the clinical sites, was an area noted for improvement by respondents. The medical school student lounge for medical and graduate students had not been renovated in 20 years. Student satisfaction with study and relaxation space on the AAMC Graduation Questionnaire (GQ) had been steadily declining and administration was unable to identify solutions within existing university and clinical facilities.





Methods

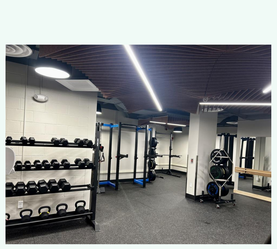


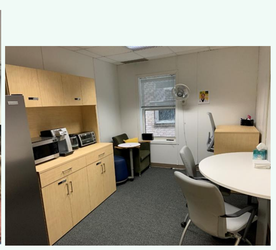
Collaboration was essential in addressing student concerns regarding space in support of their wellbeing and their role in patient care.

LCOM Response

1,600 square feet of additional space identified to meet the needs of students:

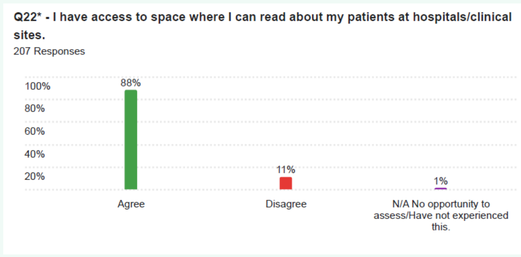
- Moved and remodeled student lounge in LCOM Given Building
- New Facilities:
  - Student Wellness and Fitness Center: promoting health and well-being
  - Prayer, Meditation, and Relaxation Space: Supporting mindfulness and spiritual needs
- New Clinical Workspaces:
  - Identified and furnished a clinical lounge in the UVM Medical Center specifically for medical student
  - Ob/Gyn department created a dedicated workroom in the UVM Medical Center for learners
  - Other departments working to identify dedicated workroom space in the UVM Medical Center for learners





Results

In 2024 the LCME revised the survey questions focusing on student access to space rather than satisfaction with existing space. Preliminary data from the Larner Student Analysis survey using the new phrasing conducted in the Fall of 2024 indicates that 88% of students agree that they have access to space where they can read about their patients at hospitals/clinical sites.



Conclusions

We are utilizing **quantitative methods** (AAMC Graduation Questionnaire and internal surveys) and **qualitative methods** (survey comments, focus groups) to measure the impact of the newly renovated student spaces. This approach helps us assess their effectiveness and identify opportunities for future improvements. Identifying additional student spaces within existing facilities remains a significant challenge, emphasizing the importance of collaboration across organizations to address this issue.

We anticipate that the new and renovated spaces will:

- Address student dissatisfaction and improve survey data
- Address students' functional and well-being needs
- Facilitate discussions on supporting students throughout their medical journey
- Enhance culture, promote a sense of belonging, and improve patient care and workforce development.
- Address LCME Element 5.11 citation

Ultimately, these improvements aim to create a more supportive, inclusive, and productive environment for the next generation of medical professionals.

Feasibility and Transferability

Collaboration is essential among partnering institutions to address complex problems by finding value to all parties involved.

Sense of Belonging | Workforce Development | Collaborative Culture | Improving Patient Care

Centering Student Experience in Equity-Oriented Medical Education

University of Vermont
Larner College of Medicine

Cara M. Simone, PhD Candidate

University of Vermont, College of Education and Social Services

INTRODUCTION

Background:

Medical schools have expanded equity-related content in pre-clinical curricula, reflecting institutional commitments to address bias and health inequities. While prior work has examined curricular design and learning outcomes, less is known about how students experience equity-oriented instruction in everyday teaching practices or how institutional intent aligns with lived experience across courses.

Understanding how students interpret, carry forward, or question equity-related content is essential for assessing the impact of these efforts on learning, belonging, and early clinical thinking.

OBJECTIVES

- Identify how **equity-related content** is enacted and perceived in the pre-clinical curriculum.
- Examine how URIM students **make sense of equity-focused instruction and institutional culture**.
- Explore how these experiences inform **early clinical thinking and professional identity.**

METHODS

Qualitative institutional case study

- Data sources:
  - Course evaluation responses to an equity-focused prompt (2020–2024) N=2101
  - Interviews (N=7) with URIM students
  - Institutional documents describing equity goals
    - Thematic analysis with cross-source comparison

RESULTS

Finding 1: Curricular Integration of Equity Content

Equity-focused learning was most meaningful to students when social and structural factors were integrated into biomedical teaching rather than presented as stand-alone content.

Finding 2: Institutional Commitments and Gaps

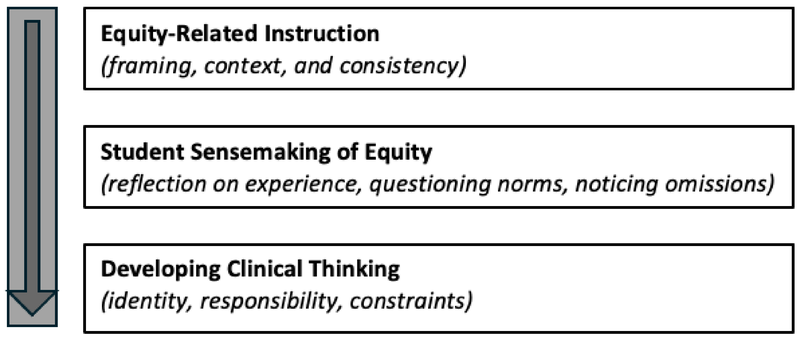
Students recognized visible institutional efforts as meaningful, but inconsistent framing of equity in curricula and the LE led to perceptions of uneven follow-through.

Finding 3: Belonging, Emotional Labor, and Conditional Safety

URiM students described learning environments that sometimes required additional emotional labor, with belonging shaped by classroom dynamics and peer interactions.

Finding 4: Extending Equity Learning to Patient Care

Equity-focused instruction shaped how students began to think about patient care, clinical decision making, and professional identity, prompting reflection and early advocacy efforts.



DISCUSSION

Centering student experience reveals both progress and persistent gaps in equity-oriented medical education. Across data sources, students evaluated equity efforts primarily through everyday teaching practices rather than formal institutional commitments. This pattern underscores how consistency, integration, and shared responsibility shape whether equity-oriented instruction is experienced as meaningful, credible, or incomplete.

IMPLICATIONS

- Equity-related learning is strengthened when social and structural factors are integrated into clinical reasoning across courses, rather than presented as stand-alone content.
- Institutional commitment to equity is communicated through everyday instructional practices, not solely through formal statements or isolated initiatives.
- Supporting belonging requires shared responsibility; equity efforts should not rely on URiM students to carry disproportionate emotional or educational labor.
- Equity-focused instruction influences professional identity formation and early approaches to patient care.

FUTURE DIRECTIONS

- Use URIM student focus groups to examine equity learning across pre-clinical and clinical phases, including the hidden curriculum.
- Study how faculty enact equity-focused instruction across courses and settings.
- Apply longitudinal qualitative methods to examine belonging and professional identity formation over time.

KEY REFERENCES

Cruess, R. L., Cruess, S. R., Boudreau, J. D., Snell, L., & Steinert, Y. (2015). A schematic representation of the professional identity formation and socialization of medical students and residents: A guide for medical educators. *Academic Medicine*, *90*(6), 718.

Kumagai, A. K., & Lypson, M. L. (2009). Beyond cultural competence: Critical consciousness, social justice, and multicultural education. *Academic Medicine*, *84*(6), 782.

Lazarus, M., García Ochoa, G., Truong, M., & Brand, G. (2023). Making the invisible visible: How cultural hegemony and uncertainty help us understand health professional education inequities. Focus on Health Professional Education, 24(3), 115–125.

Metzl, J. M., & Hansen, H. (2014). Structural competency: Theorizing a new medical engagement with stigma and inequality. *Social Science & Medicine*, *103*, 126–133.

O'Marr, J. M., Chan, S. M., Crawford, L., Wong, A. H., Samuels, E., & Boatright, D. (2022). Perceptions on burnout and the medical school learning environment of medical students who are underrepresented in medicine. *JAMA Network Open*, *5*(2), e220115.

Patton, M. Q. (2021). How far dare an evaluator go toward saving the world?: Redux, update, and a reflective practice facilitation tool. *American Journal of Evaluation*, *42*(2), 162–184.

Weiner, S. J. (2022). Contextualizing care: An essential and measurable clinical competency. *Patient Education and Counseling*, *105*(3), 594–598.

A Pediatric Faculty Discussion Forum on Belonging and Inclusion

University of Vermont
Larner College of Medicine

Sarah Twichell, MD, MPH, Molly Rideout, MD

Larner College of Medicine at the University of Vermont • Burlington, VT

University of Vermont Health
Golisano Children's Hospital

INTRODUCTION

- Systemic racism and bias have substantial negative impacts on child health[1-4]
- Many medical educators feel unprepared to discuss racism and other forms of bias in clinical and non-clinical spaces[5]
- Faculty-centered educational programs focused on racial health equity have led to increased knowledge and self-reflection about racism in healthcare[6]

OBJECTIVE

- To design, implement, and assess a faculty-led discussion-based health equity curriculum.

METHODS

- We developed the program using Kern's approach to curriculum development:
  - **Problem identification**: sessions began in an ad hoc fashion in 2020 in response to world events affecting patients, providers, and the healthcare system and in recognition of generational differences in comfort discussing equity
  - **Needs assessment**: faculty participating in ad hoc sessions expressed need for ongoing faculty development surrounding health equity
  - **Goals/objectives**: to improve knowledge about and skill in discussing topics related to equity, particularly in health care settings
  - **Educational strategy**: monthly discussion-based sessions for pediatric faculty
  - **Implementation**: Sessions include approximately 15 minutes of education followed by a 30-minute discussion. Program leaders helped identify discussion topics and recruit faculty facilitators.
  - **Evaluation**: After one year, participants completed a survey evaluating changes in knowledge, comfort, and skill discussing health equity topics, engagement with materials, and usefulness of sessions using a 5-point Likert scale. Investigators used descriptive statistics to analyze responses.

2024-2025 Faculty discussion space topics
Health disparities in language-based learning disabilities
AI in healthcare
Climate relate health disparities
Disparities in firearm injuries
Brave spaces/conversations in challenging times
Women in academic medicine
APOL1 gene mutations and eliminating race-based medicine
Gender affirming care

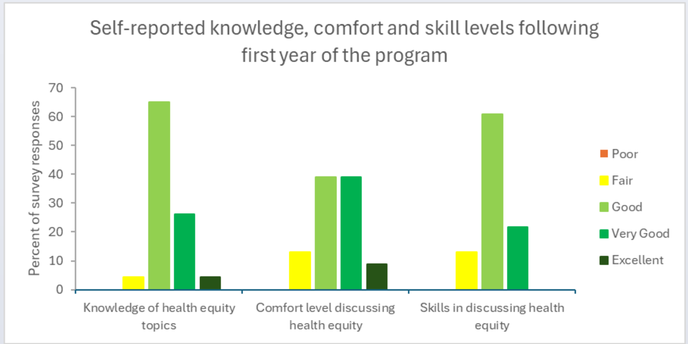
RESULTS

Out of **94** pediatric faculty members, **55** participated in at least one session (59%) and 9 different faculty led sessions. **23** faculty completed the survey (42% of those who received the survey)

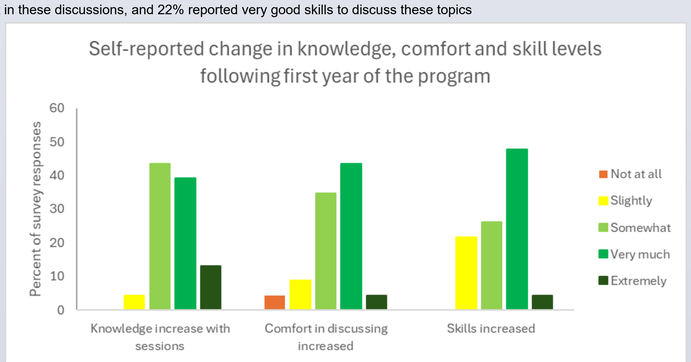
RESULTS

Characteristics of participants who completed the course evaluation

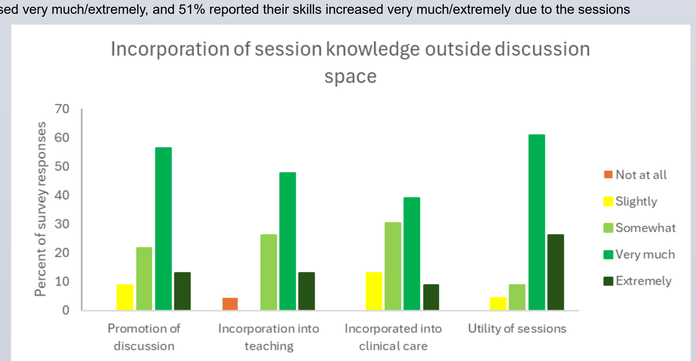
Characteristic		N(%)(n=23)
Age range	30-39	5 (22%)
	40-49	7 (30%)
	50-59	8 (35%)
	60+	3 (13%)
Gender	Female	17 (74%)
	Male	6 (26%)
	Non-binary	0
Underrepresented identity		3 (13%)
Number of sessions attended	1-2	10 (43%)
	3-4	8 (35%)
	5+	5 (22%)



30% of respondents reported very good/excellent knowledge about health equity related topics, 47% reported very good/excellent comfort in these discussions, and 22% reported very good skills to discuss these topics



52% of respondents reported their knowledge increased very much/extremely due to these sessions, 47% reported their comfort increased very much/extremely, and 51% reported their skills increased very much/extremely due to the sessions



69% of respondents reported that the sessions very much/extremely promoted discussion of health equity topics, 60% reported that they very much/extremely incorporated information into teaching sessions with learners, 47% reported they were very much/extremely likely to incorporate into clinical care, and 86% reported the sessions were very/extremely useful

RESULTS (cont)

Survey responses-free text/other comments

The **challenge** is **the number of other competing things** one has to do ... It is challenging to participate. The greatest value is the **connection to colleagues to discuss these important topics**. The challenge is that **participants tend to be those who already have an interest in this area** and not the general peds dept

I appreciated the **collegiality** of the sessions.

I find these sessions extremely **well thought-out** and really appreciate those that lead them. I've **learned a lot** on each one I've attended. I wish I were able to attend more ... I hope these sessions continue.

These are so thought provoking and well done. Really appreciate the **space with colleagues to talk through interesting, complex topics**.

These are novel and outstanding. I encourage you to continue them. I would not be too concerned about the relatively low attendance that I have seen. They are **valuable for the people who do show up, and that is enough**. The upcoming year will be challenging with … Medicaid cuts, assaults on vaccines, and so much more

I have appreciated that these have been **"safe" spaces to explore these topics**

I really appreciate sessions that cover **topics that aren't things commonly discussed or thought about**. I like the mixture of information and discussion. I would love to see more about culture and belonging in general and how to create a positive culture

The **topics with the most local data have been the most helpful**, such as Latino health- helpful to know what we are experiencing in VT compared with national data

For the most part these talks have **not influenced my practice but I appreciate folks taking to time to put this information forward**. In essence, these meetings have been occasions to express frustration, but I've not seen any tangible changes in clinical practice or policies.

Please keep these going--they are extremely helpful in **helping raise awareness as well as brings us together as a department in a safe environment** to share opinions and better understand how we can take action in a positive way on so many of the topics discussed.

DISCUSSION

- Ongoing faculty development on topics of equity and inclusion are critical, particularly as this is an area of continually evolving awareness and need.
- Brief, faculty-led sessions conducted roughly monthly provided a space for discussion and self-reported improvement in knowledge, comfort, and skill in discussing topics related to healthy equity, as well as in incorporation into teaching and clinical care.
- The structure of these sessions allows for relatively rapid discission of current health equity topics.
- This is an ongoing project and we plan to repeat the evaluation after another 12 months of sessions
- Future directions could include adapting these materials for other levels or learners or other areas of medicine

REFERENCES

1. Trent M, Dooley DG, Douge J, Section On Adolescent H, Council On Community P, Committee On A. The Impact of Racism on Child and Adolescent Health. *Pediatrics.* 2019;144(2).
2. Paradies Y, Ben J, Denson N, et al. Racism as a Determinant of Health: A Systematic Review and Meta-Analysis. *PLoS One.* 2015;10(9):e0138511.
3. Heard-Garris NJ, Cale M, Camaj L, Hamati MC, Dominguez TP. Transmitting Trauma: A systematic review of vicarious racism and child health. *Soc Sci Med.* 2018;199:230-240.
4. Gee GC, Walsemann KM, Brondolo E. A life course perspective on how racism may be related to health inequities. *Am J Public Health.* 2012;102(5):967-974.
5. Laura Smith SK-W, Gregory Payton, Eve Adams. White Professors Teaching About Racism: Challenges and Rewards. *The Counseling Psychologist.* 2017;45(7):651-668.
6. Falusi O, Chun-Seeley L, de la Torre D, et al. Teaching the Teachers: Development and Evaluation of a Racial Health Equity Curriculum for Faculty. *MedEdPORTAL.* 2023;19:11305.

Augmented Learning: How Medical Students use AI to Enhance Study and Self-Assessment

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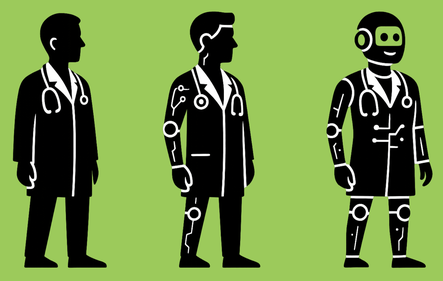
University of Vermont
Larner College of Medicine

Current state of AI use in medical education..

Artificial intelligence (AI) is advancing at an exponential pace and rapidly reshaping medical education. Students are increasingly using AI to support learning, enhance clinical reasoning, and improve decision-making in high-pressure environments[2]. Medical trainees who fail to engage with AI tools risk falling behind in both academic performance and clinical competence. Prior studies show that while most medical students already use large language models (LLMs), many still seek further guidance and structured education on AI [10,11,4]. This project highlights specific examples of AI use among students at the Larner College of Medicine and beyond.



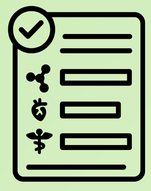
The effectiveness of commercially available AI platforms depends on the user's understanding of prompt design and platform capabilities [9,5]. This poster highlights several immediately applicable AI tools for medical students. Scan the QR code below to access individualized prompt guides for ChatGPT and other AI platforms.

QR code for prompt sheet

Personalized RAG Based Content Generation (podcasts, flashcards)

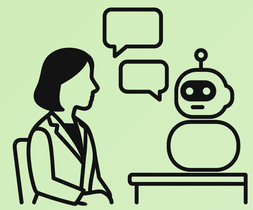
Retrieval-augmented generation (RAG) is an AI framework that enhances large language models by retrieving relevant information from external sources in real-time, powering tools like OpenEvidence. When students query their uploaded materials (textbooks, lecture notes, institutional guidelines), the system retrieves pertinent passages and provides them as context to the AI, enabling more accurate, source-grounded responses. This allows creation of personalized study tools like podcasts and flashcards based on verified content.

Personalized Performance Tracking



Students perform better when education is more personalized to their strengths and deficiencies [1,8]. We can utilize AI programs to track progress of students throughout preclinical and clinical years in order to have an accurate picture of what they need to improve before board examinations.

Interview Prep Chat Bot



Interview performance improves with practice, yet private coaching services can be prohibitively expensive [11]. Real-time AI chatbots offer an accessible alternative, providing realistic interview scenarios and challenging questions to help students refine their responses and build confidence.

Patient Simulation

Simulated patients are a mainstay of medical education. Increasingly, private companies and academic institutions are incorporating AI-driven simulated patients to create realistic and dynamic clinical scenarios without the need for standardized patient actors [7,6]. With a well-crafted prompt, students can now generate their own virtual patients using large language models tailored to specific learning objectives.

Finding Community: A Transpersonal Phenomenological Inquiry of the Lived Experiences of Clinician Educators in a Community of Practice

Beth West, MA, EdD [1,2]
[1]University of Bridgeport, [2] Nuvance now Northwell Health – Patricia A. Tietjen, MD Teaching Academy

Introduction

This phenomenological transpersonal dissertation study explores the lived experiences of 17 clinician educator members of the Patricia A. Tietjen, MD Teaching Academy (PATMDTA) at Nuvance Health. As members navigate their dual roles as clinicians and educators, this study seeks to understand how participation in the Academy as a Community of Practice shapes their professional identity, sense of self-efficacy, and perceived effects on professional burnout. Utilizing the rich picture (RP) method as a data elicitation tool, participants drew visual representations their experiences, providing an entry point for deeper exploration through semi-structured interviews. This study contributes to a gap in understanding how social learning communities may influence the uniquely positioned clinician educators' development, impact on the organizations where they work, and potential effects on the learners and patients they serve.

Methods and Materials

The study employed a multi-phase qualitative methodology, beginning with the use of rich pictures to capture 17 participants' conceptualizations of their experiences within PATMDTA. Inspired by Machado et al. (2022) and Goebel et al. (2021), these visual representations served as catalysts for subsequent semi-structured interviews. Data analysis followed a rigorous process, incorporating Braun and Clarke's (2006) thematic analysis framework and Vagle's (2018) "whole-parts-whole" approach. Each transcript was read a minimum of four times, with initial line-by-line coding followed by iterative theme development.

Figure 1. A series of three scholars' Rich Pictures – a data elicitation technique- created by PATMDTA scholars during this study.

Results

A total of 670 codes were generated, reflecting a broad spectrum of experiences and insights. Six primary themes emerged from the data: 1. Professional Growth – Participants joined seeking opportunities for professional growth and challenge. Many reported a transformation in professional identity, validation of their roles and efforts, and expanded skills in teaching, public speaking, research, and self-reflection. 2. Confidence and Self-Efficacy – A significant outcome was increased confidence. Many participants described overcoming imposter syndrome, feeling more empowered in their professional roles. 3. Community and Connectedness – Participants highlighted the value of interdisciplinary collaboration through shared purpose and a sense of greater belonging. Crucial to this was PATMDTA as "a safe space" for sharing struggles and asking questions. 4. Burnout Mitigation – Educational activities were cited as a source of rejuvenation vs. stressors of clinical work. Participation in PATMDTA bolstered a sense of optimism and resilience despite professional uncertainty. 5. Workplace & Patient Impact – Participants reported an expanding culture of education and professional support, increased job satisfaction, and PATMDTA as influencing some participants' decisions to stay at Nuvance Health, and positive impact on patient care. 6. Challenges – Time and scheduling constraints and the growing scope of Academy activities made continued engagement difficult for some members.

CONCEPTUAL FRAMEWORK

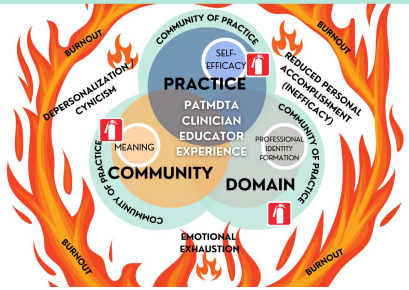


Figure 2. The author's conceptual framework illustrating the hypothesized mitigating interaction of Communities of Practice with the three constructs of professional burnout.

Conclusions

This study provides a nuanced understanding of how participation in a clinician educator community of practice influences professional identity, confidence, and workplace engagement. The findings underscore the value of structured faculty development initiatives in fostering educator growth, mitigating burnout, and enhancing institutional culture. However, challenges related to time and accessibility must be addressed to sustain engagement. Future research will explore strategies for optimizing participation and expanding collaborative opportunities across cohorts. Ultimately, PATMDTA serves as a model for leveraging social learning communities to cultivate resilient, confident, and engaged clinician educators.

Contact

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References

1. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
2. Goebel, E. A., Cristancho, S. M., & Driman, D. K. (2019). Pimping in residency: The Emotional Roller-coaster of a pedagogical method – a qualitative study using interviews and rich picture drawings. *Teaching and Learning in Medicine, 31*(5), 497–505. https://doi.org/10.1080/10401334.2019.1610658
3. Machado, M. B., Ribeiro, D. L., & De Carvalho Filho, M. A. (2022). Social Justice in medical education: Inclusion is not enough—it's just the first step. *Perspectives on Medical Education, 11*(4), 187–195. https://doi.org/10.1007/s40037-022-00715-x
4. Vagle, M. D. (2018). *Crafting phenomenological research*. Routledge.

A complete list of references for this dissertation study can be found at: https://tinyurl.com/RefBWdissertationproposal or by scanning the following QR code:

References

Building a Community of Practice for the Mentors: Evolution of the Patricia A. Tietjen MD Teaching Academy "Mentor Program"

Authors: Haley Wheeler M.A. CCC-SLP CBIS and Beth West EdD

Patricia A. Tietjen MD Teaching Academy of Nuvance / Northwell Health

INTRODUCTION

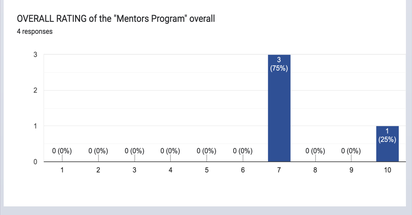
The Patricia A. Tietjen, MD Teaching Academy (PATMDTA) is grounded in **social learning theory** (Bandura, 1977) and the principles of **Communities of Practice (CoP)** (Wenger, 1998). Over the past five years, the academy has cultivated an **interprofessional CoP** across Nuvance (and now Northwell) Health, supporting professional identity formation, reflective practice, and shared learning among health professions educators (HPE).

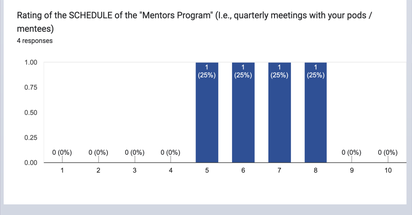
Research demonstrates that **effective mentoring in HPE** requires intentional structures, clear expectations, and ongoing professional training and skill development (Ramani et al., 2024; Sheri et al., 2019). In response to these needs, the academy launched a structured **Mentor Program** in 2024-2025 to promote relations between scholar cohorts, facilitate scholarly project development, strengthen educator networking, and enhance mentor capacity within a large, geographically spread health system.

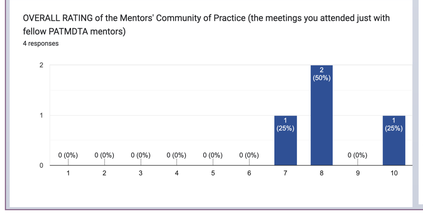
OBJECTIVES

1. Foster cross-site, interprofessional connections that cultivate and reinforce a system-wide Community of Practice.
2. Support scholarly project development through structured mentor-mentee interactions aligned with best practices in HPE mentorship.
3. Promote mentor retention and professional identity formation within PATMDTA and the broader healthcare system.

YEAR-END QUALITATIVE EVALUATION DATA 2024-2025







"What did you find most challenging about the Mentors CoP?"

- "Scheduling meetings"
- "Getting the mentees engaged and getting them to stay engaged."
- "The mentees did not live in the area and trying to find mutual times to meet in person or virtually was difficult. I think having set places and times to meet would assist with this."
- "Scheduling; Lack of curriculum to follow"

"Suggestions for improvement for the Mentors Program overall OR the Mentors' CoP (format, organization, content, other, etc.)..."

- "I think having set places and times to meet would assist with this to enable people to take some time during their work day to discus concerns/struggles. trying to do at the end of working day made it more difficult for the entire pod to engage, due to time constraints and due to locations."
- "More training or mentors- curriculum; curriculum to follow for mentors and mentees"

METHODS

PATMDTA Mentor Program Redesign (2025-2026)

- **Regionalized Pods** with scheduled **quarterly meetings** at large hospitals and offer **hybrid** and **in-person** options **within the workday.**
  - Aimed at reducing travel burden, increasing attendance consistency, and supporting humanistic mentorship and relationship-building.
- **Mentor Support Infrastructure**
  - **"Mindful Mentoring Toolkit"**
    - Content that reinforces mentoring skills such as mentoring across differences, active teaching and learning techniques, providing feedback, and building a CoP.
    - Includes reflective prompts, suggested activities, and structured feedback tools.
  - **Mentor Community of Practice (Mentor CoP)**
    - Monthly virtual sessions designed to cultivate a learning community.
    - Space for sharing knowledge and experiences, troubleshooting, and building mentor identity.

PREDICTED RESULTS

•Improved mentoring pod attendance and engagement due to the regionalized structure and predictable meeting schedule.

•Enhanced mentor confidence and perceived competency in mentoring, communication, feedback, and professional identity formation (Fleming et al., 2013).

•Stronger mentor role clarity, relationship-building, and shared expectations; key AMEE recommendations.

•Increased mentor satisfaction and retention, supported by the literature linking structured programs to career fulfillment (Ramani et al., 2024).

2025-2026 Evaluation Plan:

- Track attendance of pod meetings and CoP sessions
- Surveys following CoP meetings that assess development of:
  - Sense of belonging to mentor CoP
  - Definition of mentoring interests and goals
  - Skills for developing humanistic relations with mentors and mentees
- Qualitative reflections on mentor confidence, skills, and challenges

DISCUSSION

The PATMDTA Mentor Program departs from traditional mentee-focused models through focus on mentor development, satisfaction, and retention. The creation of a Mentors CoP aligns with evidence that longitudinal, community-based training improves mentoring quality more effectively than single workshops (Sheri et al., 2019; Steinert et al., 2016). Research also underscores the importance of structured mentor training and ongoing support to ensure mentors possess the knowledge and skills needed to guide HPE scholars effectively (Sheri et al., 2019; Ramani et al., 2024).

Using qualitative mentor feedback, the program underwent rapid redesign to mitigate geographical and logistical barriers; an issue echoed in the literature highlighting barriers in mentoring in complex health systems (Sheri et al., 2019).

Overall, the PATMDTA Mentor Program promotes system-wide collaboration, supports educator identity formation, and models a scalable approach to mentor-centered development of health professions educators in large healthcare systems.

FUTURE DIRECTIONS

- Use of a standardized tool such as the *Mentoring Competency Assessment (MCA)* to formally evaluate mentors (Fleming, et. al 2013).
- Continue alignment with *AMEE Guide No. 167* recommendations.
- Evaluate organizational impact by examining mentor participation, satisfaction, retention, and career vitality.
- Continue iterative refinement of the "Mindful Mentoring Toolkit" including novel resources based on mentor input, evidence-based publications, and AMEE guidance.
- Share the PATMDTA Mentor Program model through presentations, publications, and cross-institutional collaboration.

REFERENCES

Bandura, A. (1977). Social learning theory. Prentice Hall.

Fleming, M., House, S., Hanson, V. S., Yu, L., Garbutt, J., McGee, R., Kroenke, K., Abedin, Z., & Rubio, D. M. (2013). The Mentoring Competency Assessment: Validation of a new instrument to evaluate skills of research mentors. Academic Medicine, 88(7), 1002–1008. https://doi.org/10.1097/ACM.0b013e318295e298

Ramani, S., Kusurkar, R. A., Lyon-Maris, J., Pyörälä, E., Rogers, G. D., Samarasekera, D. D., Taylor, D. C. M., & Ten Cate, O. (2024). Mentorship in health professions education – An AMEE guide for mentors and mentees: AMEE Guide No. 167. Medical Teacher, 46(8), 999–1011. https://doi.org/10.1080/0142159X.2023.2273217

Sheri, K., Too, J. Y. J., Chuah, S. E. L., Toh, Y. P., Mason, S., & Radha Krishna, L. K. (2019). A scoping review of mentor training programs in medicine between 1990 and 2017. Medical Education Online, 24(1), 1555435. https://doi.org/10.1080/10872981.2018.1555435

Shah M. (2024). Mindful mentoring toolbox. Patricia A. Tietjen MD Teaching Academy, Nuvance Health. Accessed https://mindfulmentortoolkit.my.canva.site/.

Steinert, Y., Mann, K., Anderson, B., Barnett, B., Centeno, A., Naismith, L., Prideaux, D., Spencer, J., Tullo, E., & Viggiano, T. (2016). A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update. Medical Teacher, 38(8), 769–786. https://doi.org/10.3109/0142159X.2016.1150989

Wenger, E. (1998). Communities of practice: Learning, meaning, and identity. Cambridge University Press.

By Students, For Students: Peer-Created Step 1 Resources to Support Exam Preparation and Guide Institutional Improvements

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PROJECT GOALS

Identify and describe the peer-sourced resources and strategies that medical students find most helpful for Step 1 exam preparation.

Apply this model as a template to develop a peer-created Step 1 preparation resource tailored to their own institution.

Utilize a student-driven model to inform institutional efforts to enhance curricular and exam support services.

INTRODUCTION

In January 2022, the United States Medical Licensing Examination (USMLE) Step 1 Exam transitioned from a three-digit score to a pass/fail reporting system.

In 2021, the Step 1 pass rate was 95%; however, since the change, the pass rate has declined, with the most recent figure dropping to 89% among U.S. and Canadian MD programs in 2024.

At the University of Vermont's Larner College of Medicine (LCOM), a student-led initiative was launched to develop peer-created resources and collaborate with the Office of Medical Education to enhance student support for Step 1 preparation.

The current literature has identified board-style practice questions utilized over time beginning in the first year of medical education is associated with success on the USMLE Step 1 Exam. (1-3)

The overabundance of available study resources for Step 1 creates a challenge for students in determining which materials are most effective and relevant. (3)

REFERENCES

1. Jeyaraju M, Linford H, Bosco Mendes T, Caufield-Noll C, Tackett S. Factors Leading to Successful Performance on U.S. National Licensure Exams for Medical Students: A Scoping Review. *Acad Med*. 2023;98(1):136-148. doi:10.1097/ACM.0000000000004877
2. English K. Assessing the Impact of USMLE Step 1 Going Pass-Fail: A Brief Review of the Performance Data. *Avicenna J Med*. 2024;14(4):228-230. Published 2024 Dec 24. doi:10.1055/s-0044-1800830
3. Ranabhat SK, Kunjukrishnan ML, Dubey M, Curran V, Dubey AK, Dwivedi N. Exploring the usage of learning resources by medical students in the basic science stage and their effect on academic performance. *BMC Med Educ*. 2024;24(1):543. Published 2024 May 15. doi:10.1186/s12909-024-05511-1

METHODS

An initial Qualtrics survey was developed to understand students' experiences preparing for Step 1 and was distributed to LCOM Class of 2026 and 2027.

A Step 1 Guide was created by students based on feedback from the survey.

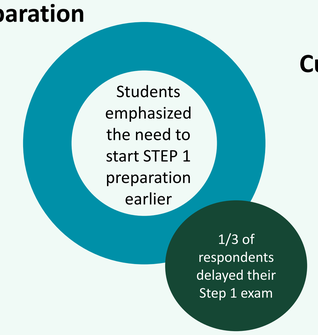
A second Qualtrics survey was distributed to the LCOM Class of 2026 and 2027 to further evaluate students' Step 1 preparation process and institutional support.

Across both surveys, responses from over 150 medical students were collected.

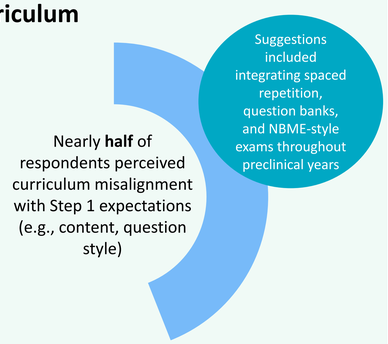
Findings will be shared with institutional leadership at LCOM to inform ongoing support strategies.

RESULTS

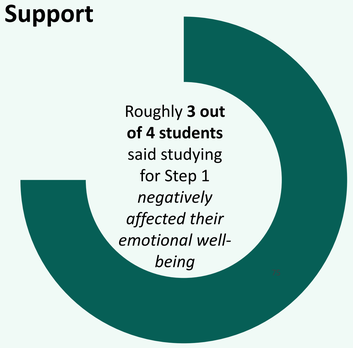
Preparation



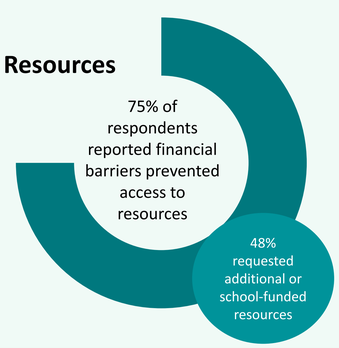
Curriculum



Support



Resources



THE STEP 1 GUIDE

The Step 1 Guide was created to reduce barriers to Step 1 preparation by increasing familiarity with the exam and providing practical strategies for success. It highlights common challenges, offers wellness-focused tips, and shares a range of detailed study plans that reflect diverse approaches and timelines. The goal is to equip students with flexible frameworks to design a preparation strategy that fits their individual needs.

Goals of the Step 1 Guide

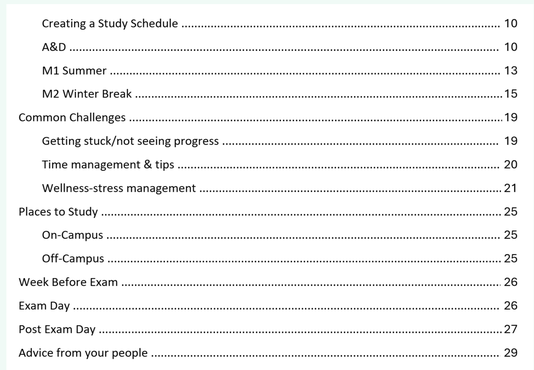


Fig 1. Excerpt of Table of Content. The STEP 1 Guide includes study schedules beginning at different points of the pre-clinical curriculum, common challenges, places to study, and other pieces of advice from students.

FUTURE DIRECTIONS

Encourage student well-being

Collaborate with Office of Medical Education

Longitudinal evaluation

Structured content updates

Expanding peer-created resources