

Keck School of Medicine of USC

Innovations in Medical Education

2022 ONLINE CONFERENCE

Transforming Health Professions
Education through Innovation



Live online Thursday-Friday, February 17-18, 2022

All content available until August 2022

Registrants only at whova.com/portal/webapp/imeoc1_202102/



Presented by the Keck School of Medicine, Department of Medical Education

Keck School of Medicine of USC

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IME 2022 Online Conference Schedule

Thursday-Friday, February 17-18, 2022

sites.usc.edu/ime-conference-2022

THURSDAY, FEBRUARY 17, 2022

7:30 AM - 8:45 AM		WORKSHOPS / ABSTRACT TITLES & PRESENTERS / POSTER TOPIC
MedEd Certificate Workshop	WS01. Guiding Crucial Conversations	<i>Julie G. Nyquist, PhD; Jeffery M. Ring, PhD</i>
Conference Workshop	WS02. Information Technology (IT) -Assisted Just-in-Time Teaching (JiTT) and Faculty Development	<i>Elisabeth Schlegel, MS, PHD, MBA, MS (HPPL); Alice Fornari, EdD, FAMEEm, RDN; Mabelle Linsenmeyer, EdD</i>
Oral Presentations on Innovations 1: RESULTS OF EDUCATIONAL RESEARCH STUDIES	IN-1a. PA Students May Benefit More from Earlier Mental Health Training	<i>Hwal Lee, MS</i>
	IN-1b. Residency Training Experiences of Residents with Children: A Phenomenology Study	<i>Erin Boschee</i>
	IN-1c. The Impact of Mentorship on Stress and Performance on a Virtual Reality Surgical Simulator	<i>Aoife Feeley, MB, BCh, BAO</i>
	IN-1d. Optimizing Racial and Ethnic Representation in Preclinical Medical Curricula at Mayo Medical School	<i>Rewan Abdulwahab, BA; Audrey Elegbede, PhD, MA, PCC; Sarah Atunah-Jay, MD, MPH</i>
Moderated Poster Session 1	Technology (12 posters)	
8:45 AM - 9:00 AM - BREAK		
9:00 AM - 10:15 AM		WORKSHOPS / ABSTRACT TITLES & PRESENTERS / POSTER TOPIC
MedEd Certificate Workshop	WS03. Building Skills for Career Management: Networking and Career Action Plans	<i>Kathleen Besinque, PharmD, MSEd; Velyn Wu, MD, MACM</i>
Conference Workshop	WS04. Forging a New Alliance: Creating Learning Conversations to Improve Clinical Skill Performance	<i>Audrea Burns, PhD; Julieana Nichols, MD, MHPE; Satid Thammasitboon, MD, MHPE; D'Juanna White-Satcher, MD, MPH</i>
Oral Presentations on Innovations 2: INNOVATIONS IN UNDERGRADUATE HEALTH PROFESSIONS EDUCATION	IN-2a. Assessing a Novel Evidence-Based Medicine Teaching Intervention	<i>Laura Menard, MLS</i>
	IN-2b. Back to Basics: Integrating Foundational Science and Patient Care in the Post Clerkship Curriculum	<i>Kim Dahlman, PhD</i>
	IN-2c. Qualitative Assessment of a Near-Peer Taught Suturing and Knot-Tying Course for Medical Students	<i>Thomas Z. Gao, BS; Micah K. Harris, BS</i>
	IN-2d. Implementation and Evaluation of an Addiction Medicine Course in Medical School Education	<i>Alexander Sun, BS</i>
Moderated Poster Session 2	Interventions in Graduate Medical Education (10 posters)	
10:15 AM - 10:30 AM - BREAK		
10:30 AM - 11:45 AM		WORKSHOPS / POSTER TOPIC
MedEd Certificate Workshop	WS05. Team-Based Learning for Health Systems Science	<i>Daniel Novak, PhD; Ronan Hallowell, EdD</i>
Conference Workshop	WS06. Using Competency-based Feedback to Coach Professional Development in Early Medical Students	<i>Neil Osheroff, PhD; Cathleen C. Pettepher, PhD; Kimberly Dahlman, PhD; Emily Bird, MD, MA, FAAP</i>
Conference Workshop	WS07. How to Create a Leadership Manifesto to Define your Purpose and Maximize your Impact	<i>Karen J. Souter, MB, BS, FRCA, ACC, MACM; Rumeena Bhalla, MB, ChB, ACC</i>
Moderated Poster Session 3	Interventions: Wellness (11 posters)	
11:45 AM - 12:15 PM – LUNCH BREAK		
12:15 PM - 12:30 PM		

WELCOME - Julie G. Nyquist, PhD, Conference Chair; Cha-Chi Fung, PhD, Conference Co-Chair

12:30 PM - 1:30 PM

KEYNOTE
ADDRESS

BRIDGET O'BRIEN, PhD – Professor, Department of Medicine, and Education Scientist, Center for Faculty Educators, UC San Francisco School of Medicine; Deputy editor for the journal *Academic Medicine*
THE SCHOLARSHIP OF INNOVATION: INSPIRATION • IMPLEMENTATION • INQUIRY • INFUSION

1:30 PM - 1:45 PM - BREAK

1:45 PM – 3:00 PM

WORKSHOPS / ABSTRACT TITLES & PRESENTERS / POSTER TOPIC

Conference
Workshop

WS08. From Eggshells to Action: Preparing to Address Microaggressions Targeting Learners
 Meghan O'Brien, MD, MBE; Prabhjot K. Minhas, BS, BA; Katherine L. Lupton, MD; Sanziana Roman, MD, FACS

Conference
Workshop

WS09. Zoomers and Roomers: Strategies for Creating the Optimal Hybrid Learning Environment
 Anna Egan, MD, FAAP; Stephen Overcash, MD; Kira Molas-Torreblanca, DO, FAAP; Grant Christman, MD, MACM, FAAP

Oral Presentations
 on Innovations 3:
 POTPOURRI:
 INNOVATIONS
 AND
 EDUCATIONAL
 RESEARCH

IN-3a. Improving Patients' Experience: Using a Simulation Virtual Boot-Camp to Assess and Teach Interns
 Kendall Johnson; Ogunyemi Dotun, MD; Micheal Gentry, MD

IN-3b. From Group to Team: A Novel Medical School Orientation Curriculum for Building Effective Teams
 Jill Allenbaugh, MD, MS; Karen Lin, MD, MPH

IN-3c. Early Career Coaching for Academic Faculty Improves Faculty Confidence in Navigating Their Careers
 Megan Fix, MD; Katherine Anderson, MD; Tiffany Glasgow

IN-3d. MovementMed: Enhancing Medical Student Well-Being and Knowledge with Kinesthetic Learning and Community – Tresne Hernandez, BA; Allison Ogawa, BA

Moderated Poster
Session 4**Community Interventions and Quality Improvement** (10 posters)

3:00 PM – 3:15 PM – BREAK

3:15 PM – 4:30 PM

WORKSHOPS / POSTER TOPICS

MedEd Certificate
Workshop

WS10. Learners in Difficulty
 Ranna Nash, PhD; Nadia Sellami, PhD; John Pelley, PhD, MBA

Conference
Workshop

WS11. Connecting Trainees to Their Communities: Creating A Social Justice Curriculum to Foster Compassion
 Alisa Acosta, MD, MPH; Candice Taylor Lucas, MD, MPH; Jyothi Marbin, MD; Audrea Burns, PhD

Moderated Poster
Session 5**Educational Research** (11 posters)Moderated Poster
Session 6**Health Systems Interventions** (9 posters)

4:30 PM – 5:30 PM

Hosted Zoom Networking with the Conference Chairs

FRIDAY, FEBRUARY 18, 2022

7:30 AM - 8:45 AM

WORKSHOPS / ABSTRACT TITLES & PRESENTERS / POSTER TOPIC

MedEd Certificate
Workshop

WS12. Tips for Clinical Precepting
 Win May, MD, PhD, FRCP; Alan Liu, MD

Conference
Workshop

WS13. Emotional Intelligence and DEI: Utilizing Leadership Skills to Recognize and Prevent Microaggression
 Nida Awadallah, MD; Gina J. Kim, MD, MPH; Victoria Dunn, MBBS, MRCP, DRCOG

Oral Presentations
 on Innovations 4:
 RESULTS OF
 EDUCATIONAL
 RESEARCH:
 FACULTY AS
 SUBJECT

IN-4a. Tensions from Tacit Culture and Personal Expectations Forge Professional Identity in New Physicians
 Stella Yiu, MD, MEd
















IN-4b. Medical School Faculty Experience with Change to an Anti-Racist, Anti-Opressive Curriculum
 Jordan McDonald, BA

IN-4c. From Eggshells to Action: A Qualitative Study of Faculty Experience Responding to Microaggressions Targeting Clerkship Students
 Prabhjot K. Minhas, BS, BA

IN-4d. Faculty Perceptions Towards Teaching Communication Skills in the Virtual Learning Environment
 Taranjeet Ahuja, DO, MEd; Alice Fornari, EdD, FAMEE, H-HEC, RDN

Moderated Poster
Session 7**Coaching / Focus on Teaching Techniques** (12 posters)

8:45 AM - 9:00 AM - BREAK

9:00 AM - 10:15 AM		WORKSHOPS / ABSTRACT TITLES & PRESENTERS / POSTER TOPIC
	MedEd Certificate Workshop	WS14. Preparing Effective Narrative Evaluations in UME and GME <i>Donna D. Elliott, MD, EdD; Cathy Jalali, PhD</i>
	Conference Workshop	WS15. Serious Games for Medical Educators <i>Teresa M. Chan, MD, MHPE; Jolene Collins, MD; Michael Cosimini, MD; Sarah Edwards, MBBS; Tom Fadiel, MD; Ericka Francis, MSPAS; Paulis Mui, MD; Bjorn Watsjold, MD, MPH</i>
	Oral Presentations on Innovations 5: INNOVATIONS IN GRADUATE MEDICAL EDUCATION	IN-5a. A Simulation Virtual Workshop Can Assess and Teach “Breaking Bad News” Using the SPIKES Framework – Kenneth Collado; <i>Dotun Ogunyemi, MD; Niren Raval, DO</i> IN-5b. Expansion and Evaluation of PC Teach, a Novel Peer-Teaching Model Based in the Outpatient Setting <i>Stanley Yuan, MD</i> IN-5c. SLICS (Supervised Learning Events in Clinical Settings): A Novel Improvement to Education in Wales <i>Anna Evans, BSc, MBBCh, MRCPCH, PGCert, Pgdip</i> IN-5d. Planning and Execution of a Novel Simulation-Based Night Float Course <i>Evan Shih, MD</i>
	Moderated Poster Session 8	DEI, Social Justice, Caring for Underserved Patients (13 posters)
10:15 AM - 10:30 AM - BREAK		
10:30 AM – 11:45 AM		
	Conference Workshop	WS16. Escape the Classroom! Using Google Workspace in Remote Learning <i>Velyn Wu, MD, MACM; Ann Spangler, MD; Nida Awadallah, MD</i>
	Conference Workshop	WS17. Coaching Learners Using the Master Adaptive Learner Framework <i>Karen J. Souter, MB, BS, FRCA, MACM, ACC; Sherilyn Smith, MD</i>
	Conference Workshop	WS18. Supporting the Professional Identify Formation of Medical Educators through Faculty Development <i>Delores Amorelli, EdD; Gia DiGiacobbe, PMP</i>
	Moderated Poster Session 9	Assessment, Feedback, Improving Performance (8 posters)
11:45 AM - 1:00 PM		
	Lunch and Hosted Zoom Networking	
1:00 PM - 2:15 PM		
	Conference Workshop	WS19. Multimedia Design for Medical Content: An Evidence-Based Workshop for Health Sciences Faculty <i>Jessica Andrusaitis, MD, MS; Ronald Rivera, MD; Jon Smart, MD, MS; Gabe Sudario, MD, MS</i>
	Conference Workshop	WS20. Strength in Diversity: Building Support for BIPOC Providers <i>Manu Madhok, MD; Lavjay Butani, MD, MACM</i>
	Moderated Poster Session 10	Interventions in Undergraduate Health Professions Education (14 posters)
	Moderated Poster Session 11	Poster Potpourri (12 posters)
2:15 PM – 2:30 PM - BREAK		
2:30 PM – 4:00 PM		
	Conference Workshop	WS21. Using the Myers-Briggs Type Indicator in Teaching Clinical Problem Solving <i>John Pelley, PhD, MBA; Ranna Nash, PhD</i>
	Best of Cool Ideas 1: RESIDENTS, FELLOWS, FACULTY, PRACTITIONERS	CI-1a. Advance Care Planning Towards a Plan of Action: Perceptions and Attitudes of Providers and Patients <i>Geny B. Zapata, PsyD</i> CI-1b. Deliberate Feedback: How To Incorporate It Into Our Daily Clinical Practice <i>Esther Wu, MD, FACS; Jukes P. Namm, MD, FACS</i> CI-1c. Art and Medicine: A Curriculum to Promote Creativity and Improve Fellow Wellness <i>Rachel Gallant, MD</i> CI-1d. Pause before Saying Yes: Preparing Female Fellows for their Initial Job Search and Negotiation <i>Reem Itani, MD; Michelle Rybka, MD</i> CI-1e. Measuring Results for Practicing Arthroscopic Sports Surgeons When Taught via Augmented Reality <i>Kala Kathirgamanathan, MD, FRCPC</i>

2:30 PM – 4:00 PM continued WORKSHOP / ABSTRACT TITLES & PRESENTERS / POSTER TOPIC

Best of Cool Ideas 2:
 UNDERGRADUATE
 MEDICAL /
 PHARMACY
 EDUCATION

CI-2a. Virtual Motivational Interviewing Workshop for M3's During the Psychiatry Clerkship*Sabrina Reed, MD; Jeremy Mao, MD***CI-2b. "Tell My Story": A Cadaver Clinical Integration Learning Activity***Erica Greene, MD; Leslie Day, PhD***CI-2c. Living in a Digital World: Implementing Digital Health Skills in Pharmacy Education***Julie Darnell, PharmD***CI-2d. Student TA Support Program for Diversity Equity Inclusion (DEI) Curriculum Integration***Meagan Tran, BS; Audrey Elegbede, PhD, MA, PCC; Sarah Atunah-Jay, MD, MPH***CI-2e. Core Competencies of the Anti-Racist Physician: Addressing Anti-Black Racism in Medicine***Zharia Crisp; Susan Cheng, EdLD, MPP*

4:00 PM – 4:15 PM - BREAK

4:15 PM – 5:00 PM

FINAL GATHERING - CONFERENCE AWARDS

Julie G. Nyquist, PhD, Conference Chair; Cha-Chi Fung, PhD, Conference Co-Chair

Attendance at five MedEd Certificate Workshops (addressing key skills or timely topics) over three years can lead to a MedEd Certificate of Achievement from the Department of Medical Education, Keck School of Medicine of USC. You must be enrolled in the [Medical Education Conference Certificate Program](#).

Accreditation Statement: The Keck School of Medicine of USC is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

2-Day Innovations in Medical Education Conference Credit Designation: The Keck School of Medicine of the University of Southern California designates this live activity for a maximum of 14 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credits commensurate with the extent of their participation in the activity.

Disclosure Statement:

The CME content included in this activity is not related to any ACCME defined commercial interest. Therefore, all course directors, faculty speakers, CME planners and moderators have no relevant financial relationships with any commercial interests to disclose.

IME 2022 Keynote Address

The Scholarship of Innovation: Inspiration • Implementation • Inquiry • Infusion

Thursday, February 17, 2022 • 12:30 – 1:30 pm

Bridget O'Brien, PhD

*Professor, Department of Medicine, and Education Scientist, Center for Faculty Educators,
University of California San Francisco School of Medicine;
Deputy editor for the journal Academic Medicine*

In this interactive presentation, we will discuss tips and strategies for advancing your innovative ideas in a scholarly way. I will share examples of published and in-progress innovations in health professions education to explain four key elements of the scholarship of innovation: 1. **INSPIRATION** (the problem that drives your innovative intervention or approach), 2. **IMPLEMENTATION** (how you enact your idea), 3. **INQUIRY** (how you evaluate your innovation), and 4. **INFUSION** (how you sustain and share your innovation with others). You will have opportunities to ask questions and receive input about your own ideas for innovation and scholarship.



Bridget O'Brien, PhD, is a professor of medicine and an education researcher in the Center for Faculty Educators at the University of California, San Francisco, where she co-directs the Teaching Scholars Program and the UCSF-UMC Utrecht Doctoral Program in Health Professions Education, teaches in the Health Professions Education Pathway, and supervises masters and doctoral students. At the San Francisco VA, she directs the Health Professions Education Evaluation and Research fellowship. Her research focuses primarily on understanding and improving workplace learning among health professionals using a variety of qualitative and mixed methodologies. She is a deputy

editor for *Academic Medicine*, network lead for the Association of Medical Education Europe (AMEE) Research paper committee, and co-editor of the third edition of the book *Understanding Medical Education*.



Medical Education Conference Certificate Program (MedEd Certificate Program within the IME Conference)

Conference participants are being given the opportunity to earn a Certificate of Achievement through participation in a set of specially-designed workshops. The Department of Medical Education at the Keck School of Medicine of USC offers six interactive workshops each year at IME. The workshop activities are designed to maximize the transfer of knowledge and skills from the workshop setting directly to each participant's work setting. All registered conference participants can attend any of these workshops. The workshops are aimed at providing participants with the principles and essential skills needed by educators within key roles in undergraduate and graduate medical education settings: teacher, leader, scholar, and mentor.

Below is the three-step process to earn your IME Conference Certificate of Achievement.

Step 1: **Register** online at the link below so that we can track your participation.

Step 2: **Attend five MedEd Certificate Workshops** over three years during the IME Conference. To receive credit for each workshop you must submit the evaluation and feedback form online or provided in the session. Please make sure to enter your name and learning points.

Step 3: **Complete an online story form** about how you have changed your practice as a teacher, leader, mentor, or scholar based on your participation in two of the five workshops attended. Your story form will be sent to you after you complete your fifth workshop.

Remember, to be eligible to earn a certificate you **MUST** enroll.

Go to this link: <http://tinyurl.com/ime-meded-certificate>

Welcome to the 2022 Innovations in Medical Education Conference

CONFERENCE LIVE ONLINE DATES & TIMES:

Thursday, February 17, 2022: 7:30 AM PST – 5:30 PM PST

Friday, February 18, 2022: 7:30 AM PST – 4:30 PM PST

The event website will be open to everyone registered until August 2022

whova.com/portal/webapp/imeoc1_202102

Visit sites.usc.edu/ime-conference-2022 for more information.

How to Have the Best Experience at the 2022 IME Online Conference:

- Make sure your Zoom app is up-to-date.
- Use Chrome for the best experience with Whova on a computer.
- Download the Whova mobile app (link below) for the best experience on a mobile device.
- Explore the Conference Agenda in the left-hand gray sidebar menu (at the bottom of the screen on the mobile app) and plan your schedule.
- Add any sessions you want to attend to your personal agenda to help you quickly find the link to the session. There are no limits on the number of attendees at any workshop. All workshops that you pre-registered for have been added to your personal agenda. You can change or remove any session on your own agenda.
- Download handouts for the workshops you plan to attend.
- Review the oral presentations and posters grouped by session topics. Plan to attend the live sessions to connect with the authors.
- Explore the opportunities to connect with other attendees provided by Whova.
- When it's time for any session you want to join, click on the green camera icon in the agenda to access the Zoom Meeting link.
- **Have fun! Ask questions of the presenters! Discuss the innovations and cool ideas!**
- Provide feedback to the presenters for every session you attend by clicking the Rate Session button or going to the Feedback link in Resources dropdown in the left-hand gray sidebar menu. *You must do this for every session you want to apply to a MedEd Certificate (make sure you sign up before the conference).*
- Come back to this website until August to explore everything you missed (all those posters...oral presentations... workshops... exemplars) and continue Q&A conversations.
- Check out these Conference Proceedings with all abstracts and presenter bios.

Conference Outcome Objectives:

By the end of the conference, participants will be better able to —

- Utilize evidence-based principles of teaching, leading, mentoring, and educational scholarship in their work within health professions' education.
- Incorporate techniques for enhancing the learning environment and wellbeing for all participants within their educational setting.
- Enhance the teaching and assessment of their learners in relation to the six ACGME Core Competencies by adapting the cool ideas and innovations learned about at IME.
- Incorporate cool ideas and innovations into the development of curricula and teaching at all levels of health professions' education.

Session Feedback and Evaluations:

The session evaluation and feedback forms are available online this year on the Whova conference event website. For your convenience, you can either click the Rate Session button found on same session page where you found the Zoom link or find the session in the list at the Feedback link in the Resources dropdown in the left-hand gray sidebar menu. Please complete your evaluations as soon as you leave the Zoom Meeting when the session is over. Your feedback is valuable to the presenters and will help us plan future meetings.

For those attendees who have paid the additional fee for CME Credit for this conference and completed evaluation forms (14 credits), an email will be sent after the conference with instructions to print your CME certificate.



Workshop Abstracts

TIME	SESSION	WORKSHOP CODE	WORKSHOP TITLE	PRESENTER LIST	PAGE #
Thurs 2/17 7:30 - 8:45 am	Med Ed Certificate Workshop	WS01	Guiding Crucial Conversations	Julie G. Nyquist, PhD; Jeffrey M. Ring, PhD	23
Thurs 2/17 7:30 - 8:45 am	Conference Workshop	WS02	Information Technology (IT) -Assisted Just-in-Time Teaching (JiTT) and Faculty Development	Elisabeth Schlegel, MS, PHD, MBA, MS (HPPL); Alice Fornari, EdD, FAMEEm, H- HEC, RDN; Mabelle Linsenmeyer	25
Thurs 2/17 9-10:15 am	Med Ed Certificate Workshop	WS03	Building Skills for Career Management: Networking and Career Action Plans	Kathleen Besinque, PhamD, MSEd; Velyn Wu, MD, MACM	27
Thurs 2/17 9-10:15 am	Conference Workshop	WS04	Forging a New Alliance: Creating Learning Conversations to Improve Clinical Skill Performance	Audrea Burns, PhD; Julieana Nichols; Satid Thammasitboon, MD, MHPE; DJuanna Satcher	28
Thurs 2/17 10:30- 11:45 am	Med Ed Certificate Workshop	WS05	Team-Based Learning for Health Systems Science	Daniel Novak, PhD; Ronan Hallowell, EdD	30
Thurs 2/17 10:30- 11:45 am	Conference Workshop	WS06	Using Competency-based Feedback to Coach Professional Development in Early Medical Students	Neil Osherooff; Cathleen Pettpher; Kimberly Dahlman; Emily Bird	31
Thurs 2/17 10:30- 11:45 am	Conference Workshop	WS07	How to Create a Leadership Manifesto to Define your Purpose and Maximize your Impact	Karen Souter; Rumeena Bhalla, BSc, MBChB, MA, ACC	33
Thurs 2/17 1:45-3 pm	Conference Workshop	WS08	From Eggshells to Action: Preparing to Address Microaggressions Targeting Learners	Meghan O'Brien, MD, MBE; Prabhjot K. Minhas, BS, BA; Katherine L. Lupton, MD; Sanziana Roman MD (she/her)	35
Thurs 2/17 1:45-3 pm	Conference Workshop	WS09	Zoomers and Roomers: Strategies for Creating the Optimal Hybrid Learning Environment	Anna Egan, MD; Stephen Overcash, MD; Kira Molas-Torresblanca, DO FAAP; Grant Christman, MD, MACM, FAAP	37
Thurs 2/17 3:15-4:30 pm	Med Ed Certificate Workshop	WS10	Learners in Difficulty	Ranna Nash, PhD; Nadia Sellami, PhD; John Peley, PhD, MBA	39
Thurs 2/17 3:15-4:30 pm	Conference Workshop	WS11	Connecting Trainees to Their Communities: Creating A Social Justice Curriculum to Foster Compassion	Alisa Acosta, MD, MPH; Candice Taylor Lucas, MD, MPH; Jyothi Marbin; Audrea Burns, PhD	40
Fri 2/18 7:30-8:45 am	Med Ed Certificate Workshop	WS12	Tips for Clinical Precepting	Win May, MD, PhD, FRCP; Alan Liu, MD	42
Fri 2/18 7:30-8:45 am	Conference Workshop	WS13	Emotional Intelligence and DEI: Utilizing Leadership Skills to Recognize and Prevent Microaggression	Nida Awadallah, MD; Gina Kim; Vicky Dunn	43
Fri 2/18 9-10:15 am	Med Ed Certificate Workshop	WS14	Preparing Effective Narrative Evaluations in UME and GME	Donna D. Elliott, MD, EdD; Cathy Jalali, PhD	44
Fri 2/18 9-10:15 am	Conference Workshop	WS15	Serious Games for Medical Educators	Teresa Chan; Jolene Collins; Michael Cosimini; Sarah Edwards; Tom Fadiat; Erika Francis; Paulius Mui; Bjom Watsjold	45
Fri 2/18 10:30- 11:45 am	Conference Workshop	WS16	Escape the Classroom! Using Google Workspace in Remote Learning	Velyn Wu, MD, MACM; Ann Spangler; Nida Awadallah, MD	47
Fri 2/18 10:30- 11:45 am	Conference Workshop	WS17	Coaching Learners Using the Master Adaptive Learner Framework	Karen Souter; Sherilyn Smith	49

TIME	SESSION	WORKSHOP CODE	WORKSHOP TITLE	PRESENTER LIST	PAGE #
Fri 2/18 10:30- 11:45 am	Conference Workshop	WS18	Supporting the Professional Identify Formation of Medical Educators through Faculty Development	Delores Amorelli, EdD; Gia DiGiacobbe, PMP	51
Fri 2/18 1-2:15 pm	Conference Workshop	WS19	Multimedia Design for Medical Content: An Evidence-Based Workshop for Health Sciences Faculty	Jessica Andrusaitis; Ronald Rivera, MD; Jon Smart; Gabriel Sudario, MD, MSEd	53
Fri 2/18 1-2:15 pm	Conference Workshop	WS20	Strength in Diversity: Building Support for BIPOC Providers	Manu Madhok, MD; Lavjay Butani, MD, MACM	54
Fri 2/18 2:30-4 pm	Conference Workshop	WS21	Using the Myers-Briggs Type Indicator in Teaching Clinical Problem Solving	John Pelley, PhD, MBA; Ranna Nash, PhD	56

Oral Presentation Abstracts

TIME	SESSION	TOPIC	ABSTRACT TITLE	AUTHOR LIST	PAGE #
Thurs 2/17 7:30 - 8:45 am	Oral Presentation of Innovations 1	Results of Educational Research Studies	PA Students May Benefit More from Earlier Mental Health Training	Lee, Hwal; Hadley, Robert D.	57
Thurs 2/17 7:30-8:45 am	Oral Presentation of Innovations 1	Results of Educational Research Studies	Residency Training Experiences of Residents with Children: A Phenomenology Study	Boschee, Erin; Zaeem, Zoya; Amin, Aditi; Moniz, Karen; Rashid, Marghalara	59
Thurs 2/17 7:30-8:45 am	Oral Presentation of Innovations 1	Results of Educational Research Studies	The Impact of Mentorship on Stress and Performance on a Virtual Reality Surgical Simulator	Feeley, Aoife; McManus, Robin; Sheehan, Eoin; Merghani, Khalid	60
Thurs 2/17 7:30-8:45 am	Oral Presentation of Innovations 1	Results of Educational Research Studies	Optimizing Racial and Ethnic Representation in Preclinical Medical Curricula at Mayo Medical School	Abdelwahab, Rewan; Sokumbi, Olayemi; Lewis, Derrick; Ogbaudu, Ewoma; Lopez Dominguez, Johanny; Shah, Amit; Seegmiller Renner, Amy; Elegbede, Audrey M.; Maleszewski, Joseph J.; Thomas, Taylor; Atunah-Jay, Sarah	61
Thurs 2/17 9-10:15 am	Oral Presentation of Innovations 2	Innovations in Undergraduate Health Professions Education	Assessing a Novel Evidence-Based Medicine Teaching Intervention	Menard, Laura; Blevins, Amy	63
Thurs 2/17 9-10:15 am	Oral Presentation of Innovations 2	Innovations in Undergraduate Health Professions Education	Back to Basics: Integrating Foundational Science and Patient Care in the Post Clerkship Curriculum	Dahlman, Kimberly; Osheroff, Neil; Parekh, Kendra; Estrada, Lourdes; Cutrer, William	65
Thurs 2/17 9-10:15 am	Oral Presentation of Innovations 2	Innovations in Undergraduate Health Professions Education	Qualitative Assessment of a Near-Peer Taught Suturing and Knot-Tying Course for Medical Students	Gao, Thomas Z.; Harris, Micah K.; Lu, Emily; Renton, David	66
Thurs 2/17 9-10:15 am	Oral Presentation of Innovations 2	Innovations in Undergraduate Health Professions Education	Implementation and Evaluation of an Addiction Medicine Course in Medical School Education	Sun, Alexander; Reilly, Jo Marie; Holmes, Randolph; Greenberg, Ilana	68
Thurs 2/17 1:45-3 pm	Oral Presentation of Innovations 3	Potpourri: Innovations and Educational Research	Improving Patients' Experience: Using a Simulation Virtual Boot-Camp to Assess and Teach Interns.	Ogunyemi, Dotun; Gentry; Micheal; Niren, Raval; Kenneth, Collado; Aguilar, Cesar; Kendall Johnson; Sol, Eun	69
Thurs 2/17 1:45-3 pm	Oral Presentation of Innovations 3	Potpourri: Innovations and Educational Research	From Group to Team: A Novel Medical School Orientation Curriculum for Building Effective Teams	Allenbaugh, Jill; Garfield, Jamie; Karras, David; Kaplan, Lawrence; Sullivan, Rebecca; Console-Bram, Linda; Buttaro, Bettina; Deboo, Anahita; Litvin, Judith; Robinson, William; Lin, Karen	70
Thurs 2/17 1:45-3 pm	Oral Presentation of Innovations 3	Potpourri: Innovations and Educational Research	Early Career Coaching for Academic Faculty Improves Faculty Confidence in Navigating Their Career	Fix, Megan; Anderson, Katherine; Glasgow, Tiffany; Hopf, Harriet W.; Walker, Heather	72

TIME	SESSION	TOPIC	ABSTRACT TITLE	AUTHOR LIST	PAGE #
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Fri 2/18 9-10:15 am	Poster Session 8: DEI, Social Justice, Caring for Underserved Patients	Poster #085	A 3-Steps Practical Method for Educators to Teach Social Accountability in Medical Education.	Gomaa, Nahla; Tawfik, Huda	253
Fri 2/18 9-10:15 am	Poster Session 8: DEI, Social Justice, Caring for Underserved Patients	Poster #086	Stories and Art Translate the Concept of Social Accountability – Experiences at One Medical School	Hu, Connie; Clithero-Eridon, Amy; Martinez, Julia	255
Fri 2/18 9-10:15 am	Poster Session 8: DEI, Social Justice, Caring for Underserved Patients	Poster #087	A Framework for Anti-Racism Pledge Writing in Medicine	Shah, Harini; Bui, Tracy; Miller, Jessica; Tobes, Marisa; Dominguez, Elizabeth; Keval, Aliyah; Fletcher, Cathlyn	257
Fri 2/18 9-10:15 am	Poster Session 8: DEI, Social Justice, Caring for Underserved Patients	Poster #088	Teaching Cultural Humility and Awareness of Privileged and Oppressed Identities	Ogunyemi, Dotun; Lee, Tommy; Challakere, Kedar; Sohn, John; Kuria, Carolyne; Isayeva, Gulchin	259
Fri 2/18 9-10:15 am	Poster Session 8: DEI, Social Justice, Caring for Underserved Patients	Poster #089	Longitudinal Service-Learning during COVID-19 to Promote Medical Student Clinical Development	Engelbrecht, Alana; Schneider, Molly; Morrin, Steven; Fazli, Jessamine; Marquez, Crystal; Taylor, Tonya	260

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Fri 2/18 10:30- 11:45 am	Poster Session 9: Assessment, Feedback, Improving Performance	Poster #091	Backfeed Your Feedback: A Longitudinal Workshop Series for Pediatric Oncology Fellows	Stokke, Jamie; Huh, Winston; Rybka, Michelle; Itani, Reem; Wu, Velyn	263
Fri 2/18 10:30- 11:45 am	Poster Session 9: Assessment, Feedback, Improving Performance	Poster #092	Initiating a Step 1 Tutor Curriculum in Response to a P/F Step 1 and a New Medical School Curriculum	Li, Michelle K.; Wu, Hall; Nahm, Sue J.	265
Fri 2/18 10:30- 11:45 am	Poster Session 9: Assessment, Feedback, Improving Performance	Poster #093	Board-Style Question Review as an Inter-Module Approach to Improving Medical Student Test Scores	Henson, J. Curran; Leding, Brandon T.; Vuk, Jasna	267
Fri 2/18 10:30- 11:45 am	Poster Session 9: Assessment, Feedback, Improving Performance	Poster #094	Comparing the Perceived Efficacy of Reciprocal-Peer and Near-Peer OSCEs.	Calisi, Olivia; King, Steven; Berger, Daniel; Nasir, Munima; Nickolich, Sarah	269
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Fri 2/18 10:30- 11:45 am	Poster Session 9: Assessment, Feedback, Improving Performance	Poster #096	Objective Analysis of the Influence of Instructor Level on Resident Surgical Performance	Pipaliya, Royal M.; Raymond, Mallory J.; Rowley, M. Andrew Jr.; Jasper, Polly; Meyer, Ted A.	273
Fri 2/18 10:30- 11:45 am	Poster Session 9: Assessment, Feedback, Improving Performance	Poster #097	Evaluating the Use of the Role Portrayal Assessment Tool for Standardized Patients in Clinical Exam	Konopka, Christian; Long, Kenneth; Nelson, Christopher; Diane, Corsaro; Deedrich, Debbie; Rosencranz, Holly; Jayasingh-Ramkumar, Japhia	274
Fri 2/18 10:30- 11:45 am	Poster Session 9: Assessment, Feedback, Improving Performance	Poster #098	The Impact of a Nervous System Anatomy Mock Practical on the Study Habits of Medical Student	Tse, Jonathan; Addis, Victoria; Woodcock, Jade	276
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Fri 2/18 1-2:15 pm	Poster Session 10: Interventions in Undergraduate Health Professions Education	Poster #101	The SHE Program: Promoting Female Leadership in Medicine through an Experiential Mentorship Program	Sabeti, Sara; Diep, Anna; Parekh, Nimisha K.	279
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Fri 2/18 1-2:15 pm	Poster Session 10: Interventions in Undergraduate Health Professions Education	Poster #103	Search the Script: Improving Clerkship Student Hypothesis-Driven Data Collection	Trant, Amelia; Tang, Jack; Gaeta, Marina; Zheng, Melanie; Freedman, Isaac; Wijesekera, Thilan	283
Fri 2/18 1-2:15 pm	Poster Session 10: Interventions in Undergraduate Health Professions Education	Poster #104	FASTS Precepting: Engaging Medical Learners in Virtual Patient Encounters with a Mnemonic Based Tool	Murphy, Tyler; Bate, Eleanor; Belthur, Mohan; Hartmark-Hill, Jennifer	284

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Fri 2/18 1-2:15 pm	Poster Session 10: Interventions in Undergraduate Health Professions Education	Poster #109	An Engineering-Business Curriculum for Medical Students in Pediatric Medical Device Development	Faye, Ethan; Lee, Jonathan; Kim, Michael; Shelby, Tara; Li, Jennifer J.; Espinosa, Juan	293
Fri 2/18 1-2:15 pm	Poster Session 10: Interventions in Undergraduate Health Professions Education	Poster #110	Making the Implicit Explicit: Clinical Reasoning as a Critical, Foundational Pre-Clerkship Clinical	Loh, Jennifer	294
Fri 2/18 1-2:15 pm	Poster Session 10: Interventions in Undergraduate Health Professions Education	Poster #111	RIME Time: A Novel Framework for Medical Student Pre-Rounding	Sokoloff, Max; James, Lorraine; Chai, Yan; Bhatia, Parul; Durazo-Arvizu, Ramon; Ben-Isaac, Eyal	296
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Fri 2/18 1-2:15 pm	Poster Session 11: Poster Potpourri	Poster #115	Residents as Teachers: Virtual Professional Development to Improve Teaching in Clinical Settings	Guenther, Amy; Malinowski, Robert	303
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Fri 2/18 1-2:15 pm	Poster Session 11: Poster Potpourri	Poster #118	Making an Educator: Pilot Evaluation of a PA Student-Led Academic Medicine Elective Rotation	Lee, Hwal; Hadley, Robert D.	309
Fri 2/18 1-2:15 pm	Poster Session 11: Poster Potpourri	Poster #119	Student Leadership Development Initiative: A Model for Training Medical Students Around the World	SenthilKumar, Gopika; Cole, Kelli; He, Yizeng; Stark, Katarina; Craig, Taylor; Meurer, John	310
Fri 2/18 1-2:15 pm	Poster Session 11: Poster Potpourri	Poster #120	A Call for Resident (Learner) Driven Didactics	Gillette, Austin; Wu, Velyn	312

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Fri 2/18 1-2:15 pm	Poster Session 11: Poster Potpourri	Poster #122	Medical Social Justice: Overcoming Barriers to the COVID-19 Vaccine in the Hispanic/Latinx Community	Adler, Audrey; Nadone, Haley; Dafinone, Mirabel; Sande, Diana; Dupin, Zach; Facemyer, Kevin	316
Fri 2/18 1-2:15 pm	Poster Session 11: Poster Potpourri	Poster #123	Use of Sepsis Calculator to Enhance Care of Infants ≥ 35 Weeks with Maternal Intraamniotic Infection	Zamora, Genesis ; Martorell-Bendezu, Lily	318
Fri 2/18 1-2:15 pm	Poster Session 11: Poster Potpourri	Poster #124	Improving a Free Clinic's Hemoglobin A1c Adherence Rate through a Student Led Consulting Initiative	Ramos, Harry; Bernardo, Sabrina; Gardner, Kanye; Sherwin, Robert; Booza, Jason; Levine, Diane	319

Guiding Crucial Conversations

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Brief Description: Discussions can become “crucial conversations” when the stakes are high, opinions differ, and emotions are strong. When faced with these conversations, there are three options to approaching it: avoid, handle poorly, or handle well. This workshop will help you identify when a conversation becomes “crucial” and through practice opportunities, help you develop key skills to better handle these conversations. You will receive two “gifts”: a self-assessment tool and a crucial conversation planning tool.

Detailed Workshop Plan:

Rationale: All professionals and all people encounter the need to have challenging conversations. These discussions can become “crucial conversations” when the stakes are high, opinions differ, and emotions are strong. When faced with these conversations, there are three options to approaching it: avoid, handle poorly, or handle well. Avoiding it leave problems unresolved and may contribute to burnout. Handling them poorly can damage the relationships of those involved. Handle these conversations well can help build positive relationships and contribute to a safer workplace or learning environment. Crucial conversations can happen with anyone, family, friend, co-worker, teacher, learner, or patient. They can be planned or happen “on the fly.” The key is turning a disagreement into a dialogue in either instance. Doing this requires deep listening, identifying the emotions and more importantly the underlying needs that are not being met.

Learner outcome objectives: by the end of the workshop participants will be better able to:

- 1) Utilize the three foundational skills of Crucial Conversations
- 2) Describe a prior instance of a crucial conversation (should have had, did have, should have soon)
- 3) Develop a communication plan for guiding a challenging personal or professional conversation
- 4) Articulate the complementary nature of Crucial Conversations, Mindset and Non-Violent Communication skills

Intended participants: All participants at the IME Conference

Methods: This session will utilize a variety of techniques: 1) large group presentation to provide basic information about crucial conversation; 2) small group storytelling; 3) Video Clip; 4) small group work to build a plan for guiding a crucial conversation and 5) debriefing of small group sessions.

Activity timeline: The workshop will be divided into four portions:

- Section 1: 20 minutes – Introduction, small group storytelling, and large group debriefing of stories of a past crucial conversation that never happened; one that was conducted and one that still needs to happen.
- Section 2: 15 minutes - Large group presentation of crucial conversation principles including a brief video clip/
- Section 3: 20 minutes – Small group work in pair to build a plan for a future crucial conversation with debriefing.
- Section 4 – 20 minutes – Large group discussion of the tools provided; brief didactic, taking the concepts deeper and learner takeaway messages recording in the chat.

Take home tools: 1) Self-Assessment tool; 2) Planning form for planning a future crucial conversation; and 3) Session Handout

References:

- 1) Clark CM, Fey MK. Fostering civility in learning conversations: Introducing the PAAIL communication strategy. *Nurse Educator* 2020;45(3):139-143. doi: 10.1097/NNE.0000000000000731.
- 2) Grenny J. Willow Creek 2014 Global Leadership Summit <https://www.youtube.com/watch?v=-dKYunkNOBs> 2014, minute 19-23.
- 3) Patterson K, Grenny J, McMillan R, Switzler A. *Crucial Conversations: Tools for Talking When Stakes Are High*, Second Edition, McGraw-Hill, 2012.
- 4) Rosenberg MB. *Nonviolent Communication: A Language of Life*, 3rd Edition, Encinitas, CA: Puddle Dancer Press, 2015.

Information Technology (IT) -Assisted Just-in-Time Teaching (JiTT) and Faculty Development

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Brief Description: IT-Assisted Just-in-Time Teaching (JiTT) and Faculty Development (FD) requires prudent planning to ensure mastery of use and fostering of lifelong learning. Through goal setting and practice, JiTT tools meet the challenges of geographic distribution and diverse faculty needs within health systems. Learners will explore new IT-assisted JiTT/FD tools such as apps, blogs, podcasts, and email for enhanced faculty development and share expertise and acquire resources for their home institutions.

Detailed Workshop Plan:

Rationale: IT-assisted just-in-time teaching (JiTT) and faculty development (FD) are technology-enhanced modalities of educational content that meet the challenges of geographic distribution, diverse learning environments, and faculty needs within academic health systems. In contrast to online sessions, IT-assisted JiTT/FD places resources in the hands of faculty educators and fosters an “always learning” mentality through versatile and accessible tools. Thus, through mastery of use and application, these tools can enhance faculty performance as educators and indirectly impact patient outcomes. Analytics can be used to determine impact and assess usage.

Learner Outcome Objectives

- 1) Explore new IT-assisted JiTT/FD modalities from three schools, including apps, blogs, podcasts, and email enhanced faculty development.
- 2) Engage with faculty on how to develop or adapt IT-assisted JiTT/FD modalities aligned with home institutions’ culture and needs.
- 3) Capture ideas to share, educate, and disseminate medical education content through IT-assisted JiTT/FD modalities.

Intended Participants: This workshop is directed toward faculty developers and clinical educators who are interested in implementing IT-assisted JiTT/FD modalities at their home institutions. No prior knowledge is needed.

Methods: After “Pecha-Kucha style” introductions of three unique IT-assisted JiTT/FD modalities/tools, the interactive portions of the session will include breakout groups with sample projects exploring individual tools and templates on how to generate IT-assisted JiTT/FD content. After small-group discussions, groups will report back to the large group, and the instructors will consolidate.

Activity timeline:

- | | |
|------------|---|
| 5 minutes | Introductions and orientation to the session |
| 20 minutes | Three IT-assisted JiTT-FD modalities/tools and how they advance faculty development |
| 35 minutes | Participants explore individual tools and generate content for a sample project in small groups |
| 15 minutes | Discussion, consolidation, and sharing of resources |

Take-Home Tools: Learners will assess several IT-assisted JiTT/FD modalities/tools with the invitation to collaborate and develop resources aligned with their home institutions.

References:

- 1) Orner, D., Fornari, A., Marks, S., & Kreider, T. (2020). Impact of using infographics as a novel Just-in-Time-Teaching (JiTT) tool to develop Residents as Teachers. *MedEdPublish*, 9.

- 2) Schlegel, E., & Primacio, J. (2021). Blogging for the Continuum of Medical Education: Engaging Diverse Communities of Learners. *MedEdPublish*, 10.
- 3) Boileau, E., Audétat, M. C., & St-Onge, C. (2019). Just-in-time faculty development: a mobile application helps clinical teachers verify and describe clinical reasoning difficulties. *BMC medical education*, 19(1), 1-8.

Building Skills for Career Management: Networking and Career Action Plans

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(1) Keck School of Medicine of USC, Department of Medical Education; (2) University of Florida Family
Medicine Residency Program; (3) Loma Linda University School of Dentistry

Brief Description: Faculty in health professions education must proactively manage their own careers and may also help students, residents, fellows and more junior faculty to build skills in Career Management. This workshop will review the elements of successful career management with special focus on identifying your passion, developing a career action plan, and building a supportive professional network. You will take home two tools to use in your own career management and in working with any mentees.

Detailed Workshop Plan:

Goals:

- A. Personal career development information
- B. Career development ideas for working with learners
- C. Career development ideas for working with professionals
- D. Planning a career development program/curriculum

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

- 1) Describe the tasks of career development
- 2) Explore tools to develop a career development curriculum or personal career plan
- 3) Develop a personal career development plan or curriculum for career development

Intended Participants: Students, Residents/Fellows, Faculty, Program Directors, Administrators

Activities:

- Introductions
 - Brief presentation on career development process
- Small group discussion
 - Brief presentation on career development tools available
- Individual/small group work with tools

Take home resources to:

- Develop a personal career plan or
- Develop a career development workshop for your learners

Resources:

- Briggs-Myers, Isabel. Introduction to Type, Sixth Edition, CPP Inc. Mountain View, CA, 1998
- Covey, Stephen R. The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change. Simon & Shuster: New York, 2004.
- Covey, Stephen R. The 8th Habit: From Effectiveness to Greatness. Simon & Shuster: New York, 2006.
- Gladwell, Malcolm. Blink: The Power of Thinking Without Thinking. Little, Brown and Company, New York, NY, 2005.
- Golman D, Boyatzis RE, McKee A. Primal Leadership: Learning to Lead with Emotional Intelligence. Harvard Business School Press; Reprint edition, March 2004
- Hagberg, Janet O. Real Power: Stages of Personal Power in Organizations. Sheffield Publishing Co.: Salem, Wisconsin: 2002
- Keirse, David . Please Understand Me II. Prometheus, 1998.

Forging a New Alliance: Creating Learning Conversations to Improve Clinical Skill Performance

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Brief Description: Based on an innovative model proposed by Tavares, Walter et al., in *Academic Medicine* in 2020, the authors propose a novel framework, Learning Conversations, that merges the fundamental strengths from both feedback and debriefing frameworks. This model allows for the cultivation of learning through authentic dialogue and the flexibility to adapt to one’s learning environment. This highly interactive workshop allows for robust discussion and role play to simulate the use of the Learning Conversations model.

Detailed Workshop Plan:

Rationale: In an era of providing experiential learning for medical trainees, learners must have constructed conversations with faculty to reflect in ways that impacts their future performance. Reflective techniques that have been widely published in the medical education literature include providing formative and summative assessment of medical trainee clinical performance through debriefing and feedback models. Oftentimes, medical educators often struggle to stay abreast of continually evolving models to deliver feedback to develop targeted competency in knowledge, attitude, and skills along with having continual faculty development to practice technique and learn effective strategies. It has been published that both debriefing and feedback models have strong advantages and limitations and are contextually dependent for effectiveness.

Learner outcome objectives:

- 1) Describe exemplar models of feedback, debriefing, and the limitations of both frameworks in medical education
- 2) Discuss the learning conversation model and apply to the clinical learning environment
- 3) Create techniques for integrating learner conversations as an effective educational tool

Intended participants: chief residents, fellows, junior faculty, medical educators, advanced practice practitioners

Methods: Small Group Discussion, Poll Everywhere, Large Group Discussion, Role Play

Activity timeline:

5 minutes	Individual Exploration Learning Objectives, Disclosure Review, Outline, Flip Grid Responses
15 minutes	Concrete Experience/Reflective Observation Small Group Discussions: Case Study- Role Play Ineffective Feedback Delivery Clinical Environment Large Group Report Out Discussion & Questions
10 minutes	Feedback vs. Debriefing Micro-Didactic #1: Defining Feedback/Debrief and Compare/Contrast Feedback/Debrief Historical Models of Feedback, Historical Models of Debriefing
10 minutes	Abstract Conceptualization/Concept Formulation Large Group Discussions: Please Share Your Experiences of Providing Feedback and Debriefing to Trainees
10 minutes	Debriefing- Learner Conversation Micro-Didactic #2: Techniques for Effective Learner Conversations Framework for Effective Learner -Conversations Question and Answer

15 minutes Active Experimentation/Application
 Small Group Discussion- Role Play Using R2C2 Assignments & Enactment
 Large Group Report Out

10 minutes Summary
 Micro-Didactic #3
 Learning Conversations Revisited
 Conclusions

Take home tools: R2C2 Trifold, Resident Learning/Change Plan

Team-Based Learning for Health Systems Science
Daniel Novak, PhD; Ronan Hallowell, EdD
Keck School of Medicine of USC, Department of Medical Education

Brief Description: Health systems science is the third pillar of medical education. It is the study of how health care is delivered, how health care professionals work together to deliver that care, and how the health system can improve patient care and health care delivery. In this workshop, participants will learn how to use backwards design and Team-based Learning (TBL) techniques to create engaging, challenging learning experiences with their students. Participants should bring an idea for teaching an element of health systems science to their own learners.

Detailed Workshop Plan:

Rationale: Health systems science (HSS) provides a new approach to the complex health systems challenges that the physician workforce will face in the clinic and beyond. As an active learning methodology, team-based learning (TBL) is uniquely situated to present health systems science content to medical students in an engaging and thought-provoking way. However, TBL is currently being used mostly in pre-clerkship basic science education and using lower-level objectives in Bloom's taxonomy. This workshop will help participants to design more effective TBL experiences by focusing on the design of application exercises that engage higher level thinking skills from students in domains related to health systems science.

Learner outcome objectives: At the end of this session, participants will be able to:

- 1) Articulate the benefits of using TBL to teach health systems science content
- 2) Relate backwards instructional design processes to the development of HSS-TBL sessions
- 3) Use a planning tool to help you develop a HSS-TBL application exercise

Intended participants: Medical educators who teach in health systems science topics in pre-clinical or clinical settings are welcome; experience with TBL is helpful, but a review of the approach will be provided in-session.

Methods: This workshop is structured with an initial 20-minute review of HSS, TBL, and HSS-TBL application activities. Participants will then spend 25 minutes in small groups using a planning tool to design their HSS-TBL application activity, followed by a 15-minute share out and large group discussion.

Activity timeline:

5 mins	Ice breaker and session orientation
15 mins	HSS and TBL
15 mins	Worked examples of HSS-TBL Application Exercises
25 mins	Practice using design tools in breakout rooms
15 mins	Share out

Take home tools: Participants will have access to the HSS-TBL Tool Kit, which includes handouts focused on a range of TBL design processes, including pre-session templates, session templates, and other tools.

Using Competency-based Feedback to Coach Professional Development in Early Medical Students

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Brief Description: Physicians require skills and attitudes beyond medical knowledge. However, because of the heavy focus on medical knowledge during pre-clerkship training, programs often struggle to incorporate strategies that provide feedback and coaching for learners in other domains. This workshop will inform attendees about how this issue can be addressed by using competency-based formative and summative feedback. Attendees will come away with strategies to implement feedback programs at their institutions.

Detailed Workshop Plan:

Rationale: Physicians require skills and attitudes beyond medical knowledge. However, because of the density of modern curricula and the heavy focus on medical knowledge during pre-clerkship training, programs often struggle to incorporate strategies that provide feedback and coaching for learners in domains that extend beyond medical knowledge. One approach to address this issue is to incorporate competency-based formative and summative feedback schemes in the pre-clerkship curriculum that are compatible with established small group learning modalities. Competency-based feedback allows a holistic view of student development, provides rich information that can be used to coach learners in a variety of domains, and establishes a roadmap that encourages learner development and sustainability.

Learner outcome objectives: After completing this interactive workshop, attendees will be able to:

- 1) Describe qualitative formats of formative and summative feedback and how they can be used in team-based environments to equip students with a diverse set of competencies during pre-clerkship education.
- 2) Describe how oral and written feedback differ in their design and use.
- 3) Describe how feedback can be used to identify previously undetected challenges and allow opportunities for coaching and remediation before students enter the clinical workplace.

Intended participants: This workshop is intended for curricular leaders, administrators, and interested faculty who are involved in medical student education and assessment in the pre-clerkship curriculum. Those who teach in the clinical workplace will also benefit.

Methods: This workshop will utilize a combination of interactive large and small group sessions to involve the audience and achieve the expected outcomes.

Activity timeline:

15 min	Basis of competency-based feedback Large group interactive discussion that will describe competency-based feedback, explore the advantages of incorporating it into medical curricula, and describe the use of formative and summative feedback (written and oral).
20 min	Settings for competency-based feedback and competencies to be assessed Facilitator-assisted small group session. Attendees will devise approaches for integrating activities into their curricula that could be used to observe specific student behaviors and apply competency-based feedback. This will include the competencies that would be incorporated.
10 min	Report out session Groups report out on their discussions.
15 min	Approaches for delivering feedback Facilitator-assisted small group session. Attendees will discuss approaches for delivering oral and written feedback to trainees.

15 min Success and challenges of competency-based feedback
Interactive report out and discussion about the successes and challenges of providing feedback to early medical trainees and how competency-based feedback can be leveraged to enhance student development and sustainability.

Take home tools: Attendees will leave the workshop with:

- 1) An understanding of the different types of feedback and their importance and use.
- 2) Practical strategies and a framework for implementing milestone-based trainee assessment at their institutions.

References:

- 1) Pettepher et al (2016) Med Sci Educ 26, 491. From Theory to Practice: Utilizing Competency-based Milestones to Assess Professional Growth and Development in the Foundational Science Blocks of a Pre-Clerkship Medical School Curriculum.
- 2) Bird et al (2017) Med Sci Educ 27, 759. Using Small Case-Based Learning Groups as a Setting for Teaching Medical Students How to Provide and Receive Peer Feedback.

How to Create a Leadership Manifesto to Define your Purpose and Maximize your Impact

Karen J. Souter, MB, BS, FRCA, ACC, MACM (1); Rumeena Bhalla, MB, ChB, ACC (2)

(1) University of Washington Medicine; (2) Sequin Life Coaching LLC

Brief Description: *"The two most important days in your life are the day you are born and the day you find out why" –Mark Twain.* Being a leader, negotiating with your boss, building your own business or brand, and thriving in your career, all require one thing - a sense of purpose; that sense of "knowing" who you are and what you stand for. In this workshop we will coach you through the steps to create your own leadership manifesto and explore its uses in your life, leadership, and professional development.

Detailed Workshop Plan:

Rationale: Pick up any book on leadership; attend any leadership course; prepare for a negotiation or difficult conversation; build a business or brand; engage an executive leadership coach; or simply consider the next phase of your life and very soon you will face three critical questions "Who am I"? "What is my purpose?" and "How can I make an impact?". These three essential questions can be answered by creating a leadership manifesto. The word "manifesto" means a "written statement declaring publicly the views of its issuer" (1). A manifesto can be a call to action, a statement of principles or a document that captures your ideals and intentions. Without a strong foundation any attempts at leading, building your unique brand, having difficult conversations, and attempting negotiations flounder. It takes time, energy, and support to create a leadership manifesto. In this workshop we offer you all three! – and at the conclusion of our time together you will be on the way to the 2nd most important day of your life!

Learner Outcome Objectives: By the end of this workshop participants will be able to

- 1) Define the steps necessary to create a personal leadership manifesto
- 2) Identify their strengths and values
- 3) Compose a leadership manifesto using structured worksheets
- 4) Evaluate their leadership manifesto with the assistance of their peers
- 5) Identify opportunities to use their leadership manifesto in their day-to-day lives

Intended Participants: Members of the academic medical education community who are leaders or aspire to leadership roles.

Activity Timeline:

- 1) Opening remarks, attention grabber question "what is my purpose?"- using zoom chat feature (5 mins).
- 2) Didactic presentation on how to create a leadership manifesto (10 mins).
- 3) Individual and group work - learners will identify and discuss their strengths and values using an online values sort exercise (ideally done prior to the workshop – presenters will email attendees the link prior to the session and time will be made available if attendees need to do it during the workshop) (10 mins).
- 4) Individual work to compose a leadership manifesto using a structure worksheet (10 mins).
- 5) Pair-share activities for participants to share their manifestos and receive feedback from their fellow participants (10 mins).
- 6) Large group debrief with audience examples. Presenters will ask coaching-style questions to help participants evaluate and deepen their ideas and manifesto statements (10 mins).
- 7) Large group discussion – using zoom chat feature – how participants plan to use their manifestos and how they could introduce this work to their own learners. (15 min -PT)
- 8) A final "call to action" statement on how participants will continue working with their leadership manifestos. (5 mins).

Take Home Tools: Structured work sheet on how to build a leadership manifesto (could be used with participants' own learners). A list of your top strengths and values. Your own personal leadership manifesto.

References:

- 1) Your Leadership Manifesto. Donna Brighton. The Brighton Leadership Group, Oct 2019
- 2) How to Write a Powerful Personal Leadership Manifesto. Adam Cairns Oct 2019
- 3) From Purpose to Impact. Nick Craig & Scott Snook. Harvard Business Review May 2014
- 4) Daring Greatly Leadership Manifesto. Brené Brown

From Eggshells to Action: Preparing to Address Microaggressions Targeting Learners

Meghan O'Brien, MD, MBE; Prabhjot K. Minhas, BS, AB; Katherine L. Lupton, MD;
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Brief Description: Microaggressions are common in clinical learning environments, and many supervisors describe discomfort and inexperience with responding to microaggressions targeting team members. This session presents the Bystander Microaggression Intervention Guide (BMIG), a novel framework for responding to microaggressions derived from medical student preferences. Participants will reflect on personal experiences, practice pre-briefing, and leverage the BMIG in microaggression responses.

Detailed Workshop Plan:

Microaggressions are intentional or unintentional verbal, behavioral, or environmental indignities that communicate negativity toward a target's identity(ies). Many sources of microaggressions pervade clinical learning environments to the detriment of learners, providers, and patients (Wheeler et al., 2019; Glaser et al., 2019; Bullock et al., 2020). Supervisors describe that increasing awareness of bias and discrimination prompts uncertainty or fear, as if they are 'walking on eggshells', about doing the wrong thing and being labeled as racist or sexist when responding to microaggressions (Gold et al., 2019).

In "No One Size Fits All: A Qualitative Study of Clerkship Medical Students' Perceptions of Ideal Supervisor Responses to Microaggressions," we describe students' ideal supervisor bystander response as one that incorporates both student preferences – best determined through pre-emptive discussion or "pre-briefing" - and the microaggression context. We created the Bystander Microaggression Intervention Guide (BMIG) as a visual representation of students' preferred bystander microaggression response. This practical tool for supervisors guides effective interventions that promote educational safety and empower the affected microaggression target. This skills-building workshop for medical educators and clinical supervisors focuses on implementing the BMIG to empower responding to microaggressions targeting learners in the clinical environment.

We will begin with a brief review of the types of microaggressions and the need for skill-building in responding to microaggressions. In pairs, participants will reflect on personal experiences with microaggressions and the challenges in responding to microaggressions. Next, we will review Bullock et al's (2021) BMIG and the concept of pre-briefing. Participants will then convene in small groups to develop and practice the skill of pre-briefing and then practice incorporating pre-briefs in microaggression cases, leveraging the BMIG to construct their responses. Finally, we will return to the large group and debrief these activities, lessons learned, best practices, and concrete skills participants plan to incorporate in their own clinical learning environments.

We will utilize chat and polling during the large group discussions, and breakout rooms for small group activities to promote participant interaction and engagement.

Session timeline:

- 0:00-0:05 Introductions, review goals and learning objectives
- 0:05-0:13 Background on microaggressions
- 0:13-0:19 Pair share – personal experiences of microaggressions as a supervisor
- 0:19-0:25 Introduction to BMIG and pre-brief demonstration
- 0:25-0:45 Small group – Practice creating a pre-brief
- 0:45-0:52 Large group debrief
- 0:52-0:70 Small group – Practice incorporating pre-brief with microaggression cases
- 0:70-0:75 Wrap Up: Take home points/lessons learned

Learning Objectives:

- 1) Define microaggressions and identify the common classes of microaggressions (micro-assault, microinsult, microinvalidation)
- 2) Develop a framework for bystander response to microaggressions using the BMIG
- 3) Implement pre-brief when supervising learners
- 4) Apply allyship skills when responding to microaggressions against team members

Zoomers and Roomers: Strategies for Creating the Optimal Hybrid Learning Environment

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Grant Christman, MD, MACM, FAAP
Children's Hospital Los Angeles

Brief Description: The pandemic has forced learners out of, back into, and again out of the classroom. As a result, educators have had to adopt a hybrid model of medical education with some learners attending in-person and others virtually, adding complexity for all involved. In this workshop, participants will develop best practices for teaching in the hybrid environment, troubleshoot challenges with teaching learners across two settings, and practice gamifying their lectures to engage learners in both spaces.

Detailed Workshop Plan:

Rationale: When the COVID-19 pandemic forced the world to “go virtual”, many in medical education had to quickly adapt to this new format. However, as the pandemic continues, learning occurs more frequently in a hybrid model with some attending in-person and others virtually. This hybrid learning environment poses its own set of challenges that are distinct from those of the virtual-only environment. Educating and engaging learners simultaneously across multiple settings requires an understanding of these challenges and commitment to adapting once again, to ensure that no learner is at a disadvantage based on their chosen learning environment. Our workshop will help participants develop best practices for teaching in the hybrid learning environment, troubleshoot common challenges that occur when learners are in different settings and practice gamifying their lectures to further engage learners in all settings.

Learner Outcome Objectives: By the end of this workshop, participants will be better able to:

- 1) Identify best practices for engaging learners in a hybrid setting and formulate a faculty development strategy for their home institutions.
- 2) Create best practices for hybrid learning by designing strategies for dissemination to faculty members at your home institution
- 3) Apply strategies to gamify educational lectures for better engagement across multiple settings

Intended Participants: Educators and coordinators across all disciplines who are teaching multiple levels of learners in a hybrid learning environment.

Methods: In this workshop, participants will engage with presenters and each other via large and small group activities on the Zoom platform. The workshop will begin with a didactic case study of a hybrid learning faculty development program implemented by the lead presenter at her home institution. Improvements in learner engagement will be interpreted using adult learning principles. Participants will then rotate through three interactive, small group activities (via Zoom breakout rooms) that will help them improve hybrid learning at their home institutions. In the first station, participants will utilize a worksheet to identify best practices for teaching in a hybrid environment and develop a strategy to teach faculty at their home institution to utilize these best practices. Then, participants will experiment with playing learning games (e.g., Pictionary, Taboo) suited to the hybrid environment and will identify a game that they would like to incorporate into an upcoming lecture. In the final small group, participants will discuss practical and technical considerations for teaching in the hybrid environment, such as the use of audiovisual aids and dissemination of written materials. Finally, participants will reconvene as a large group to report back on their small group discussions, share experiences, and identify changes that they will bring back to their home institutions.

Activity Timeline:

- 1) Introduction: Example of residency program adapting to hybrid learning environment. 10 minutes
- 2) Breakout groups to address on learning objectives: We will create 3 breakout rooms. Participants will rotate through each room which will be moderated by one of the workshop leaders. 45 minutes

- 3) Large Group Discussion, Reflections and Conclusions: Participants will be asked to identify and share key takeaways with the larger group. 10 minutes

Take Home Tools: Worksheet for identifying hybrid learning best practices and formulating faculty development plan. Written guide to implementing learning games.

Learners in Difficulty

Ranna Nash, PhD (1); Nadia Sellami, PhD (1); John Pelley, MD, MPH (2)
(1) Keck School of Medicine of USC, Department of Medical Education; (2)

Brief Description: Identifying students early, who may be at risk of having difficulty transitioning in the early stages of their medical education, is a process that is discussed a great deal at the national, regional, and local levels. Being able to provide resources to students early, regardless of need, is a concern for many medical schools. The differences between successful and unsuccessful students that struggle is awareness of how they learn and cope, reflection along with positive socialization of their peers (Todres et al., 2012). This workshop will introduce a holistic approach in supporting students along a continuum from the moment that students are accepted to launching students into the safe hands of their career advisors in the 4th year. Participants will walk away with tangible items that will assist their learners at different stages of their education.

Detailed Workshop Plan:

Rationale: As educators our goals are to support students to their full capacity. Identifying students early is a model that many medical schools strive for. When students are identified, the struggle is what to do to improve outcome performances for these students. By not knowing what interventions to use or lack of early identification, this can lead to a delay in intervention (Audetat, et al., 2013). Therefore, early identification and proactive interventions is the key to successful long-term improvements in students' academic performances.

Learner outcome objectives:

LO1: Learners will practice identifying struggling students using an early identification model

LO2: Learners will be able to identify the reason(s) for poor performance of student cases

LO3: Learners will participate in using some common assessments to identify learner weaknesses and strengths

Intended participants: Participants are educators and learners in all categories.

Activity timeline:

5 minutes	Introductions of facilitators
10 minutes	Introduction to Learners with Difficulty
5 minutes	Goal of workshop and introduce break out rooms
15 minutes	Break out room for LO1
15 minutes	Break out room for LO2
15 minutes	Break out room for LO3
10 minutes	Questions and wrap up

Any take home tools: To be given prior to workshop.

Connecting Trainees to Their Communities: Creating A Social Justice Curriculum to Foster Compassion

Alisa Acosta, MD, MPH (1); Candice Taylor Lucas, MD, MPH (2); Jyothi Marbin, MD (3);
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Brief Description: Despite increased teaching of social determinants of health during medical training, there has not been a concomitant increase in physicians taking on professional roles as health advocates. It is critical to train future health care professionals in social justice. Through an interactive workshop, participants will gain the skills and knowledge for creating a social justice curriculum for their home institution.

Detailed Workshop Plan:

Rationale: Along with teaching social determinants of health during medical training, it is critical to train future healthcare professionals in social justice to better prepare trainees as health advocates.

Learner outcome objectives:

- 1) Describe social justice and the three established approaches (critical consciousness, structural competency, and antiracist pedagogy) for teaching social justice
- 2) Acknowledge the difference between cultural competency and critical consciousness in awareness and reflection of bias
- 3) Evaluate current curricula and develop an action plan to implement new and/or refine curricula

Intended participants: residency program directors, associate program directors, fellowship program directors, coordinators, chief residents

Methods: Despite increased teaching of social determinants of health during medical training, there has not been a concomitant increase in physicians taking on professional roles as health advocates. It is thought that in addition to understanding social determinants, it is critical to train future health care professionals in social justice. This workshop unites facilitators across multiple institutions to share their experiences and provide a platform to discuss published models and teaching tools to guide participants in building or refining social justice curricula. In this highly interactive workshop, participants will engage in small group sessions to discuss a complex patient-trainee interaction to contextualize complexities of marginalization and health disparities. Brief didactics will include highlighting the difference between cultural competency and critical consciousness as well as three approaches for teaching social justice - critical consciousness, structural competency, and antiracist pedagogy. Using one of three theoretical approaches, facilitators will briefly highlight current tools used at their home institutions. Applying these concepts and framework, participants will be guided by the facilitators to work on creating/refining social justice curricula for their home institutions.

Activity timeline:

5 min	Introduction Intro to the workshop, establish psychologic safety, encourage ongoing dialogue in the chat
13 min	Part 1 Concrete Experience, Framing Case introduction and didactic regarding frameworks of social justice to teach social justice - critical consciousness, structural competency, antiracist pedagogy
15 min	Part 2 Reflective Observation Small group* discussion revisiting the case: identifying opportunities to teach justice v ersus social determinants of health; reframing the case

- 20 min Part 3 Abstract Conceptualization
Brief didactic linking social justice to critical consciousness and Virtual Gallery Walk to highlight tools and examples used to teach social justice
- 15 min Part 4 Active Experimentation
Small group* activity using a worksheet template to reflect on which approach to teach social justice will suit the participants' learners considering challenges and barriers with possible solutions
- 5 min Conclusion
Summary/take home messages; social justice resource guide; evaluations

*Small groups are planned to be moderated

Take home tools:

- Social Justice Curriculum Assessment Worksheet
- Social Justice Resource Guide

Tips for Clinical Precepting

Win May, MD, PhD, FRCP, Alan Liu, MD

Keck School of Medicine of USC, Department of Medical Education

Brief Description: Preceptors are a critical component in the education of our future providers. Precepting is a teaching-learning approach with an assigned, short-term, one-to-one relationship between a student and an experienced practitioner. This workshop will provide busy clinicians with some tips and tools to effectively integrate clinical teaching and patient care.

Detailed Workshop Plan:

Rationale: Precepting is an extremely important aspect of clinical teaching, offering a one-to-one relationship between a medical student and the practitioner. Participants will be practicing one of the skills needed to effectively teach medical students to participate in the care of the patient and the family.

Learner Outcome Objectives:

- 1) Define a preceptor and his/her role
- 2) Describe the skills of an effective preceptor
- 3) Describe keys and tips for efficient integration of clinical teaching and patient care (microskills, SNAPPS)
- 4) Apply the skills of using the ONE-MINUTE PRECEPTOR with standardized students.

Intended participants: Any faculty who precepts students

Methods: Large group lecture-discussion; small group exercises; role play with standardized student; debriefing

Activity Timeline:

0 – 5 minutes	Introductions
6 – 20 minutes	Lecture discussion on preceptor roles and skills
21 -25 minutes	Transition to two groups
26 – 50 minutes	Small group activity with participants applying the One-Minute Preceptor model to standardized learners
51 – 70 minutes	Debriefing in large group
71 – 75 minutes	Reflection and Commitment to act

Take Home Tools:

- 1) Comparison between OMP and SNAPPS
- 2) Framework for Clinical Teaching
- 3) References

Emotional Intelligence and DEI: Utilizing Leadership Skills to Recognize and Prevent Microaggression

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(1) *University of Colorado School of Medicine*; (2) *USC Keck School of Medicine*

Brief Description: This session will briefly introduce the learner to the topic of emotional intelligence before a more in-depth application to diversity, equity, and inclusion. It is designed for novice to advanced-beginner academic faculty and will employ active learning techniques, such as small group discussions, think-pair-share opportunities, and self-reflection. By the end of the session, learners should be better able to apply emotional intelligence in diversity skills in the academic and clinical setting.

Detailed Workshop Plan:

Physicians need to be independent thinkers to effectively lead multidisciplinary teams. Diversity, equity and inclusion (DEI) training and ongoing education is integral. Emotional intelligence leadership skills can be utilized to address DEI concerns in the moment and across time. Training in emotional intelligences and diversity can improve individual performance and team dynamics. Gardenswartz, Cherbosque and Rowe (2020) introduced the Emotional Intelligence & Diversity (EID) model which we will introduce along with exercises to be included in sessions addressing prevention of microaggressions with students, residents, staff or faculty.

Outcome Objectives: At the end of the session participants should be able to:

- 1) Describe emotional intelligence and its application in diversity, equity, and inclusion (DEI) in academic and clinical settings.
- 2) Describe the EID model and apply individual skills associated with the model.
- 3) Utilize one aspect of the EID model to create a SMART plan to recognize or prevent your own individual microaggressions from occurring
Intended participants: Novice to advanced beginner academic faculty

Methods: Large group didactic, self-assessment and small group case discussion and making of a brief plan of action

Activity timeline: 75 mins

- 0-15 minutes: Introduce presenters, sharing objectives and use of an attention grabber: Review Circle diagram (from EID model of differences) discuss examples of discrimination in the workplace
- 16-30 minutes: Didactic PowerPoint; Introduce concept of EI and EID to include the four arenas
- 31-50 minutes; Brief Self-assessment of the four arenas of EID for the individual (Affirmative Introspection, Self-Governance, Intercultural Literacy, and Social Architecting) followed by SG discussion of elements with each person selecting one arena for personal growth
- 51-60 minutes: Large group didactics; Further exploring the four elements of EID and individual skills taught using cases to emphasize each arena
- 61-75 minutes: Individuals complete their planning form for one small change; Poll to identify area of emphasis, open discussion, questions and session evaluation

Take home tool: Self-Assessment and Planning a Small Personal Change to Recognize and Lower Own Microaggressions

Preparing Effective Narrative Evaluations in UME and GME

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Keck School of Medicine of USC, Department of Medical Education

Brief Description: Effective narrative evaluations can aid in moving the focus from primarily quantitative measures to more qualitative measures of learner performance and help to explicate learners' competencies beyond medical knowledge to include patient care, professionalism, communication, practice-based learning and improvement, and systems-based practice. Adherence to standard frameworks of assessment will result in more accurate, transparent, and unbiased evaluations of performance. This workshop will provide the foundation for writing effective narrative evaluations.

Detailed Workshop Plan:

Rationale: Faculty and residents are challenged with constructing individual narrative evaluations. Subsequently, clerkship and program directors are challenged with low quantity and quality of narrative evaluations. Many in medical education advocate for improved specificity of comments about clinical performance by using frameworks such as competency-based medical education (CBME) or RIME. This workshop will provide guidance on how to improve the quality of narrative comments and help enhance the quantitative assessment of learners with qualitative measures of performance.

Learner outcome objectives: After participating in the session, attendees should be able to:

- 1) Describe the core components of an effective narrative evaluation
- 2) Compose a narrative evaluation that provides useful information for individual learners and clerkship/program directors
- 3) Construct a high-quality summative narrative evaluation

Intended participants: Any individuals who evaluate learners including faculty, residents, program directors and clerkship directors.

Methods: Didactic presentation; breakout small group activities

Activity timeline: Total 75 minutes

5 minutes	Background Presentation
10 minutes	Narrative feedback in individual evaluations- challenges and biases
15 minutes	Activity #1: Faculty and Resident Narrative evaluations (Small groups)
5 minutes	Debrief
10 minutes	How to Write an Informative Summary Narratives
15 minutes	Activity #2: Summative Evaluations (Small groups)
5 minutes	Debrief
10 minutes	Wrap up / Q&A

Serious Games for Medical Educators

Teresa M. Chan, MD, MHPE, FRCPC, DRCPC (1); Jolene Collins, MD (2); Michael Cosimini, MD (2); Sarah Edwards, MBBS (3); Tom Fadiel, MD (4); Erika R. Francis, MSPAS (5); Eric Gantwerker, MD, MSc, MS (6); Paulius Mui, MD (7); Bjorn Watsjold, MD, MPH (8)

(1) McMaster University; (2) Keck School of Medicine of USC; (3) University Hospitals of Leicester NHS Trust; (4) McGovern Medical School; (5) Shenandoah University; (6) Zucker School of Medicine at Hofstra/Northwell; (7) VCU-Shenandoah Valley, Family Practice Residency; (8) University of Washington, Department of Emergency Medicine

Brief Description: Serious games (games for a purpose other than entertainment) are engaging tools for teaching a wide range of knowledge, skills, and attitudes. Lead by designers of tabletop (GridlockED, Table Rounds, Clinical Coaching Cards) and mobile games (Gistalt, Top Derm), this workshop is for educators interested in incorporating the use of serious games into their teaching. Participants will discuss gamification, serious games, their strengths and weaknesses, and learn the process to design serious games.

Detailed Workshop Plan:

Rationale: Adult learners carry their own experience and motivations to learn and learn best through direct application and problem solving. Didactic teaching is often insufficient to address the unique position of adult learners, especially in medicine education where problems are complex and there may be no quick right answer.

Game elements applied to teaching (gamification) have been increasingly used to move away from a didactic model. Many learners have been exposed to some degree of gamification such as the use of a Jeopardy! format to assess for understanding. This type of gamification can consolidate learning and drive engagement but comes with some risk of turning off learners if not appropriately applied. Serious games differ from gamification by incorporating learning objectives into a game explicitly designed for a purpose other than entertainment. When well-designed students learn from experimentation in a low stakes environment and modify their actions through an iterative process. This can be designed to target skills, knowledge or attitudes depending on the methods.

Serious games require thoughtful application of game elements to match the educational goals. This workshop is designed to introduce participants to techniques used in serious games. We bring together a diverse group of educators who have implemented games mechanics from simple tabletop gamification to mobile applications to teach the fundamentals of their use. Participants will select small groups depending on their interests (card games, board games, digital games). Participants should feel inspired to design and use games for teaching after this session.

Learner outcome objectives:

- 1) Explain the difference between games, gamification, and serious games.
- 2) Describe how game elements, function to serve educational goals through modifying behaviors and attitudes of learners.
- 3) Talk through drafting a serious game (digital or analog) to meet an educational goal.

Intended participants: Educators interested in developing or using existing serious games for teachings at all levels. Participants are encouraged to join from a computer or tablet to be able to fully participate in virtual play and design sessions.

Methods: Zoom Presentations and small group hands on session with Jamboard.

Activity timeline:

15 min Introduction to gamification and serious games.

25 min	Talk on gamification and serious games and relative strengths and weaknesses. Will cover how game elements can modify learner behaviors and attitudes.1-3 Live game play Breakout rooms with interactive games to play. These will be digital games and card games that have been implemented online in Jamboard (link provided in the breakout room). Participants will switch between rooms. Moderators will discuss tips for teaching with games in these rooms.4-6
10 min	Tips for designing games Zoom format talk on important tips for designing and testing games.
20 min	Designing a game Breakout rooms with 1-2 moderators each where small groups of participants will brainstorm how to approach an educational challenge with a serious game. This will be done on a shared google doc or jamboard page which will be linked to during the breakout rooms. Participants can decide between rooms focused on digital, card or board games.
5 min	Wrap up Return to the full group for 1-2 questions from participants.

Take home tools: Session handout

References:

- 1) Tekinbaş, K. S., & Zimmerman, E. (2003). Rules of play: Game design fundamentals. Cambridge, Mass: MIT Press.
- 2) Landers RN. Developing a Theory of Gamified Learning: Linking Serious Games and Gamification of Learning. Simulation & Gaming. 2014;45(6):752-768. doi:10.1177/1046878114563660
- 3) Abt CC. Serious games. New York, NY: Viking Compass; 1970.
- 4) Deptola A. Motivation: An Integral Component of Resident Well-Being. J Grad Med Educ. 2021 Feb;13(1):11-14. PMC7901632
- 5) Rutledge C, et al. Gamification in Action: Theoretical and Practical Considerations for Medical Educators. Acad Med. 2018 Jul;93(7):1014-1020. PMID 29465450
- 6) Deslauriers L et al. Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom. Proc Natl Acad Sci U S A. 2019 Sep 24;116(39):19251-19257. PMCID PMC676527

Escape the Classroom! Using Google Workspace in Remote Learning

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Brief Description: Escape rooms have gained acceptance in education and are increasingly being used in health professions education to teach cognitive, affective and psychomotor skills. This workshop will demonstrate how to implement Digital Educational Escape Rooms for medical students, residents/fellows, and other health care professionals, with emphasis on providing educators with experiences and resources which will assist them in implementing these techniques with their own learners.

Detailed Workshop Plan:

Rationale: Escape rooms have been used in education at multiple levels and subject areas over the past decade, with the goals of teaching knowledge and technical skills as well as promoting team building and leadership.(1) In health professions education, escape rooms may take the form of puzzles including simulations and physical skills, as well as cognitive skills related to specific subjects. The use of Digital Educational Escape Rooms (DEERs) has been well received and is particularly appealing in the recent pandemic-related increase in use of digital educational techniques.(2) DEERs may use progressive disclosure technique to take learners through the process of gathering and evaluating data and making appropriate diagnostic and treatment decisions. This technique is particularly suited to medical education small-group interactive learning and supporting team building in addition to providing medical knowledge and skills with the use of debriefing after the experience.(3,4,5)

The use of a digital escape room was demonstrated as part of the on-site course work in the USC MACM program in 2021, with the session feedback reporting the technique to be effective in demonstrating the effectiveness and applicability to learners in multiple levels and specialties.

Learner Outcome Objectives: By the completion of this workshop, learners will be able to:

- 1) Describe techniques and educational benefits of escape rooms
- 2) Assess which techniques would be most appropriate for their own learners
- 3) Access online applications they can use in their own programs
- 4) Create a digital escape room on an educational topic

Intended participants: Medical educators in the health professions, in undergraduate, graduate and continuing education programs to include teaching faculty as well as residents and fellows.

Methods: This session will introduce participants to the use of Google Workspace in remote learning. Participants will become familiar in the use of various Google tools to promote active (synchronous and asynchronous) learning in the virtual classroom. In small groups, they will create an escape room that may be used to provide education to their own learners.

Activity timeline (75 mins):

Introduction

Discussion on Active Learning: 5 minutes

Discussion on Remote learning: 5 minutes

Large group presentation

Overview of tools in the Google workspace: 5 minutes

Examples of integration of tools in the virtual classroom: 10 minutes

Large group brainstorm of topics that could be delivered using Google workspace tools: 5 minutes

Escape room presentation

Discuss the components of a google drive escape room: 10 minutes

Guided small group work to create a small escape room on an educational topic using a provided escape room template: 25 minutes

Wrap-up

Debrief: 5 minutes

Questions: 5 minutes

Take home tools:

- 1) References for use of escape rooms in medical education
- 2) List of applications/sources of information to design and implement escape rooms
- 3) A google drive template they can access to create their own escape rooms

Coaching Learners Using the Master Adaptive Learner Framework

Karen J. Souter, MB, BS, FRCA, ACC, MACM; Sherilyn Smith, MD
University of Washington Medicine

Brief Description: The Master Adaptive Learner (MAL) framework was developed to teach the skills needed to learn “Adaptive Expertise” (the ability to recognize when a routine approach is not working and solve a problem by exploring new concepts and innovating to create new solutions). Implementing the MAL framework requires an innovative approach, and a coaching model has been proven effective. This interactive workshop will guide participants through a coaching approach for using the MAL framework with their learners.

Detailed Workshop Plan:

Rationale: The rapidly changing context of health care delivery exemplified perhaps by the challenges of the COVID19 pandemic creates a gap between what physicians know today and what they will need to know tomorrow to provide optimum patient care. The ability to adapt one’s approach to unexpected and uncharted situations requires a type of learning described as “Adaptive Expertise”, to distinguish it from “Routine Expertise” (the mastery of specific knowledge and skills learned over time)(1). The Master Adaptive Learner (MAL) framework teaches learners the cognitive skills (such as critical thinking and reflection) necessary to become adaptive experts(1). Coaching is a modality that is increasingly being applied to medical student learning and development and may be distinguished by its focus on the learner’s agenda, the use of active listening and open-ended questions, the creation of learner-designed next steps and learner-specified accountability(2). Coaching fosters critical thinking and reflection and is therefore an ideal teaching modality to apply to using the MAL framework.

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

- 1) Describe the Master Adaptive Learner (MAL) Framework.
- 2) Discuss the four phases of the Master Adaptive Learner Framework. (Planning; Learning; Assessing & Adjusting).
- 3) Describe the cognitive skills applicable to each phase of the MAL framework.
- 4) Perform the basic coaching skills (Agenda setting; Active listening; Asking open ended questions; Creating learner-specific next steps and accountability) that foster cognitive skills required by the master adaptive learner (critical thinking and reflection).
- 5) Apply basic coaching skills to using the MAL framework.

Participants: Academic faculty who serve as teachers.

Methods: Two MDs who are academic faculty, long standing medical educators and certified coaches will teach basic coaching skills that faculty members can use to implement the MAL framework to learners. The MAL framework will be taught using a powerpoint presentation and interactive exercises involving the large group and making use of the Zoom chat and polling features. A demonstration video will be used, and participants will be invited to comment using the chat feature. Coaching skills will be taught using a short interactive powerpoint presentation, then participants will work in breakout groups to practice coaching techniques using structured worksheets.

Activity Timeline:

Instructor-led Discussion (10 mins): Introduction to the MAL framework, it’s 4 phases and the cognitive skills learners need to develop.

Large Group Discussion (5 mins): Short video clip and invite learner responses using zoom chat.

Instructor-led discussion (10 mins).

Basic Coaching Skills (5 mins).

Large Group Discussion (5 mins).

Demonstration using coaching skills to teach phase 1 (planning) of the MAL framework, learner responses using zoom chat (10 min).

Small Group Breakouts (20 mins): Participant's practice applying coaching skills to all 4 phases of the MAL framework using structured worksheets.

Debrief (10 mins).

Take home Tool:

- 1) Handout summarizing workshop learnings.
- 2) Worksheets with structured questions to assist participants in teaching the MAL framework with their own learners.

References:

- 1) Cutrer WB. Fostering the Development of Master Adaptive Learners: A Conceptual Model to Guide Skill Acquisition in Medical Education. *Acad Med* 2017; 92: 70-5.
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Supporting the Professional Identity Formation of Medical Educators through Faculty Development

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Brief Description: Medical school faculty often juggle multiple identities, including physician, scientist, researcher, and educator. While some of these identities are well supported by their institutions, their identities as educators are often not well supported. As such, there is a need for faculty development that specifically addresses professional identity formation (PIF) of medical educators. This workshop will introduce learners to faculty development strategies that focus on PIF of medical educators.

Detailed Workshop Plan:

Rationale: While faculty members' identities as researchers, scientists, or physicians tend to be well prescribed and supported by universities and hospitals, their identities as educators are often not (1). These other professional identities often take precedence over the educator role not only because they are better supported by institutions and medical centers or hospitals, but also because they carry more social capital than the educator role, and faculty are likely to have invested more emotional energy in acquiring them (2). While there are some medical school faculty who may begin to consider their identity as educators on their own, this process should be encouraged by educational leaders, including senior administrators and faculty developers (3). As such, faculty development programs should strive to provide space and contexts that encourage medical school faculty to develop and integrate their professional identities as educators. This workshop will provide learners with practical tools and strategies that can be used to develop medical school faculty's educator identities at their home institutions.

Learner outcome objectives:

- 1) Discuss factors that influence or prohibit the development of educator identities among medical school faculty
- 2) Analyze faculty profiles to determine how best to support different kinds of medical school faculty in the development of their educator identities
- 3) Identify faculty development programming that will support the growth of medical school faculty's educator identities at your institution

Intended participants: UME medical educators, faculty developers, and instructional designers.

Methods: This workshop will use a variety of methods including large group discussions, small group breakout activities, and a debrief including an action plan for the future.

Activity timeline:

5 min	Introduction Ask probing questions: How would you define the role of a medical educator? How are medical educators different from other educators?
10 min	Factors/Strategies that Support/Hinder PIF of Medical Educators Participants will be asked to engage in large group discussion with the following guiding questions: What factors influence the development of educator identities? What factors hinder the development of educator identities?
15 min	Small Group Activity 1 Leaderless (but presenters will float between rooms)-Participants will review 2 vignettes and guiding questions (these will be placed in the chat via a Google doc link) that describe medical educators from different backgrounds with different levels of experience. The goal of this activity would be to gather initial thoughts on what kind of faculty development might best support the development of educator identities for these faculty and to think about what factors what might support or hinder this development.
5 min	Debrief of Small Group Activity

25 min	<p>Participants will share out and discuss what their small groups came up with!</p> <p>Small Group Activity 2</p> <p>Leaderless (but presenters will float between rooms)—Participants will continue to brainstorm and then formalize a list of ideas for faculty development programming that would support the development of the medical educators from the faculty profiles provided. Groups will be assigned one of the two vignettes to focus on and Google doc links will be shared where groups can capture their ideas. They will also be asked to consider faculty development options for a faculty type (not captured by the vignettes) at one of their institutions.</p>
8 min	<p>Debrief of Small Group Activity</p> <p>Groups will share out their plans (by sharing the Google docs).</p>
7 min	<p>Action Planning/Wrap UP</p> <p>Participants will be asked to think about one new programming option that they want to commit to adding to their catalogue of faculty development and will have the opportunity to share these out. Any remaining time will be for remaining questions or comments.</p>

Take home tools:

- Faculty profiles for the vignettes
- Links to the group work completed in the session, which includes faculty development options for PIF
- Sample faculty development session plans (provided by the facilitator) that can be used to encourage PIF of medical educators

References:

- 1) Browne, J., Webb, K., & Bullock, A. (2018). Making the leap to medical education: A qualitative study of medical educators' experiences. *Medical education*, 52(2), 216-226.
- 2) Sabel, E., Archer, J., & Early Careers Working Group at the Academy of Medical Educators. (2014). "Medical education is the ugly duckling of the medical world" and other challenges to medical educators' identity construction: a qualitative study. *Academic Medicine*, 89(11), 1474-1480.
- 3) Orr, C. J., & Sonnadara, R. R. (2019). Coaching by design: exploring a new approach to faculty development in a competency-based medical education curriculum. *Advances in medical education and practice*, 10, 229.

Multimedia Design for Medical Content: An Evidence-Based Workshop for Health Sciences Faculty

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Brief Description: When making a lecture or presentation, how much thought do you give to its overall design? While content is key, do you realize that good design has the potential to engage your learners more effectively and has been shown to improve educational outcomes? This workshop will explore the empirical data behind multimedia design principles, demonstrate how to easily incorporate them into your content, and enable participants to work together to apply these principles to their own presentations.

Detailed Workshop Plan:

Rationale: High quality multimedia design has been shown to improve educational outcomes. Conversely, poor design can have a negative impact on learning. In the peri-pandemic educational environment where remote or asynchronous content is becoming more commonplace, it is imperative for medical educators to incorporate multimedia best practices to help our learners succeed. While instructional designers are playing larger roles in health professions curricula, not all schools or programs have access to their expertise. This workshop is designed to give any instructor a set of tools that they can use to improve the quality of their educational content.

Learner Outcome Objectives: By the end of this workshop, the participants will be able to:

- 1) Define key multimedia design principles (including Mayer's Principles of Multimedia Learning and Garner and Alley's assertion-evidence structure) that have impact on the type of educational content they produce
- 2) Identify educational content that adheres to these multimedia design principles
- 3) Demonstrate how these principles can be incorporated into teaching materials
- 4) Critically review their own content and revise their work based on these principles

Intended Participants: Any individual who provides instruction to learners would benefit from this workshop

Methods: This workshop will utilize large format teaching and small group break-out sessions.

Activity Timeline:

- 30 minutes: Didactic component of the workshop reviewing the research and design principles with examples of implementation.
- 25 minutes: In break-out groups, participants will share their slides and collaboratively apply these multimedia design principles to their content. Workshop faculty will moderate these sessions and provide feedback.
- 20 minutes: In returning to the large group session, workshop faculty will briefly discuss common trends amongst participant slides and participant volunteers will share their updated work with the group.

Take-Home Tools: Participants will leave the workshop with a list of reference materials (books and peer-reviewed literature), as well as handouts highlighting the empirical data and implementation strategies for each of the multimedia design principles discussed. A grading rubric will also be shared, that participants can use to evaluate their future work.

Strength in Diversity: Building Support for BIPOC Providers

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(1) *Children's Minnesota*, (2) *University of California, Davis*

Brief Description: Inequities in health care have, increasingly and appropriately, gained the center stage of attention among health care professionals and institutions. In response to these structural inequities, institutions have been adopting methods to improve the care of the patients, learners, and health-care providers of diverse cultures and backgrounds. The workshop will review practices and tools from the literature to address racial bias and promote diversity and inclusion for healthcare providers.

Detailed Workshop Plan:

Rationale: Inequities in health care have, increasingly and appropriately, gained the center stage of attention among health care professionals and institutions. In response to these structural inequities, institutions have been adopting methods to improve the care of the patients, learners and health-care providers, of diverse cultures and backgrounds. At the healthcare provider level, issues and solutions around women in medicine have been brought up in the last several years^{1,2,3}. However, Black, indigenous, and/or people of color (BIPOC) providers continue to experience discrimination and bias in their work environment from patients they care for and from co-workers. The workshop will review current practices and tools from the literature to address racial bias and promote diversity and inclusion; participants will leave with a practical framework that they can adopt at an individual, departmental and institutional level to address issues related to diversity, equity and inclusion.

Learner outcome objectives

- 1) Apply a framework to help support BIPOC providers
- 2) Practice reflective listening and explore solutions to common clinical situations pertaining to bias and inequity

Intended participants: Educators, Clinicians, DIOs and institutional leaders who would like take initiative for supporting providers of color.

Methods: The workshop will review the following practices and tools to address racial bias, diversity and inclusion solutions.

PRESS Framework: Problem awareness, Root cause analysis, Empathy, Strategy, Sacrifice. Organizations move through the stages sequentially, 1st establishing an understanding of the underlying situation, then developing a genuine concern, and finally focusing on correcting the problem and developing a potential solution. (1,3)

Intercultural Development Inventory (IDI) assesses intercultural competence—the capability to shift cultural perspective and appropriately adapt behavior to cultural differences and commonalities. IDI is a 50-item questionnaire available online that can be completed in 15–20 minutes. (4)

Developing meaningful diversity initiatives and building networks of mentors, coaches, communication and leadership-development programs is needed for success. Because we cannot improve what we do not measure, a standardized set of metrics should be developed and included to drive advancement in this dimension. Our workshop will provide a framework and an outline to modify and incorporate this at the participants' institutions.

Activity timeline:

- | | |
|--------|---|
| 10 min | Introductions |
| 10 min | Sharing - Sharing of experiences around diversity and bias, both positive and negative |
| 20 min | Large group review - Review PRESS framework and IDI to address the issues impacting BIPOC providers |

20 min	Small group activity - Review of two clinical scenarios
10 min	Debriefing - Debriefing together from two groups
65 min	Conclusion - Takeaways

Take home tools: Participants will leave with an awareness and understanding of issues faced by BIPOC providers and a practical framework that they can adopt at an individual, departmental and institutional level to address issues related to diversity, equity and inclusion.

References:

- 1) Catherine Cansino, Kajal Khanna, Xenia Johnson Bhembe, Barbara Overholser, Helen R. Burstin, Nancy D. Spector. The Path Forward: Using Metrics to Promote Equitable Work Environments, *Pediatrics* Sep 2021, 148 (Supplement 2) DOI: 10.1542/peds.2021-051440G
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- 3) Paul-Emile K, Critchfield JM, Wheeler M, de Bourmont S, Fernandez A. Addressing Patient Bias Toward Health Care Workers: Recommendations for Medical Centers. *Ann Intern Med.* 2020 Sep 15;173(6):468-473. doi: 10.7326/M20-0176. Epub 2020 Jul 14. PMID: 32658573.
- 4) <https://idiinventory.com/>

Using the Myers-Briggs Type Indicator in Teaching Clinical Problem Solving

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Brief Description: While the student is strongly focused on performing the patient examination, they must also be able to participate in the analysis of the findings in a group setting. A significant number of students struggle with this analysis while others struggle more with performing their procedural skills. We will bring to the workshop participants a method using the Myers-Briggs Type Indicator that provides students with learning skills that improve both the collection and analysis of patient data.

Detailed Workshop Plan:

The introduction to clinical problem solving begins simultaneously with the introduction to the clinical examination. Every step of the examination from the collection of a history, the physical examination, and the interpretation of laboratory findings provides the student with information that must be processed to assess the clinical problem. While attention is most strongly focused on correctly performing the clinical procedures, the student must also be able to participate in analysis of the findings in a group setting. A significant number of students struggle with this analysis while others struggle more with performing their procedural skills. A method for developing both skill areas best prepares the student to enter their clinical clerkship training. We will bring to the workshop participants a method for easily providing students with learning skills that improve both the collection and analysis of patient data.

In this workshop, basic science, clinical educators, or others with a role in problem solving education will:

- 1) Describe to others about the role of their own learning style and compare it to their opposite preference in group discussion of patient data.
- 2) Identify the blind spots of the two primary MBTI types, sensing and intuition, in analyzing a sample clinical case.
- 3) Explain strategies for building skill in blind spots.

15 min Introduce the MBTI preferences for sensing and for intuition and their role in teaching clinical performance.

15 min Breakout groups will describe to their group how they will contribute to the group and how they expect their opposite to contribute. Examples are encouraged time permitting.

15 min Summarize findings.

15 min Breakout groups will identify data in a sample case. Even numbered groups will identify the important data but refrain from interpreting; odd numbered groups will formulate questions about the importance of the data. Reflection on the importance of curiosity in learning.

15 min Wrap up with comparison between data and interpretation.

Duration: 75 minutes

PA Students May Benefit More from Earlier Mental Health Training

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Problem Statement: PA students are at risk of burnout and depression but no guidelines currently exist to proactively and consistently support their mental health.

Rationale: PA students experience a high degree of burnout, and mental health indicators, such as personal well-being, stress, and social support, have been shown to worsen during the clinical year of training. Burnout has been associated with increased rates of depression, suicidal ideation, and substance abuse; however, stigma and lack of awareness of resources are often barriers to seeking help, and no guidelines currently exist to proactively and consistently support PA students' mental health. This study evaluated the effectiveness of evidence-based Mental Health First Aid (MHFA) training for PA students regarding mental health literacy and stigma, awareness of resources, and practical application.

Methods: An incoming cohort of 31 PA students completed MHFA training in the week before matriculation and a graduating cohort of 30 PA students completed the training within one week of graduation. Data were collected before and after each training session for analysis. Likert-type questions and a paired sample t-test were used on pre- and post-training MHFA opinions quiz (score range, 0-15) to examine changes in students' mental health knowledge and stigmatizing beliefs and attitudes. Students' written feedback on the MHFA course evaluation form was qualitatively analyzed using an inductive approach to content analysis involving rounds of coding, grouping, and thematic categorization, in order to ascertain students' overall response to the training, perceived value, personal effects, and strengths of the training. Further, 1-month follow-up survey responses were analyzed to assess the utility of training, including specific skills and resources used, help frequency, help recipients, and distressing or crisis situations involved.

Results: Results: Both cohorts saw improvements in their opinions quiz scores (incoming cohort, 12.5%; graduating cohort, 36.36%), and paired t-test results showed a significant improvement for both cohorts (aggregate 95% CI, 26.89-32.97; $P < .0001$). Notably, the incoming cohort's mean post-training quiz score was higher than that of the graduating cohort (13.55; $d = 1.77$ compared with 13.5; $d = 0.33$). Student feedback analysis revealed that the incoming cohort valued utility ("reducing stigma and bias," "realistic interventions"); the graduating cohort valued course curriculum and organization ("material presented clearly," "easy to understand"). Overall incoming cohort sentiment was "Every PA student should take this course before they start PA studies" compared with the overall graduating cohort sentiment, "I wish I had this training earlier." One-month follow-up survey results ($n = 27$) revealed application of skills ($n = 16$), including frequency (once, 75%; twice or more, 25%), help recipients (friends, 87.5%; self, 31.25%; family, 31.25%), and reasons for distress/crisis (mental illness, 37.5%; substance abuse, 12.5%). Nearly 88% of respondents who used skills and resources were in the incoming cohort.

Potential Impact: Potential Impact: In our study, MHFA training was significantly associated with increased mental health knowledge and reduced stigmatizing beliefs and attitudes in PA students. Thus, MHFA presents an effective strategy to proactively support PA student mental health. Further, the findings suggest that PA students may benefit more from earlier mental health training.

References:

- 1) Brown MH. The increased awareness of physician assistant student mental health. *The Journal of Physician Assistant Education*. 2004 Jan 1;15(2):116-20.
- 2) Neary S, Bradley M, Roman C. A Call to Action: Physician Assistant Student Well-Being. *The Journal of Physician Assistant Education*. 2019 Sep 1;30(3):133-4.

- 3) Physician Assistant Education Association, By the Numbers: Student Report 3: Data from the 2018 Matriculating Student and End of Program Surveys, Washington, D.C.: PAEA, 2019. doi: 10.17538/SR2019.0003

Residency Training Experiences of Residents with Children: A Phenomenology Study

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Alberta, Department of Family Medicine

Problem Statement: The essence of the post-graduate training experience of trainees completing residency while in a parenting role has not been clearly described.

Rationale: Parenthood during post-graduate medical training has become an increasingly relevant topic in recent years. For many residents, the timing of residency training coincides with childrearing years. Numerous challenges have been reported in the literature for residents who have children during their residency training. In contrast, positive effects of parenting on the residency training experience have also been reported. Previous research has attempted to explore the experiences of residents in a parenting role through surveys and limited qualitative studies, though the essence of the post-graduate training experience has not been clearly described. The optimal means of supporting trainees completing residency while parenting remains unclear.

Methods: We conducted 15 semi-structured telephone interviews to develop a rich understanding of the residency training experience of residents in a parenting role. Our study population included post-graduate medical trainees at the University of Alberta (Edmonton, Alberta, Canada) who were parents upon entry to residency or who became parents during residency training. Residents from a diverse range of training programs and stages of training were interviewed. Transcendental phenomenology was used as a qualitative research methodology, guided by life course theory.

Results: Thematic analysis of residents' training experiences revealed the following themes: 1) work-life balance; 2) challenges of being a parent with residency responsibilities; 3) support systems; 4) impact on patient interactions; 5) impact on other interactions; and 6) hidden curriculum. Participants suggested actionable solutions to improve the training experience for residents in a parenting role, which included: 1) family-inclusive events; 2) scheduling flexibility; 3) supports for fathers; and 4) optimizing supports for breastfeeding mothers.

Potential Impact: Potential Impact: Residents in a parenting role represent a unique post-graduate trainee population. Despite focus on resident wellness, challenges may remain for individuals trying to navigate parenthood and residency. This data may be utilized to inform supports and strategies to optimize the training experiences of these residents.

References:

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- 2) Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage Publications, Inc.
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The Impact of Mentorship on Stress and Performance on a Virtual Reality Surgical Simulator

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Problem Statement: The use of simulated surgical procedures to mirror real-world practice underestimate the impact of supervision on trainee performance.

Rationale: Simulation based education and training is most effective when simulated modules mirror real life scenarios. In surgical training, surgical skill acquisition occurs for surgical trainees intraoperatively; in the presence of a supervising consultant to provide guidance and oversight on the procedure. Surgeons' stress resulting from intra-operative cognitive load have previously been evaluated (1). While simulation based surgical training tools have been demonstrated to accelerate technical surgical skills (2), the relationship between human factors and trainee performance including the impact of supervision on trainee stress and practical skill acquisition not well established. This was a cross-over randomised control trial to evaluate the impact of consultant supervision on surgical trainee simulated surgical performance and stress levels.

Methods: Surgical trainees from a regional hospital were invited to participate and asked to complete a simulated procedure both with and without direct consultant supervision. Randomisation was carried out or order of sequencing to reduce biases. Participants wore a heart rate monitor during the task to assess heart rate, max heart rate achieved, and heart rate variability. Performance was assessed using validated simulator based metrics of the proximal femoral nail insertion surgical module including time taken, accuracy of reduction, and degree of nail insert accuracy. Mean and max heart rates were compared between attempts to evaluate the impact of supervisor presence. Variations in heart rate were analysed for correlation with task stage and any errors made during the procedure. Performance metrics from each attempt were similarly compared to identify if supervision significantly impacted trainee performance.

Results: Twenty-four participants were included for analysis. Max heart rate recorded while under direct supervision was significantly higher ($p=0.002$) than unsupervised recorded rates. Similarly, max heart rate across participants was significantly higher in the supervised group ($p=0.01$). A positive correlation between increased heart rate and consultant questions was demonstrated. No significant difference in performance in the presence of consultant supervision was noted.

Potential Impact: Consultant supervision resulted in higher surrogate stress markers with no significant improved performance. The impact of non-technical factors on trainee performance should be considered in future surgical training curricula.

References:

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- 2) Banaszek D, You D, Chang J, Pickell M, Hesse D, Hopman WM, Borschneck D, Bardana D. Virtual Reality Compared with Bench-Top Simulation in the Acquisition of Arthroscopic Skill: A Randomized Controlled Trial. *J Bone Joint Surg Am*. 2017 Apr 5;99(7):e34. doi: 10.2106/JBJS.16.00324. PMID: 28375898.

Optimizing Racial and Ethnic Representation in Preclinical Medical Curricula at Mayo Medical School

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Problem Statement: To address systemic inequities in medical education, a preclinical curriculum audit of DEI metrics was conducted to inform curricular enhancements.

Rationale: In response to world events and institutional and student body initiatives, Mayo Alix School of Medicine Clinic initiated a preclinical curriculum audit of the first- and second-year curricula at the Minnesota and Arizona campuses, after which faculty were enlisted to optimize racial and ethnic representation among other DEI metrics including Stunkard weight class, gender orientation, and religious affiliation. The US Census Bureau projects that most of the US population will be categorized as people of color by 2045. [1] This study aims to provide data and a framework to evaluate and ensure equitable representation of racial and ethnic demographics amongst medical curricula images and cases to improve clinical diagnosis skills and combat racial and ethnic bias. This is in alignment with an increasing awareness and push to optimize and diversity of medical education to best prepare future medical professionals. [2]

Methods: The Mayo Clinic Alix School of Medicine Diversity, Equity, and Inclusion (DEI) Curriculum Review Committee investigated the distribution of racial and ethnic identity of any illustration or photograph of a human subject used in the preclinical medical curriculum on the Minnesota and Arizona campuses of Mayo Clinic Alix School of Medicine. The results of the curriculum audit were compared to the national distribution [1] using a chi-square goodness of fit.

Action item planning sessions with course directors reviewed audit results and provided opportunity for critical examination of nuance, implicit bias, stereotype imprinting, and the role of transparency and complexity on DEI topics while guiding development of attainable and high-yield interventions. Progress checks were embedded within existing course review processes to ensure continuance of project efforts.

Results: 2193 images on the Minnesota campus and 805 images on Arizona campus within 39 preclinical courses were categorized based on the perceived racial and ethnic identity of the pictured individual. Images used in the Minnesota $\chi^2(5, 14) = 4558, p < .00001$ and Arizona $\chi^2(5, 14) = 12709, p < .00001$ campus curricula significantly varied from the national racial and ethnic distribution.

Thirty-three action item planning sessions were held with course directors with 2-5 action items identified by each course such as the enhancement of clinical images to include a wider range of skin types and updates to cases to reflect equitable and appropriate representation of socially salient characteristics.

To meet the needs of an ever-diversifying patient population, human imagery within medical curricula and reference material should, at a minimum, reflect population demographics at the state and national level. For medical conditions with racial/ethnic predilections, there should be an emphasis on accurate and updated imaging that reflects racial and ethnic breakdown of affected patients. Beyond accurate racial/ethnic representation, the social determinants of health that influence disease prevalence and burden should be highlighted to provide holistic understanding of the pathogenicity of disease. Representation of diverse racial and ethnic groups should extend beyond clinical images to also include diverse and inclusive representation of patients and professionals used in stock imagery.

Potential Impact: Diverse representation is paramount to prepare future physicians to accurately diagnose and provide high-quality care for diverse populations. The DEI Curriculum Review project demonstrates how to examine and enhance curricular content through continuous quality improvement and empowering students to engage and lead curriculum change.

References:

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Assessing a Novel Evidence-Based Medicine Teaching Intervention

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Problem Statement: When taught Evidence-Based Medicine using an isolated curricular approach, medical students enter clerkships with insufficient EBM skills.

Rationale: Faculty are increasingly being called upon to teach medical students the skills necessary to have a strong foundation in evidence-based medicine (EBM) before they move on to the professional phase of their education. All too often, the expectation is that these skills can be imparted in a class or two when the curriculum allows. Prior to the inception of this study, our institution had been teaching EBM within a discrete 2-month time period during medical students' first year. During a large-scale curricular overhaul, the approach to teaching EBM was changed to a more scaffolded, integrated approach with sessions being taught over the course of two years. In this study, we assess the differential impact of these two approaches to teaching EBM in the first two years of medical school.

Methods: This research project aims to determine the potential differential impact of two curricular approaches to teaching EBM on student performance on an EBM assignment administered during the first year of clerkship. A meaningful result would be any statistically significant difference in scores on the assignment given to measure student performance.

In order to assess and compare student learning under the different curricula, the PI and a team of five faculty members used a modified version of the previously validated Fresno rubric to grade three years' worth of EBM assignments given to students in clerkship rotations 1-3 (n = 481) during the Internal Medicine clerkship. Specifically, EBM performance in three separate student cohorts were examined. Assignments were anonymized before being randomly assigned to graders, and all possible student and date identifying information was removed. Prior to grading, all graders were required to attend two norming sessions in order to achieve consensus on interpreting and applying the rubric consistently to sample assignments.

Results: Four hundred and eighty-one assignments were graded. Mean scores were compared for individual questions and cumulative scores using a one-way Welch ANOVA test. Overall, students performed .99 of a point better on the assignment from Year One (Y1), prior to EBM curriculum integration to Year Three (Y3), subsequent to EBM integration (p= <.001). Statistically significant improvement was seen on questions measuring students' ability to formulate a clinical question and critically appraise medical evidence. Additionally, on USMLE Step 1, we found that student scores on the EBM portion of the exam improved from Y1 to Y3.

Potential Impact: Results of this study suggest that taking a scaffolded, curriculum-integrated approach to EBM instruction during the pre-clinical years increases student retention of and ability to apply EBM concepts to patient care. Overall, this study provides a foundation for new research and practice seeking to improve EBM instruction.

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- 2) Kyriakoulis K, Patelarou A, Laliotis A, et al. Educational strategies for teaching evidence-based practice to undergraduate health students: systematic review. *J Educ Eval Health Prof* 2016;13:34-43. doi: <https://doi.org/10.3352/jeehp.2016.13.34>

- 3) Maggio LA, Tannery NH, Chen HC, et al. Evidence-based medicine training in undergraduate medical education: a review and critique of the literature published 2006-2011. *Acad Med* 2013;88:1022-1028. doi: 10.1097/ACM.0b013e3182951959

Back to Basics: Integrating Foundational Science and Patient Care in the Post Clerkship Curriculum

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Vanderbilt University Medical Center

Problem Statement: The integration of foundational science into the post-clerkship undergraduate medical curriculum has been challenging at many institutions.

Rationale: There is increasing evidence that a physician's deep understanding of complex foundational science plays a crucial role in effective clinical decision-making. Studies have shown that foundational science knowledge forms a cognitive framework that anchors clinical skills and enhances the ability to learn new information, relate new learning to past information, and demonstrate flexible problem-solving abilities. These abilities are key skills of adaptive expertise and are thought to represent excellence in patient care. Studies have suggested that, to be most effective, the teaching of foundational science should be integrated with clinical applications. Furthermore, it has been recognized that foundational science education should occur across the entire medical curriculum, and not restricted to the first two years of medical education. As a result, many medical schools have sought to better integrate foundational science and clinical application throughout the medical curriculum.

Methods: In Academic Year (AY) 15-16, as part of a comprehensive curricular revision, Vanderbilt University School of Medicine (VUSM) formally implemented four-week "Integrated Science Courses" (ISCs) that combined rigorous training in the foundational sciences with meaningful clinical experiences. These courses are offered to 3rd and 4th year medical students and they must complete at least four ISCs to meet graduation requirements. These highly innovative courses cover a breadth of foundational sciences and clinical experiences. These courses integrate foundational sciences that can be leveraged in the clinical environment, utilize a variety of instructional modalities, and include quantitative and qualitative (competency-based milestones) student assessments. Each ISC undergoes a rigorous quality improvement process that requires input on foundational science content, student experience, and student performance assessment.

Results: Eleven ISCs were delivered to 173 students in AY15-16, with some students taking more than one ISC. Immediately after completing each course, 93% (n=222) of ISC enrollees completed a course evaluation. Students (91%; n=201) 'agreed' or 'strongly agreed' that foundational science learning informed and enriched the clinical experiences. Furthermore, 94% (n=209) of students thought that the clinical experiences informed and enriched the foundational science learning. Ninety-four percent of the students anticipated using the foundational science knowledge acquired in future clinical training and practice. We have offered this ISC curriculum in every academic year since AY15-16, and in AY20-21 had a menu of 16 ISCs that were offered to 3rd and 4th year medical students. The data from the first five years of the curriculum will be presented.

Potential Impact: The teaching of foundational sciences in the post-clerkship medical curriculum is challenging and resource-intensive, yet feasible. The successful implementation of ISCs demonstrate how teams of foundational science and clinical domain experts can collaborate to design and execute courses that integrate foundational science and patient care.

References:

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- 2) Bandiera et al. (2018). Back from basics: integration of science and practice in medical education. *Medical Education*, 52: 78-85.

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Thursday, 2/17/2022, 9-10:15 am

*Presentations of Innovations 2:
Innovations in Undergraduate Health Professions Education
IN-2c*

Qualitative Assessment of a Near-Peer Taught Suturing and Knot-Tying Course for Medical Students

Gao, Thomas Z. (1); Harris, Micah K. (1); Lu, Emily (1); Renton, David (2)
(1) *The Ohio State University College of Medicine*; (2) *The Ohio State University Wexner Medical Center, Department of General Surgery*

Problem Statement: There is increasing evidence that students are completing medical school with insufficient surgical education (i.e. suturing and knot-tying).

Rationale: Despite the benefits of early exposure, basic surgical skills are infrequently taught in medical schools in part due to faculty time constraints.¹ Near-peer teaching (NPT) (i.e. senior medical students teaching junior medical students) represents a promising alternative to faculty-led teaching, as it has been shown to be non-inferior while simultaneously relieving faculty burden.² The flipped classroom (FC) approach has also risen in popularity, in which students learn new material or techniques prior to class, then use class time to put those concepts into practice. To our knowledge, no studies have described the efficacy of NPT in conjunction with FC to teach suturing and knot-tying, particularly to first-year medical students. Here, we qualitatively evaluate a 3-month course that integrates the use of NPT and FC, with the goal of increasing first-year medical students' self-perceived confidence in performing basic sutures and knot-ties as well as interest in surgery.

Methods: The curriculum covered basic surgical suturing and knot-tying techniques. Third-year medical students who had previously completed the course as well as general surgery residents from The Ohio State College of Medicine were recruited as instructors for an approximate teacher:student ratio of 1:4. Students were recruited via email and selected based on essay responses for a total of 21 students. The course consisted of two-hour sessions held every two weeks for a total of five sessions. Students were provided with knot-tying boards, suturing gel pads, instruments, and suture thread for the duration of the course. Prior to each session, students were sent publicly available videos to learn the upcoming suturing/knot-tying techniques on their own time. At each session, students actively practiced the most recently learned techniques while receiving live feedback and tips from instructors. Anonymous surveys were distributed and completed one week prior to course start and within two weeks following course finish. Pre-course confidence levels were assessed. A rating scale of 1 (no confidence), 2 (below average confidence), 3 (moderate confidence), 4 (above average confidence), and 5 (utmost confidence) was employed to assess student confidence.

Results: All students stated that they enjoyed the course and would recommend it to a colleague. Compared to pre-course ratings, post-course ratings of self-perceived confidence to perform knot ties (one-handed, two-handed, surgeon's knot) and sutures (simple running, subcutaneous, deep dermal, vertical mattress, horizontal mattress, figure of 8) all increased significantly ($p < 0.05$). All students stated that the course strengthened their desire to pursue a career in surgery. None of the students reported that the flipped classroom negatively affected the quality of their education. Most students either agreed (57%) or strongly agreed (29%) that they felt confident in their skills learned in the flipped classroom format. Similarly, most students either agreed (33%) or strongly agreed (38%) that they preferred the flipped format over a traditional format. Additionally, almost all students stated they would attend another near-peer tutor workshop (95%) and felt instruction from senior medical students benefited their learning (90%).

Potential Impact: Near-peer teaching can be used in conjunction with flipped classroom to increase students' self-perceived confidence in surgical suturing and knot-tying as well as interest in surgery. This curriculum can serve as an outline for student-run courses at other medical schools.

References:

- 1) Davis CR, Toll EC, Bates AS, Cole MD, Smith FC. Surgical and procedural skills training at medical school - a national review. *Int J Surg.* 2014; 12(8):877-882.
- 2) Pintér Z, Kardos D, Varga P, et al. Effectivity of near-peer teaching in training of basic surgical skills - a randomized controlled trial. *BMC Med Educ.* 2021; 21(1):156.

Implementation and Evaluation of an Addiction Medicine Course in Medical School Education

Sun, Alexander (1); Reilly, Jo Marie (1); Holmes, Randolph (2); Greenberg, Ilana (1)
(1) Keck School of Medicine of USC; (2) PIH Health Whittier Hospital

Problem Statement: Substance use is a public health crisis that requires improved education on substance use disorders at all levels of medical education.

Rationale: Over 20 million people in the United States have a substance use disorder (SUD)¹. The COVID-19 pandemic has exacerbated this already dire public health crisis. From January 2021 to January 2022, there were 94,360 drug overdose deaths--a stark increase from the previous year's record of 72,125 drug overdose deaths². In order to address this public health crisis, the health professional workforce must be trained in SUDs. The widespread nature of this crisis makes it vital for all physicians to be trained in treating people with SUDs early in their medical training, a current deficit in medical education. No matter what field a physician goes into, they will interact with patients or families affected by SUDs, further emphasizing the need for such a curriculum. This study evaluated the impact of a Keck School of Medicine (KSOM) of USC addiction medicine course on students' knowledge of patients affected by SUDs, and the treatment options and resources available to care for them.

Methods: 66 third and fourth year medical students participated in a 2 week online or in-person addiction medicine elective between August 2019-August 2021, studying multiple SUDs and treatment modalities, brief intervention and referral to treatment (SBIRT) screening, medication-assisted treatment (MAT) waiver training, discussing SUD readings, and attending online/in person addiction support group meetings. To assess the impact of the course on students' knowledge in treating SUDs, a pre and post survey was administered that used Likert scale questions (range from 1=strongly disagree to 5=strongly agree). The pre and post survey responses were analyzed using a paired t test.

Results: 66 medical students completed the SUD course. Of the 66 students, 14 (21%) completed the course in-person and 42 (79%) completed the course online. Prior to the course, 46 (70%) had no experience or little experience working with patients with SUDs, and 64 (97%) had no experience or little experience working with families of patients with SUDs. After completing the SUD course, students showed significant improvement ($p<0.001$) in knowledge and comfort in treating and caring for patients with SUDs, specifically in the areas of: assessing a patient with SUD, comfort and knowledge in using motivational interviewing to affect behavior change in a patient with a substance use disorder, and knowledge of community resources related to substance use disorders. Students also showed a significant improvement ($p<0.001$) in the number of SUD substances they felt knowledgeable about and in the number and types of treatment modalities for SUD substances.

Potential Impact: Participants will understand the impact of SUD training on medical students' comfort, knowledge, and ability to treat future patients with SUDs. They will further learn what makes an effective medical school addiction medicine curriculum and will be able to replicate a SUD selective at their own programs utilizing the KSOM's SUD course model.

References:

- 1) Substance Abuse and Mental Health Services Administration (US) and Office of the Surgeon General (US). Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. US Department of Health and Human Services, November 2016.
- 2) Ahmad FB, Rossen LM, Sutton P. Provisional drug overdose death counts. National Center for Health Statistics. 2021.

Improving Patients' Experience: Using a Simulation Virtual Boot-Camp to Assess and Teach Interns

Ogunyemi, Dotun (1); Gentry, Micheal (1); Niren, Raval(2); Kenneth, Collado (2); Aguilar, Cesar (2); Kendal Johnson (2); Sol, Eun (2)

(1) Arrowhead Regional Medical Center, (2) California University of Science & Medicine

Problem Statement: Physician competency in communication is important since patient satisfaction scores correlate with hospital reputation, payment, and quality care.

Rationale: The objectives of this study were to 1) determine the feasibility of a virtual bootcamp for interns using a virtual simulation workshop; 2) to obtain baseline assessments of the interns on their competency in improving the Patient Experience using the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) survey with a focus on Listen, Respect, Connect; and 3) if the workshop can increase the interns' competency

Methods: We designed a virtual simulated workshop to meet the ACGME requirements to assess and teach the ACGME competency of Interpersonal and Communication Skills. Standardized patient and physician scripts, rubric checklist based on HCAHPS survey, self-assessment tool, and PowerPoint presentation were created. Medical students were recruited and trained to play the role of virtual standardized patients and to assess interns using the rubric checklist. In a 90-minute virtual workshop, incoming interns 1) explained care to the virtual standardized patient using the provided script and were graded by the virtual patient, 2) completed a self-assessment tool, 3) were taught by a PowerPoint presentation on Patient Experience, 4) explained care to the virtual standardized patient using another provided script and were again graded by the virtual patient, 5) completed the self-assessment tool, The data was collated and statistical analysis was performed.

Results: In June 2021, 52 incoming interns participated in a virtual boot camp of which 64% were primary care and 34% non-primary care specialties, included 51% females and 49% males, and 37% were born outside the US while 63% were US born. Seventy-five percent reported previous training in patient communication. Mean total rubric score graded by virtual patients significantly increased from pre to post educational workshop (23.48 versus 25.21, $p < 0.05$) and also for eye contact (2.78 versus 3, $p < 0.05$) and virtual non-verbal communication (2.78 versus 3, $p < 0.05$). Pre-educational workshop: interns' milestone competency grading on patient experience communication were novice = 0%, advanced beginner = 11% competent = 22%, proficient = 22% expert = 45%; and post-educational workshop were novice = 0%, advanced beginner = 0%, competent = 16%, proficient = 24%, expert = 60%. There were no statistical differences between the pre and post self-assessment scores (14.93 versus 15.19).

Potential Impact: Majority of medical schools provide training in patient communication to medical students. A virtual simulation workshop is feasible and requires less resources than in-person workshop. A virtual workshop can assess and improve competency in patient communication.

References:

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- 2) Saeed, L., Sanchez, I. M., Botto, N. C., Ellis, C. N., Stratman, E. J., Thompson, J., & Shinkai, K. (2019). A Simulation-Based Workshop to Improve Dermatologists' Communication Skills: A Pilot for Continuing Medical Education. *Dermatology and therapy*, 9(1), 179–184.

- 3) Chumpitazi, C. E., Rees, C. A., Chumpitazi, B. P., Hsu, D. C., Doughty, C. B., & Lorin, M. I. (2016). Creation and Assessment of a Bad News Delivery Simulation Curriculum for Pediatric Emergency Medicine Fellows. *Cureus*, 8(5), e595. <https://doi.org/10.7759/cureus.595>

Thursday, 2/17/2022, 1:45-3 pm

*Presentations of Innovations 3:
Potpourri: Innovations and Educational Research
IN-3b*

From Group to Team: A Novel Medical School Orientation Curriculum for Building Effective Teams

Allenbaugh, Jill; Garfield, Jamie; Karras, David; Kaplan, Lawrence; Sullivan, Rebecca; Console-Bram, Linda; Buttaro, Bettina; Deboo, Anahita; Litvin, Judith; Robinson, William; Lin, Karen
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Problem Statement: Medical students often struggle to learn in dysfunctional small groups without the skills to create and sustain high functioning, collaborative teams.

Rationale: Medical education has increasingly moved from didactic lectures for individual learning to interactive, collaborative learning in small groups, with the expectation that students will flourish in these settings. Though medicine is often touted as a ‘team sport,’ many medical schools do not teach teamwork skills. When students view group work as a means to a grade, rather than an opportunity to build effective, cohesive teams, they may fail to explore their teammates’ strengths, assets, and goals for growth prior to high stakes, graded situations. The stakes increase in the clinical years where consequences of poor teamwork may include medical errors and patient harm, which may be attributed to dysfunctional team dynamics(1). We posited that introducing early medical students to the importance of effective teams and the exploration of one another’s strengths, roles, and expectations will lay the foundation to create and maintain high functioning teams throughout their medical careers.

Methods: A series of 3 sessions with the theme of embracing students’ assets and diversity to build a high functioning team was integrated into the 2021-2022 orientation week at the Lewis Katz School of Medicine. The 90-minute sessions introduced students to the “forming, storming and norming” components of creating teams. The first session aimed to dismantle preconceived, negative connotations of small group work and to highlight the potential impact of high functioning teams. Each student created an asset map (2,3) to recognize their own diverse strengths. In sharing their asset maps with their team, students identified opportunities for growth in a variety of team roles. The second session was a clinical conference on information literacy, where the students worked as a team to review clinical cases, practiced using library resources to research answers, and presented their answers to the class. In the third session, students reflected on lessons learned from their clinical conference with respect to their individual contributions to the team and team dynamics. Each team created guidelines and expectations for individual accountability to their team as they prepared to start their first medical school course. The sessions were evaluated at the end of their orientation week with an anonymous survey using Likert scale and free response questions evaluating session benefit and student perspectives on teamwork.

Results: The survey had a response rate of 97% (174/180). Overall, 87% of students found the session on asset mapping useful, with 72% noting that it prepared them to understand the qualities they bring to a team. Additionally, the reflection session was deemed useful by 76% of respondents. Free response from students offered insight into their individual and team performance during the sessions. While some noted that they had worked in teams before and their perspectives did not change, many comments highlighted the benefits of the sessions across many themes. One evaluation noted a perspective change: “My biggest takeaway was the perspective shift from “group” to “team.” I see now that groups aren’t as effective, efficient, or collaborative as the support and goal-oriented approach of teams. Teams emphasize collaboration and are willing to support each other to make sure we are all on the same page academically.” Another student highlighted asset mapping: “I enjoyed learning about the different types of strengths that people can offer in group settings and trying to pinpoint my own assets.” Finally, a third student recognized the team as a positive in their transition to medical school: “When making this transition, it is comforting to know that we all have similar thoughts, concerns, and emotions regarding

our academics and groupwork. Due to this realization, I feel more confident working with my group successfully for the upcoming months.”

Potential Impact: This is the first report of an orientation curriculum that introduces new medical students to effective teamwork and provides a useful framework for students to gain skills in both self and team assessment. This curriculum can be revisited throughout medical school as a tool to optimize team dynamics for struggling or under-performing teams.

References:

- 1) Mitchell R, Parker V, Giles M, Boyle B. "The ABC of health care team dynamics: understanding complex affective, behavioral, and cognitive dynamics in interprofessional teams." *Health Care Manage Rev.* 2014 Jan-Mar;39(1):1-9. doi: 10.1097/HCM.0b013e3182766504. PMID: 24304597.
- 2) Rouder, C. (2021). "Asset Mapping: An Equity-Based Approach to Improving Student Team Dynamics." Temple University Center for the Advancement of Teaching. <https://teaching.temple.edu/edvice-exchange/2021/03/asset-mapping-equity-based-approach-improving-student-team-dynamics>
- 3) Pfeifer, G, Stoddard, EA. (2019). "Equitable and Effective Teams: Creating and Managing Team Dynamics for Equitable Learning Outcomes" in Kristin Wobbe and Elisabeth A. Stoddard, eds. *Beyond All Expectations: Project-Based Learning in the First Year.*

Early Career Coaching for Academic Faculty Improves Faculty Confidence in Navigating Their Career

Fix, Megan (1); Anderson, Katherine (1,2); Glasgow, Tiffany (1); Hopf, Harriet W.(1); Walker, Heather (1)
(1) *University of Utah*; (2) *George E. Wahlen VA Medical Center*

Problem Statement: Early career faculty often find navigating the academic medicine environment challenging and overwhelming.

Rationale: A high clinical load, broad expectations for productivity, lack of mentoring, and experience of bias can all make academic medicine a challenging career to navigate and early career faculty often find themselves lost. Coaching, mentoring, and peer support have all been described to improve wellness and success (1). Much has been written about mentoring in academic medicine (2,3) but less has been explored in the realm of coaching, with more efforts in medical student coaching (4) than on faculty. Some programs have initiated coaching programs for faculty using professional coaches (1), but this is costly and difficult to scale up. A group of interested faculty members at the University of Utah School of Medicine developed a coaching program called the Early Career Coaching program (ECC) with internal coaches selected from faculty with a track record as mentors and were provided additional training and support.

Methods: The Early Career Coaching Program, a 6-month coaching program focused on professional identity development and career planning, was launched in 2018 and the 4th cohort started in Fall 2021. Notably during the 2020-21 academic year, the program was entirely virtual. Members of the coaching network are recruited from volunteer faculty recognized as outstanding mentors, including Core Educators, members of the Academy of Health Sciences Educators Mentoring Committee, and program participants who express interest in developing coaching skills. Monthly workshops and structured workbooks prepared the coaches and facilitated coaching. The program includes six one-on-one coaching sessions, group skill building workshops for coaches, and peer networking sessions for coachees. Three cohorts of coaches and coachees were surveyed between 2019 and 2021 using SenseMaker technology, with the goal of understanding the program's impact on coachees in a relational way. We created the pre- and post-test tools and have iterated each several times across the first three cohorts to ensure each item provides reliable and useful feedback. We used plenary graphs to conduct comparative analyses both from pre- to post-test, and between cohorts to gauge coachee and coach growth and change.

Results: The program enrolled 39 coachees in the first 3 cohorts; 16 coaches have participated, most more than once. Feedback on individual coaches is almost universally positive. Preliminary survey results indicate coachees experience increased clarity of understanding and increased confidence in ability to navigate their career and increased efficacy in making career changes. At the end of the program, coachees understand the value of seeking guidance and support and express increased understanding of how to navigate the wider academic system. Our data suggest, however, that coachees are increasing their confidence without creating a co-dependent relationship with their coach. Additionally, coaches demonstrated improved listening skills with increasing experience.

Potential Impact: We believe a grassroots coaching program, using committed internal coaches who participate in monthly coaching skills workshops, but are not formally certified, is effective in increasing faculty clarity and confidence in building peer networks, increasing efficacy in seeking guidance and support and in navigating the academic system.

References:

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- 3) Sambunjak D, Straus SE, Marusić A. Mentoring in academic medicine: a systematic review. *JAMA.* 2006;296(9):1103-1115.
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**MovementMed: Enhancing Medical Student Well-Being and Knowledge
with Kinesthetic Learning and Community**

Hernandez, Tresne; Ogawa, Allison; Quinn, Rosemary; Luck, Patricia
University of Rochester School of Medicine and Dentistry

Problem Statement: Medical school can contribute to stress and depression for many students who are faced with little free time and high academic demands.

Rationale: There is a need to address medical student well-being while enhancing their learning. Although programs to boost resilience factors (e.g., exercise classes) have been created, no program, to our knowledge, combines kinesthetic learning of anatomy & physiology with intentional resilience enhancement & community building. During our first year of medical school, while attempting to memorize all of the arm muscles, we (Hernandez & Ogawa) wondered, "What if we could learn this material by moving our own bodies?" Our backgrounds in clowning, yoga, dance, theater of the oppressed, & group facilitation inspired us to create the space we sought for reflection, learning, movement, & growth. Thus, we created MovementMed. Grounded in mindfulness, this program combines 1) the positive effects of movement on mood, 2) play's ability to help people effectively cope with stress, and 3) kinesthetic learning in order to develop community connection, promote personal wellness, & enhance memory.

Methods: After a literature search of movement-based programs in medical education, which yielded extremely limited results, key learning concepts were identified in cooperation with the faculty at University of Rochester School of Medicine & Dentistry. Concepts were transformed into group-oriented movement practices incorporating various modalities (e.g., clowning, yoga, mindfulness-based-stress-reduction) and the author's skills in facilitation & community building. Detailed syllabi were created for eight comprehensive 1.5-hour classes taught in parallel to the medical school's curriculum. Each class had a theme (e.g., upper extremity, heart) and incorporated several activities including 1) class openings with class agreements/reflection questions, 2) warm-ups, 3) Kinesthetic Learning Opportunities, 4) cool-downs, and 5) class closing with reflection time. Kinesthetic Learning Opportunities include activities such as "Building the Biliary Labyrinth" or the "Dermatome Dance." In order to assess the effectiveness of the program on learning, recall, and well-being, student's reactions were surveyed in the short-term (within 1 week of a class) and long-term (approximately 1-year post course). Each survey utilized Likert scales, with questions such as "MovementMed helped me remember concepts" and "MovementMed contributed to my well-being," as well as short answer questions.

Results: Approximately 40 of 104 first year medical students (38%) voluntarily participated in 1 or more of the 8 classes during the inaugural 2019 class series. Between 5 & 40 students attended each class. Ten students attended more than 4 classes, forming a cohort. In the short-term survey (n= 34 responses), 94% Agreed or Strongly Agreed MovementMed was a good way to learn & 100% Agreed or Strongly Agreed it contributed positively to their well-being. In the long-term survey (n=10 responses), 90% Agreed or Strongly Agreed it helped them learn, & 100% Agreed or Strongly Agreed that MovementMed: 1) helped them remember concepts; 2) positively contributed to their well-being & community; and 3) was a beneficial use of time.

Responses to, "In what ways was MovementMed valuable to you?" included:

"I found a really special community...the lessons I learned about moving to enhance my learning have been a part of my study strategy since."

"MovementMed was hugely valuable to me as a 1st year student looking to find community... Sessions felt like little safe havens of vulnerability, mutual learning & teaching, fun, and silliness. Truly a breath of

fresh air. I kept coming back for the chance to breathe (literally and figuratively).”

Limitations of the surveys include self-selection bias (i.e., those who did not benefit from the classes were less likely to participate in classes & surveys), & a lack of survey instruments to measure knowledge acquisition (i.e., moving from reaction to learning).

Potential Impact: MovementMed supported a group of self-selected first year medical students to build meaningful community. It may be useful in improving student well-being & enhancing short-term and long-term learning of anatomy & physiology. This program has the potential to support medical students at other institutions with integration into their curriculum.

References:

- 1) Ritter M, Low KG. Effects of dance/movement therapy: A meta-analysis. *The Arts in Psychotherapy*. 1996/01/01/ 1996;23(3):249-260.
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- 3) Talagala P. Learning Theories for Tertiary Education-A Review of Theory, Application, and Best Practice. *International Journal of Innovative Science and Research Technology*. 2017;2(12):258-263.

Tensions from Tacit Culture and Personal Expectations Forge Professional Identity in New Physicians

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Problem Statement: Professional identity is key to transition to independent practice but this process is heavily influenced by unwritten contextual knowledge.

Rationale: To transition successfully into independent practice, newly graduated independent physicians (new “attendings”) undergo a process of professional identity formation (PIF) as a clinician in which they “think, act and feel like doctors”. PIF is crafted by socialization within a community of practice with transfer of knowledge. But this knowledge and its acquisition can seem nebulous: it is often tacit, contextual, and subconsciously gained. Some form of tacit knowledge seems vital in certain non-medical professions for expertise. This construct seems congruent with the tacit knowledge built through community of practice socialization in Medicine, but it is not well described.

While tacit knowledge is essential in transition to independent practice, we understand little how it shapes PIF. We set out to describe the tacit knowledge acquired by new attendings and how it contributes to PIF.

Methods: We used constructivist grounded theory for our research, consistent with criteria outlined by Charmaz. Inductive exploration of a social process and creation of an explanatory, descriptive theory from collected data characterize this approach. Our institution is an urban, tertiary, academic hospital affiliated with a university and provides training to medical students and trainee physicians. We undertook purposive sampling of emergency physicians from different backgrounds. These differences included differences in training program types, program locations, and gender. We sent an email invitation to all physicians at our hospital within the first 5 years of practice, describing the study and inviting participation. While we analyzed the data, we recruited additional participants to ensure adequate representation of participants from the above backgrounds. One investigator (SY) approached and recruited all participants. Twenty-three participants agreed to participate in the study and provided written informed consent. Concurrent with data collection with data analysis, one investigator (SY) reviewed and coded all de-identified transcripts and wrote memos on themes and categories. A second investigator (MY) independently reviewed half of the de-identified transcripts. These two investigators (SY and MY) and the team met regularly during the study to identify themes, develop categories, refine the coding schemes, and develop the final theory.

Results: New attendings brought high internal expectations informed by their training experiences as they joined a new community of practice. They encountered elements of group culture such as implicit practice standard and a tacit code of conduct, leading to tensions. This implicit practice standard included productivity, efficiency, and outcomes such as return patient visits, complaints, and lawsuits. Unspoken code of conduct included tacit undercurrents in interacting with physician colleagues, with perceived judgment on their decisions, or how they managed their workload. They had to decipher individual quirks which were silently approved. They felt they were treated differently because they were new. They also felt it difficult balancing social rapport and managing work with other team members.

Tensions between the expectations and these tacit elements led to internal conflict. New attendings responded in three ways as they formed their professional identity: they doubted, adjusted, or avoided.

Potential Impact: As internal conflict arose due to the mismatch between their expectations and the tacit culture elements, the attendings’ responses of doubt, adjustment, or avoidance shaped their professional

identity. Education leaders should prepare graduating trainees to successfully navigate tacit aspects of transition to independent practice.

References:

- 1) 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. *Academic Medicine*, 90(6), 718–725. <https://doi.org/10.1097/acm.0000000000000700>
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Medical School Faculty Experience with Change to an Anti-Racist, Anti-Oppressive Curriculum

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University of California, San Francisco School of Medicine

Problem Statement: Evolution to a medical curriculum focused on anti-oppression represents a change for faculty who have learned and taught under a different paradigm.

Rationale: Health disparities manifest in poorer outcomes for patients from racial/ethnic minority backgrounds. Transforming historical teaching and training practices in medicine through implementation of anti-racist, anti-oppressive medical school curricula can address such disparities. Developing an anti-oppressive curriculum requires faculty to address values, assumptions and institutions underpinning the structure of medicine and medical education. Curricular change can raise faculty concerns about the need for change, their own knowledge gaps, and their readiness to participate in making change. The Concerns Based Adoption Model (CBAM), which characterizes how faculty incorporate pedagogical innovation into their work and understand its consequences, offers a useful lens to understand the faculty experience of change. This study explores faculty perceptions of the shift to a medical school curriculum that prioritizes anti-oppressive content, process, and learner assessment strategies.

Methods: Using an inductive approach to thematic analysis of interviews, we are exploring faculty perceptions of the change to an anti-racist, anti-oppressive curriculum in the pre-clerkship phase of the UCSF School of Medicine curriculum. The fully integrated 16-month pre-clerkship curriculum components include 9 foundational science blocks, a longitudinal clinical skills thread, a longitudinal inquiry thread, and 4 interspersed ARCH (Assessment, Reflection, Coaching, Health) Weeks. Study participants were curriculum directors or co-directors, frequent lecturers, and frequent small group learning session facilitators. Eligible faculty were invited for voluntary participation in individual interviews lasting up to one hour with one trained investigator. The interview guide included open-ended questions about their perceptions of the shift to an anti-racist, anti-oppressive curriculum; probes addressed the impact the change has on their curriculum design work within their part of the curriculum, their own teaching, and their interactions with other faculty and students, including advantages and concerns. We have conducted 12 faculty interviews and data collection is ongoing. We are analyzing interview transcripts using thematic analysis with sensitizing concepts from CBAM. Four investigators are coding transcripts, with two investigators coding each transcript and reconciling discrepancies through discussion. Simultaneous data collection and data analysis are ongoing.

Results: Preliminary results of faculty perceptions of the curricular change process illustrate three major themes. First, faculty express moral and political alignment with enacting an anti-oppressive curriculum and cite numerous benefits for their own faculty development, enhanced learning opportunities for medical students training in an anti-oppressive context, and future advantages for patients to benefit from care provision by anti-racist medical providers. Second, faculty consider their own knowledge gaps and emotions in the context of enacting an anti-oppressive curriculum. They place high importance on executing the change well and meeting the learning needs of students. They readily acknowledge their personal limitations in expertise on issues of anti-racism and anti-oppression, which represents a departure from their typical position as the expert in the room. Furthermore, faculty express trepidation that their efforts will be suboptimal and may disappoint or elicit critical feedback from students. Third, faculty characterize the process of curricular revision as highly collaborative. They are working closely with faculty colleagues within and outside of their own courses to accomplish the curricular changes and take significant directive from student feedback. They continue to seek additional insight from institution leadership, from whom they express a desire for additional directive and resources to support the change.

Potential Impact: Study findings can inform faculty development efforts and highlight curricular leadership and curricular resources needed to support medical education faculty in the development and implementation of anti-oppressive curricula. Further data collection and analysis will enable us to characterize the different needs of faculty leaders and teachers.

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From Eggshells to Action: Exploring Supervisor Response to Microaggressions Targeting Learners

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Problem Statement: There are critical gaps in our understanding of factors influencing whether and how supervisors address microaggressions targeting learners.

Rationale: Microaggressions (MAs) are brief, common verbal, behavioral, or environmental dignity violations that communicate negativity toward a target's identities (1). In the clinical learning environment, MAs that target learners can increase cognitive load and distract from learning, eroding equity and belonging (2-5). This impact may be further compounded if the violation is met with supervisor inaction. Therefore, supervisors must be equipped with evidence-based skills to identify and address MAs to advance a more equitable learning climate. Supervisors describe uncertainty and fear that they may do or say the wrong thing as underpinning inaction in response to MAs targeting learners (6). Building on our prior study describing students' ideal supervisor bystander response (7), we explore the perspectives on responding to MAs of faculty identified by students as skilled bystanders and compare them to general faculty perspectives to elucidate training opportunities.

Methods: We conducted a qualitative focus group study under the constructivist paradigm. Students from our prior study on student perception of ideal supervisor response to MAs (6) identified faculty they perceived as skilled at addressing MAs. Via email invitation, we recruited two faculty groups to participate: the aforementioned 'skilled' faculty identified by medical students, and 'general' faculty from the Departments of Medicine and Surgery who worked with student learners over the preceding year. Participants received a \$20 gift card. We conducted semi-structured focus groups over Zoom. We presented up to four MA scenarios targeting learners, representing three major types of interpersonal MAs. These scenarios were identical to those used in our prior student study. We explored faculty perspectives on potential bystander responses, perceived facilitators and barriers to responding, and personal experiences intervening upon MAs. After professional transcription of focus group audio, we applied the framework method to code and analyze data. The research team included three white faculty members, one Native American and white, and one South Asian faculty member, one Black resident, and one South Asian medical student. Four faculty are in the Department of Medicine, and one in the Department of Surgery. We considered reflexivity through frequent group discussions.

Results: We conducted 10 focus groups (2-5 faculty each) with 42 faculty. Three were 'skilled' groups, 6 'general', and 1 mixed. Participants included 11 (26%) skilled. Nine (21%) identified as Asian, 2 (4%) Black, 25 (58%) White, 1 (2%) Native American, and 6 (14%) 'None of these/Prefer not to answer'; 4 (10%) as Hispanic/Latino/a. Fourteen identified (33%) as men, 27 (64%) women, and 1 (2%) as 'none of these'. Six identified (14%) as LGBTQIA. Several themes emerged. First, both groups describe a desire to promote a safe environment and an awareness of generational differences between learner and faculty ability to notice and respond to MAs. Second, a recurrent theme within Skilled faculty was discussion of MAs and student preferences for bystander response in advance, while this was a rarer theme among General faculty. Faculty in both groups who preemptively discuss MAs describe that it facilitates bystander action and decreases associated anxiety. Third, while all describe intervening on micro-assaults, for microinsults or microinvalidations, Skilled faculty describe using perceived intent to calibrate their response, whereas General faculty tended to use perceived intent to determine whether to respond. Finally, both groups identified barriers to bystander intervention, and noted that practice makes responding easier. Skilled faculty described bystander MA interventions as a professional competence to both demonstrate and teach to learners, a theme not described by General faculty.

Potential Impact: We identified distinguishing attributes of faculty skilled at responding to MAs targeting learners, as well as faculty perceptions on barriers to bystander action, thus revealing opportunities for faculty skill development to support evidence-based bystander action and a more equitable learning environment.

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Faculty Perceptions Towards Teaching Communication Skills in the Virtual Learning Environment

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Problem Statement: To assess faculty perceptions on satisfaction and attitude towards teaching virtually during an introductory communication skills course to MS1s.

Rationale: Medical education underwent a rapid transformation due to the COVID-19 pandemic. Social distancing required teaching/learning platforms to quickly move to the virtual space. As a result, educators found themselves scrambling to identify and become familiar with remote learning platforms, which was more than just transferring their in-person curriculum to online.

Educators at the Zucker School of Medicine at Hofstra/Northwell (ZSOM) were tasked to convert our in-person communication skills curriculum to synchronous distance learning. Research has shown that faculty who have a positive attitude towards online learning are more likely to provide students with positive learning outcomes. We did not know enough about faculty satisfaction with small-group virtual teaching of communication skills. Therefore, this study was to assess the faculty perceptions on satisfaction and attitude towards teaching an introductory communication skills course virtually to first year medical students.

Methods: The communication skills curriculum at ZSOM is a longitudinal 4-year thread that starts in the first week of medical school. The introductory portion of this curriculum is a 7-week communication skills course that was adapted to a virtual synchronous delivery format for the 2020-21 academic year, beginning August 2020-September 2020. Longitudinal groups of 8-9 students were assigned to 2-3 faculty members for small-group learning of communication skills.

There were 39 faculty and 103 MS1 students who participated in a weekly remote curricular session (110 min) for 6 weeks total. The 7th week was a 1:1: formative virtual standardized patient (SP) encounter. This encounter was observed by one of the three longitudinal faculty members, who then provided post-encounter coaching and re-practice.

Data for this study was collected quantitatively and qualitatively from 33 faculty (excluding 6 faculty involved in study planning) and all 103 MS1 students. The faculty received post-session weekly surveys that yielded real-time feedback. At the end of the 7-week course, the faculty completed an adaptation of the Online Faculty Satisfaction Survey (OFSS; Bollinger and Waslik 2009). A retrospective pre/post design was used to assess the OFSS scores in order to examine change in faculty perception before and after the online communications course. Data was also collected from the students at the end of the course as part of program evaluation.

Results: Twenty-nine out of the thirty-three faculty (88%) responded to the OFSS survey post course. There was a significant increase in OFSS scores by the end of the course in the student ($Z=-3.65$, $p<0.001$) and instructor ($Z=-2.40$, $p=0.02$) subscales, and only a non-significant trend decrease in the institution subscale ($Z=-1.93$, $p=0.05$).

The faculty responses to the weekly survey indicated that faculty perceived that the sessions were effective, and their perception did not change over time. Student feedback was also analyzed and from the 103 students that responded (100% response rate) 69% of the students strongly agreed/agreed that the virtual sessions were an effective way to learn communication skills. Students rated individual faculty members' ability to effectively navigate the virtual platform, 29 (83%) of the faculty received a median

score of 5/5 and the remaining 6 (17%) received a median score of 4.5/5. Responses from all 103 students (100% response rate) were available for the end-of-course evaluation. Sixty-nine students (69%) strongly agreed/agreed that the virtual sessions were an effective way to learn communication skills, 23 (23%) neither agreed or disagreed and 8 (8%) strongly disagreed/disagreed. When asked about individual faculty members' ability to effectively navigate the virtual platform, 29 (83%) of the faculty received a median score of 5/5 and the remaining 6 (17%) received a median score of 4.5/5.

Potential Impact: Faculty satisfaction of online teaching increased by the end of the course and those who taught this course in-person in 2019 perceived that remote teaching of communication skills was just as effective. The teaching of communication skills online is timely as skillsets learned by students can translate to clinical care delivered via telehealth.

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A Simulation Virtual Workshop Can Assess and Teach “Breaking Bad News” Using the SPIKES Framework

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Problem Statement: Breaking bad news through virtual media is a new skill regarding how to set up the conversation, provide empathy, and lend support

Rationale: The objectives of this study were to 1) determine the feasibility of a virtual bootcamp for interns using a virtual simulation workshop to teach breaking bad news to standardized patients; 2) to obtain baseline assessments of the interns on their competency in breaking bad news; and 3) if the workshop can increase the interns' competency in using SPIKES to break bad news.

Methods: Formal training on how to deliver bad news virtually can help prepare incoming first-year residents, to support the transition from the role of student to a physician ready to assume increased responsibility for patient care. The SPIKES framework stands for Setting up, Perception, Invitation, Knowledge, Emotions with Empathy, and Strategy or Summary. We designed a virtual simulated workshop to meet the ACGME requirements to assess and teach the ACGME competency of Interpersonal and Communication Skills. Standardized patient and physician scripts, rubric checklist based on HCAHPS survey, self-assessment tool, and PowerPoint presentation were created. Medical students were recruited and trained to play the role of virtual standardized patients and to assess interns using the rubric checklist. In a 90-minute virtual workshop, incoming interns 1) delivered bad news to the virtual standardized patient using the provided script and were graded by the virtual patient, 2) completed a self-assessment tool, 3) were taught by a PowerPoint presentation on Giving Bad News using SPIKES framework, 4) delivered bad news to the virtual standardized patient using another provided script and were again graded by the virtual patient, 5) completed the self-assessment tool, The data was collated and statistical analysis was performed.

Results: In June 2021, 47 interns participated in a virtual boot camp including 63% in primary care and 37% in non-primary care specialties; 56% females and 44% males, 42% born outside US while 58% were US born and 72% had previous training. On self-assessment, from pre to post educational workshop significant increases occurred in using a formal framework (56% versus 91%, $p < 0.001$) and comfort in using the SPIKES framework (1.61 versus 3.71, $p < 0.001$). Mean total rubric score graded by virtual patients significantly increased from pre to post educational workshop for knowledge (5.54 versus 6.61, $p < 0.005$) and Empathy/emotion (2.96 versus 3.57, $p < 0.05$). Non-US born interns compared to those US born significantly self-assessed more uncertainty (3.36 versus 2.83, $p < 0.05$) and received lower grades on perception (2.17 versus 2.71, $p < 0.05$) and information (6.17 versus 5.79, $p < 0.05$). Pre-educational workshop: interns' milestone competency grading on giving bad news were novice = 8%, advanced beginner = 33% competent = 25%, proficient = 21% expert = 13%; and post-educational workshop were novice = 0%, advanced beginner = 17%, competent = 29%, proficient = 22%, expert = 22%.

Potential Impact: A virtual simulation workshop is feasible and requires less resources than in-person workshop. A virtual workshop can assess and improve the competency of residents on giving bad news using SPIKES framework.

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Expansion and Evaluation of PC Teach, a Novel Peer-Teaching Model Based in the Outpatient Setting

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Problem Statement: Whereas peer teaching is central to inpatient internal medicine education, residents rarely have the same opportunity in the outpatient setting.

Rationale: Unlike on inpatient rotations, internal medicine residents practicing in ambulatory care settings have few opportunities to teach and mentor each other and as a result, receive little to no feedback on their outpatient teaching skills. In addition, few internal medicine residency programs offer formal curricula centered around teaching frameworks and feedback models tailored for outpatient encounters. PC Teach is a novel peer-teaching team model based in the outpatient setting, with the goals of (1) augmenting residents' skills and confidence as clinicians and teachers in the outpatient setting, (2) improving resident attitudes toward teaching, and (3) increasing resident interest in primary care careers.

Methods: In the enhanced program, senior residents first participated in an interactive training session to learn a validated outpatient teaching model and feedback techniques. In addition, participating faculty received a brief orientation session, which reviewed the goals of the program and provided a refresher on teaching and feedback models. Subsequently, during each half-day PC Teach session, one resident was paired with one intern in the primary care clinic. The intern saw each patient independently and then presented to the resident, who served as the main preceptor; the attending supervised this interaction. At the end of each session, the attending, senior resident, and intern used collaborative worksheets to facilitate self-assessment and feedback.

Before and after 6 months of program participation, participating senior residents completed surveys assessing 3 domains: confidence with outpatient teaching and practice, attitudes toward teaching, and interest in primary care and outpatient medicine careers. A control group of senior residents not participating in PC Teach also completed the pre- and post-intervention surveys. We used Wilcoxon rank-sum tests and logistic regression to compare pre-post differences in survey responses between intervention and control group.

Results: 51 residents completed the pre-intervention survey and 33 completed the post-intervention survey (pre/post response rates for intervention and control, respectively: 98%/58%; 50%/44%). In bivariate models, we observed a significantly greater pre-post increase in confidence with outpatient teaching and practice ($p=0.03$) and in attitudes toward teaching ($p=0.02$) among PC Teach participants compared to controls. Interest in primary care and outpatient medicine careers increased slightly in both groups, but the rate of increase did not differ significantly between groups ($p=0.80$). After adjusting for clustering by clinic site, PC Teach participants were more than twice as likely as controls to report increased confidence with outpatient practice and teaching following the intervention ($p<0.001$).

Potential Impact: Results of this pilot study indicate that PC Teach may enhance residents' confidence in practice and teaching and bolster their interest in medical education. Program directors seeking to enrich outpatient graduate medicine education may wish to consider adopting similar near-peer teaching curricula.

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**SLICS (Supervised Learning Events in Clinical Settings):
A Novel Improvement to Education in Wales**

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Problem Statement: Barriers to Supervised Learning Events include time constraints, administrative burden and tick-box mentality. Our aim is to make SLEs more accessible.

Rationale: Previous studies have shown dissatisfaction with trainee SLE requirements. The commonest cited barrier is lack of assessor availability. Self-selection of assessors by trainees may also bias feedback. Recommendations from a study of Paediatric Trainees in South Wales included protected time, reducing minimum SLE requirements, and training for users. It is widely accepted that regular, quality feedback improves the educational value of formative assessment. Initiation of change also increases when feedback is from different assessors and is regular. The Royal College of Paediatrics and Child Health has now removed the minimum number required, focusing on quality rather than quantity. We used an online timetable to improve accessibility to high-quality SLEs. Our aims were;

1. To improve ease of arranging SLEs
2. To increase the educational value of SLEs

Our study evolved over several PDSA cycles in response to pilot data and acceleration of virtual learning during the 2020 pandemic.

Methods: Our initiative, 'SLICS' (Supervised Learning Events in Clinical Settings), was first piloted in 2019; protected time for face to face SLEs was timetabled. As social distancing became a requirement in 2020, we offered SLICS over virtual platforms for our pilot. We created an online timetable accessible to trainees and assessors. Trainees were encouraged to identify individualised learning outcomes and book an appointment with an appropriate assessor. Junior doctors working in paediatrics in Morriston Hospital had the option to bring their own case or for the assessor to provide a real or hypothetical case. Mini-Cexs involved presenting history and examination findings and data to interpret. We planned to have assessors enter slots 1st, and trainees sign up for them. However, some misunderstood this and chose slots not allocated by assessors. Luckily we were able to accommodate, and it informed our next PDSA cycle. We grew a pool of assessors with a range of expertise. For the 3rd pilot, we trialed trainees selecting first and us matching appropriate assessors. This proved challenging to manage, and some requests could not be accommodated. Drawing on feedback and experience, we reverted to assessors entering their availability 1st, giving trainees the responsibility to select the most appropriate available assessor for their learning needs. Ambitions for our next PDSA are to deliver SLICS to all trainees in Wales.

Results: In 2017 24 responses to a questionnaire about SLEs were collected from Paediatric Trainees in South Wales. Lack of assessor's time was the most common barrier (63%). SLEs were perceived as useful for learning and development but could be tick-box exercises.

The same questionnaire was distributed before the 2nd SLICS pilot in November 2020. 46 responses were gained from Wales's Paediatric Trainees. 50% found SLEs to be useful/very useful, 40% were neutral, 10% found them of very little use. 43% found it difficult/very difficult to complete SLEs, 40% were neutral, and 17% found it easy. 61% frequently relied on the same assessor for SLEs, 22% responded "maybe". As educational tools, the overall perception of SLEs was: 46% neutral, 30% positive, 24% negative. The top 2 barriers were lack of assessor's time and assessors not filling in the form, followed by: feeling like an inconvenience, difficulty finding a willing assessor, and heavy workloads.

Following pilot 2, 5 trainees gave feedback on their experience of SLICS via a questionnaire. 100% felt

learning objectives were appropriate and were met, the SLICS would improve their clinical practice, it was effortless to arrange, the form was filled in, and confidence in completing required SLEs was increased. All requested more SLICS availability and gave positive free-text comments with themes such as: valued learning, easy to arrange, COVID-safe, and reduced stress.

The 3rd pilot is due to start in Autumn 2021.

Potential Impact: SLICS empowers trainees to gain excellent educational value from SLEs by increasing regularity, diversity, and quality. We used feedback and experience to optimise SLICS, which is now being delivered across Wales. We hope to foster lifelong effective learning skills for all Wales's trainees and share this with the wider medical educator community.

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Planning and Execution of a Novel Simulation-Based Night Float Course

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Problem Statement: Night float rotations have become commonplace in residency programs, though adequate resident education and preparation is lacking and inconsistent.

Rationale: In response to recent ACGME duty hour reforms, many internal medicine residencies have created night float rotations that emphasize cross-cover responsibilities. Unfortunately, multiple studies have highlighted resident perception of the night float rotation as predominantly service-focused with little educational benefit. Also, the lack of formal supervision and high cross-cover census contribute to resident unease, impacting patient safety. In order to further understand barriers to education during the night float rotation, we performed a needs assessment to identify common medical emergencies encountered overnight, and to evaluate resident familiarity and comfort with the same emergencies. With this data, we designed and implemented a half-day resident course featuring triage of mock nursing pages, followed by simulations of medical emergencies with a full-feature mannequin, and debriefing sessions led by faculty instructors.

Methods: We designed a 3-part questionnaire that focused on identifying the most common medical situations encountered, assessing factors that contributed to unease in managing patients, finally reflecting on the overall educational value of the night float rotation. The questionnaire was sent to all PGY-1 residents who had completed the medicine ward night float rotation in the first 6 months of internal medicine residency at the Ronald Reagan UCLA Medical Center. Residents were invited via e-mail to complete the survey and responses were submitted electronically. First-year residents the following year were then invited to participate in a half-day simulation-based course that simulated a night float rotation experience in the Medical Simulation Center. The Simulation Center incorporated a high-fidelity wireless human patient simulator, operated by a trained simulation technician. Learners in groups of 5-6 rotated through simulation rooms, reading through 5 mock nursing pages at a time and selecting which mock patient to assess. Learners participated in 4 different scenario-based simulations, which were based on medical emergencies deemed most encountered and least comfortable by residents in the questionnaire. Debriefing sessions were led by experienced simulation faculty members after each patient scenario. Learners provided their evaluations of the usefulness of the simulation experiences and the course overall.

Results: 23 residents responded to the questionnaire. The most commonly encountered emergencies were shortness of breath (100% of residents encountered), sepsis (100%), acute pain (100%), PRN medications (100%), chest pain (96%), tachycardia (96%), and hypotension (96%). The scenarios rated as "most uncomfortable", with lower score indicating less comfort, included shortness of breath (2.9/5), tachycardia (2.9/5), acute bleeding (3.0/5), chest pain (3.1/5), hypotension (3.1/5), and sepsis (3.7/5). Our needs assessment survey demonstrated that the same overnight emergencies that occurred most frequently were also the scenarios in which residents feel most uncertain about. Given the considerable overlap, the simulation course featured 4 cases: Hypoxia due to Pulmonary Embolism, Acute Coronary Syndrome, Hemorrhagic Shock, and Severe Sepsis complicated by Atrial Fibrillation. 17 residents participated in the first simulation night float course, which included mock pages followed by the simulation case. Surveying learners with a standard 5-point Likert scale, with 5=Strongly Agree, the course received overwhelmingly positive feedback. Learners agreed with the statements "I feel more prepared for my night float rotation" (4.5/5), "The simulation cases were appropriate for my level of training" (4.7/5), and "The simulation course was a better learning experience than a classroom discussion on the same topics" (5.0/5).

Potential Impact: Our residency program is expanding the course to a formal Intern Simulation Boot Camp for all PGY-1 residents to participate in during orientation week. This half-day course will better prepare residents for night float rotations, with the goal to both improve patient safety and enhance resident education.

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**Advance Care Planning Towards a Plan of Action: Perceptions
and Attitudes of Providers & Patients**

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Idea: Empowering the learning, confidence, and communication of healthcare providers and patients on advance care planning conversations in primary care.

Need: In order for patients to receive health care that align with their goals of care at the end of life, it is recommended that conversation begin earlier in primary care when there is more time and not when patients are in critical healthcare situations at the hospital (Tokunaga, 2020). Studies have noted that healthcare providers in primary care have an opportunity to deliver longitudinal type care, conducive of developing trusting working relationships with their patients. Advance Care Planning involves a process of conversation and exploration of a patient's beliefs, values, concerns, and fears that can assist in identifying and operationalizing the oral/written wishes of the patient's goals of care at the end of life (Fulmer, 2018). Research has noted that such important conversations are not occurring as regularly as they should be in primary care due to healthcare providers not feeling comfortable or confident about their approach to initiating and engaging in advance care planning conversations (Howard, 2020). Studies on patient perception related to advance care planning inform that patients are willing to have conversations, however, primary care providers are rarely initiating the conversation (Fulmer, 2018).

Methods: Perceptions and Attitudes will be measured during a three month time frame beginning in December 2021 through February 2022 in a family medicine primary care setting located in Boyle Heights.

A self-report screener developed by behavioral medicine faculty will be conducted to evaluate perceptions and attitudes specifically focusing on exploring how providers and patients feel, think, and are willing to have advance care planning conversations that lead to a developed advance care directive.

Definitions on advance care planning and advance directives will be provided in the screener for all participants. The patient screener will be provided in both English and Spanish.

Participants will include 24 family medicine residents, 18 faculty, and the 18 through 65 population represented at the family medicine primary care clinic located in Boyle Heights.

Front and back office staff will be oriented through a didactic session on how to introduce the questionnaire to the patients through a developed script by the behavioral medicine faculty in the residency program.

Post survey results will be utilized to develop programmatic intervention, support, and policy to empower healthcare providers to address the need to have these conversations earlier and more effectively with their patients to enhance quality of care by exploring goals of care earlier.

Evaluation Plan: The evaluation process will include a process of a scheduled information session informing on the rationale for the study, process, and definitions of advance care planning for healthcare providers.

Upon completion of the data collection process, results will be shared with providers in a follow up meeting. The didactic session will also have a focus group component that will serve to begin exploring ideas to create a supportive structure for healthcare providers to engage in advance care planning conversations more regularly.

Based on outcome a curriculum will be developed to empower the learning experience of healthcare providers which will include: videos, journal article readings, training modules, opportunities for role play and filming for training review/feedback, and co-consultation with behavioral medicine faculty. Similarly, patient education materials would be developed and obtained to create informational packets to empower patients with information on advance care planning, how to inquire and work with their healthcare provider towards developing a plan that reflects what is most important and valued by the patients.

Potential Impact: The exploration of perceptions and attitudes in healthcare providers and patients can serve to empower them to feel more confident in their communication skills and build trust during the advance care planning process, which would allow for quality advance care planning that aligns with the patient's goals of care at the end of life.

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Deliberate Feedback: How To Incorporate It into Our Daily Clinical Practice

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Idea: A workshop for senior surgical trainees on use of deliberate feedback methods in daily clinical practice.

Need: Annual ACGME surveys have shown that with general surgery training programs, there are gaps between residents' and faculty's perception about the amount and timeliness of feedback received and given respectively (reference 1). Faculty perceive giving a great deal of feedback towards trainees, whereas residents identify that they are in fact, not receiving much feedback (reference 1). In many cases, it is the junior level trainees who feel neglected as they may not have as much face-to-face association with the teaching faculty, hence limiting the volume of feedback provided. To enhance the overall perception of feedback, we must engage and enable senior level surgical trainees to become effective teachers to those in early training years. Research shows that deliberate-practiced feedback models of learning are some of the most effective means of delivering a higher level of education (reference 2). To bring across these concepts to our trainees, we aim to coach senior surgical residents to become better teachers, mentors, and eventual coaches themselves, and hypothesize a complimentary increase in perceived feedback will be appreciated by all learners.

Methods: A 5 hour professional development workshop will be held to focus on the residents' responsibility of seeking, receiving, and utilizing feedback via an "8 step" process (reference 3). A special emphasis will be made on using the "BID" (Briefing, Intraoperative teaching, and Debriefing) model of deliberate teaching in the operating room (reference 2). This method focuses on setting objectives for the learner's performance and provides immediate and specific feedback to allow guidance for future practice. A second focus utilizes the Zwisch Scale as a competency-based method of assessing level of autonomy among surgical trainees (reference 2). This professional development course will include three rounds of role play (using videos of small procedures), after which learners will practice debriefing skills. In addition, the residents will refine interpersonal skills to manage the "growth mindset" learner, as well as both the "fragile" learner and the "protected" learner. The results of this training course will be tracked over the course of the academic year by use of the SIMPL app as well as monthly BID assessment forms completed by senior residents after they have assessed junior trainees. When combining the "BID" model with the Zwisch Scale, a deliberate feedback practice pattern can be used for effective teaching and learning for the next generation of surgeons, and with the aim to improve overall perception of feedback given on the ACGME annual assessment.

Evaluation Plan: The evaluation of the intervention will incorporate multiple methods. Attendance and completion of the 5-hour workshop will be documented. A standard CME format questionnaire will be used to gain participants' opinions about the organization, instruction, content, and usefulness of the training at the end of the workshop. The residency program will then review the SIMPL dashboard for each trainee to rate the contents for amount, specificity, relevance to each phase of the Zwisch scale and descriptive BID feedback via transcribed dictations (briefing, skill performance, debriefing). This will be done one month prior to workshop training, and monthly thereafter for the remainder of the academic year to determine both the quantity and quality of assessments performed. Together these methods will allow us to examine feedback given to current residents as well as to determine its impact on current learners, with the overall opportunity to enhance the quality of future surgeon educators.

Potential Impact: If successful, this workshop can become a model for training senior residents within surgery with the skills needed to provide specific feedback to junior residents in a manner that encourages a growth mindset.

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Art and Medicine: A Curriculum to Promote Creativity and Improve Fellow Wellness

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Idea: Appreciate applications of art to medical practice and improve wellness of pediatric hematology-oncology fellows utilizing an art curriculum.

Need: The emotional and psychological well-being of trainees is crucial in developing effective, well-rounded physicians and reducing risk of burnout and has been incorporated into the program requirements put forth by the Accreditation Council of General Medical Education (ACGME). In our pediatric hematology-oncology department, faculty and fellows recognize the stress of being a trainee, the emotional stress and grief inherent to the field, and that there is room for improvement in fellow wellness. Introducing art curricula into medical training at the medical school, residency, and faculty levels improves communication and observational skills, empathy, critical thinking, and reflection (1,2). On our needs assessment survey of 12 pediatric hematology-oncology fellows at Children's Hospital Los Angeles, 92% reported art to be meaningful and applicable to medical practice, particularly visual arts, photography, cooking, and music, but only 25% feel able to incorporate art into their lives routinely. With the implementation of an art curriculum we aim to provide fellows with a creative outlet and an opportunity to experience art on a routine basis, apply lessons from art to clinical practice, and improve overall fellow wellness.

Methods: The intervention will focus on 16 pediatric hematology-oncology fellows. Twelve art activities will be introduced into the fellowship core curriculum, included as part of our social events, and during the fellow's annual retreat over one year. The intervention will include the following: 1) Implementation of an art curriculum incorporating activities using various art media based on fellows' areas of interest identified by the needs assessment questions. A pilot project included an instructor-led group painting session; a collaborative playlist with song contributions from each fellow and discussion of the meaning of each song; and a collaborative photography collage project with contributions from each fellow. Additional planned activities in this intervention include a virtual cooking course for both fellows and faculty; a collaborative cookbook with recipes submitted by fellows, faculty, and staff; outings to art museums and theater productions; instructor-led reflective/narrative writing sessions; didactic lectures by an art historian; and visual art projects including ceramic painting, drawing, coloring, and collage. 2) Associated with each art session, discussions will be facilitated by program leadership and fellows to explore new insights gained about the artform itself or colleagues; meaning found in the artform or art project; and how the artform can be applied to clinical medical practice or the field of medicine more broadly.

Evaluation Plan: 1) **Accountability:** In our pilot program, typically 11 of 12 fellows participated in the 3 art activities. We will continue to plan one art activity per month. 2) **Reaction:** Fellows will be surveyed 6 months into the curriculum and at 12 months (end of study period) to evaluate the quality of the activities. These results will direct the selection of future art projects. 3) **Learning:** Fellows will be surveyed using free response survey questions to assess their thoughts about how art is applicable to the field of medicine, and how they feel art exposure has impacted the way they practice medicine (communication, empathy, observational skills, etc.). These results will help guide discussion around art in medicine. 4) **Behavior:** Fellows will complete a brief validated survey (Well-Being Index) to assess trainee wellness and risk of burnout prior to the intervention, after 6 months, and at the end of the study period (12 months) (3). These results will be used to track change in wellness scores as a result of the intervention, ensure that trainee wellness within our program is being appropriately addressed, and compare wellness scores of fellows in our program to fellows around the country.

Potential Impact: If implementation of this art curriculum is effective in improving fellow wellness, we hope this serves as a model for other fellowship programs at our institution and across the nation inspiring other programs to incorporate art into their curriculum with the goal of training more well-rounded, empathic, and effective physicians.

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Pause Before Saying Yes: Preparing Female Fellows for Their Initial Job Search and Negotiation

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Idea: An interactive workshop-series for female pediatric fellows providing skills required for initial job search and negotiation.

Need: A gender pay disparity exists amongst professions in the US. Physicians have one of the largest.(1) Female-identifying physicians earn about 27% less than male physicians, even when controlled for specialty, academic rank, and publications (2). Bias is thought to influence hiring and promotion decisions. Darrell Kirsch, past president of AAMC states “to solve these problems, we have to debunk overly simplistic, cultural narratives about the causes. Over the last decade, [clinical institutions] have shifted from an emphasis on helping women develop skills to removing larger systemic barriers in academic medicine.” A needs assessment of female senior pediatric fellows at CHLA indicated that amongst respondents (n=13), only one had ever negotiated for a job, 93% felt “not confident” in negotiating for a professional position, and 100% indicated they would like skills-based sessions. Although we recognize that the issues surrounding the challenges to women in seeking jobs are primarily societal issues, we believe that as fellows all we can control is our own actions. Thus, we propose a longitudinal program for female fellows to help develop the skill-sets needed in the job quest, interview process, and final negotiation.

Methods: The participants will be approximately 45 female pediatric fellows at CHLA. The workshop series will include three main components: tool-building, colleague mentorship, and the actual workshops.

The participants will complete various tools that will help them get to know themselves (VIA Character Strengths, Mindfulness, Self-compassion, Mindset and Grit - for Session One) and their career preparedness (network survey, values activity- Session Two).

Participants will group in trios to work together throughout the year with their ongoing products: job survey; philosophy of teaching/leadership/research; products for curriculum vitae.

The workshops include four 90-120 minute sessions and are composed of a lecture and interactive skill-building using their above tools and products. The topics of each workshop are below:

- Getting to Know Self
- Networking/Identifying Job Availability
- Creating your Brand (e.g., CV, teaching portfolio, web site)
- Identifying the Ask, Creating your BATNA (Best Alternative to a Negotiated Agreement) and
- Prioritizing Preferences
- Negotiation (a split lecture with classroom and mock negotiations)

Evaluation Plan: The evaluation of the intervention will incorporate multiple methods.

- Tracking of the number of fellows participating in each program element (tools, sessions, worksheets, mock-negotiation).
- A standard questionnaire will be used to gain participants' opinions about the organization, instruction, content, and usefulness of the workshop series.
- Participants will complete validated self-assessment instruments pre-, post- intervention.
- To examine impact on behavior a checklist of important activities will be kept for participants as a google doc with informed consent for us to track items completed.
- Together these methods will allow us to enhance the program for future fellows as well as to determine its impact on current fellows.

Potential Impact: Potential Impact: This workshop series serves to empower female trainees to advocate for continued education in career development, particularly in areas beyond that of their subspecialty. In particular, this workshop series addresses skills needed for leadership and may serve to empower women in seeking such roles.

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Measuring Results for Practicing Arthroscopic Sports Surgeons when Taught via Augmented Reality

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Idea: Augmented reality for distance education of arthroscopic sports surgeons to build skills in a new surgical procedure and enhance post-operative care.

Need: Augmented Reality (AR) is a mainstay of future training and many argue that surgical training should mirror pilot training, leveraging the power of simulation before exposing trainees to live situations (2). This ethical argument also applies to practicing surgeons who wish to acquire new skill (2). Learning new surgical skills as an attending is difficult as there is no structured curriculum to advance one's skillset after residency. Yet, practicing surgeons do adopt new techniques to stay current and to improve patient outcomes. An international consensus by experts had a 93% agreement that the Glenoid Bone Block - Arthroscopic Wong (AW) procedure be considered over the current gold standard treatment for anterior shoulder instability. Learning the AW technique is in demand and has been taught in-person by the developing surgeon until COVID19 pandemic, when AR was used to remotely teach this procedure. There is a need to develop AR as an educational tool and assess its efficacy. We will develop distance AR curriculum based on the principles of interactive, collaborative teaching with immediate feedback. Cases involving pre and post-operative aspects of patient care including physical therapy will be incorporated.

Methods: The intervention will involve 12 arthroscopic surgeons over 1 year. Each teaching session will be 4 hours using Augmented Reality (AR) with the learner utilizing a cadaver lab at their home site. The learner will receive instruction on pre and post care as well as remote surgical guidance from the surgeon who developed the AW technique. Learners will watch an instructional video prior to the session and complete pre and post questionnaires. The teaching sessions will be conducted using zoom. A variety of instructional aids will be used including 3D printed models and annotation on top of the learner view. Learners will be directly observed (using 3 cameras from different surgical perspectives) and the instructor will interact with each learner in real-time using AR technology. The instructor will have the ability to manipulate, annotate and adjust the learners screen to manipulate the surgical view and facilitate targeted instruction with immediate feedback, while the learner is operating. Intraoperative measurements will be obtained and imaged to assess successful completion of the AW surgical procedure. The session will conclude with a thorough debriefing and review of a real clinical case involving pertinent imaging, surgical technique and necessary post-operative care including pain management, physiotherapy and clinical follow up. Additional resources including relevant research articles will also be provided to each learner.

Evaluation Plan: The evaluation of the intervention will incorporate multiple methods. A questionnaire will be developed to gain participant's opinions on Augmented Reality (AR) as a teaching tool, since no standard tool has been developed yet. A post-intervention questionnaire will be used to gather information on the quality of teaching and usefulness of the AR teaching session in relation to improvement of knowledge, confidence, and technical skills. Successful completion of the operation will be assessed by utilizing the recordings from all camera angles (simultaneously recorded). These camera angles represent surgeon views of the entire procedure. Objective measures of the procedure include creation of appropriate dimensioning of bone graft, portal creation, anatomic landmark verification, and quality of bone block placement. The assessment will also ascertain learner confidence on performing the procedure and their plans to utilize this procedure in their own practice and intentions to seek further training. A researcher will follow up to create an anonymized log of surgical and treatment information on the participants' patients for 1 year. These data will help build data on the effectiveness of AR in surgical education.

Potential Impact: If effective, this project can serve as a platform from which Augmented Reality (AR) can be further developed, studied, and utilized in surgical education. Teaching via AR can also reach surgeons in other parts of the globe and rural areas seeking to learn new procedures. This project also has clinical implications for future patients.

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Virtual Motivational Interviewing Workshop for M3's During the Psychiatry Clerkship

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Idea: Virtual motivational Interviewing workshop for psychiatry clerkship students to learn knowledge and skills required to discuss behavior change.

Need: Motivational Interviewing (MI) has been shown to be an effective therapeutic tool to use with patients to promote behavior change. Although MI was originally developed for behaviors around alcohol and drug use, MI has been shown to also help for other change behaviors such as medication adherence and weight loss (1, 2). Some medical students get introductory training to MI during their pre clerkship years, but the material is not reinforced when they have the capacity to use it regularly in a clinical setting. There is evidence to show that after a training, medical students can learn the beginning knowledge and skills of MI in addition to reporting an increase in confidence in using MI with patients (3). This workshop will focus on gaining knowledge and skills of MI with a virtual workshop during the psychiatry clerkship and if effective can serve as a model for institutions who want to increase student use of MI in the clinical setting.

Methods: Participants will be M3 students who are participating in the psychiatry clerkship at the University of Southern California. The workshop will be a 2 session, 3 hour total workshop that will repeat every 6 weeks for the next group of medical students entering the rotation. The workshop is intended to teach knowledge and skills of motivational interviewing that students can practice in their daily patient encounters. At the beginning and end of the workshop, students will participate in the video assessment of simulated encounters revised (VASE-R) which is a validated instrument to assess knowledge in MI. MI techniques will be introduced in brief didactic presentations which include interaction in small groups via think-pair-share. Skills will be built using role play and through the observation of MI videos. At the end of the workshop, students will complete a written self-reflection about their experience of participating in MI with a patient and develop a personal plan of action related to continued development of their MI skills.

Evaluation Plan: Attendance, timing of activities, and level of participation in each activity will be tracked so we can modify the plan for next year as needed. The workshop will be assessed via session evaluation forms completed by learners to gain their opinions on quality, organization, and usefulness to them. Direct observation of participation in role play activities will provide in vivo feedback to learners. Learners will participate in the video assessment of simulated encounters revised to assess knowledge acquisition. Learners will create a plan of action/commitment to act which we will follow up on 3 months after they participate in the workshop.

Potential Impact: Motivational interviewing is useful to use with patients to encourage behavior change. Medical students can learn MI techniques and incorporate them into their interactions with patients if taught knowledge/skills. If effective, this workshop can be implemented at other institutions who would benefit from a virtual curriculum in the clerkship.

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“Tell My Story”: A Cadaver Clinical Integration Learning Activity

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Idea: Improved learner motivation and self-directed learning utilizing an integrated clinical and basic science medical curriculum in preclerkship education.

Need: The basic science medical school curriculum has largely consisted of discrete courses taught in isolation but in parallel across departments. The curricula included an initial phase focused on normal structure and function followed by pathophysiology typically around organ systems. However, learners report dissatisfaction with this model due to lack of clinical relevance that challenges a learner’s perception of value for the content.(1) Furthermore, faculty feedback is that medical learners have difficulty accessing or applying prior basic science knowledge to the clinical context that promotes deeper connection of learned concepts and clinical pathologic correlation. (2) Thus, there is a perceived need to integrate medical education curricula by providing a framework to build meaningful knowledge structure while improving learner’s motivation, and self-directed learning.

Methods: The Cadaver Clinical Integration is a self-directed and problem-based learning activity for the medical student class of 2025 composed of 49 students in the Engineering-Medicine dual degree program of Texas A & M College of Medicine. The session integrates content delivered in the fall semester of the first pre-clerkship year- Medical Gross Anatomy, Histology, Clinical skills & Humanities, and Engineering-Innovation. This problem-based learning (PBL) activity is a team-based approach to providing a clinical and pathological summary of a cadaver undergoing dissection in the MGA course. Student groups will work to identify, record, and research the normal and pathologic findings from their cadaver, correlate these findings with resources of normal and pathologic histology, and research the co-morbidities, risk factors, and social determinants associated by prevalence with these findings.

These findings will be used for three deliverables per team: 1) a reconstructed comprehensive patient encounter occurring within one year prior to death, 2) a forensic clinical summary of the last 24hrs of life, and 3) a team oral presentation of findings, assessment, and innovative idea which addresses an identified gap in health care relevant to each case. Independently, prior to the final presentation, students will be required to identify one knowledge gap based on the findings on their cadaver to complete a self-directed learning activity with provided feedback throughout the course.

Evaluation Plan: 1) Accountability: Faculty will track student progress and contribution at three scheduled check-in sessions where students present their self-directed learning activity and receive feedback and direction. 2) Reaction: Survey student feedback on reaction to activity at mid-point and end of course. 3) Learning: Student’s will be evaluated on clinical integration from team oral presentations, submitted clinical encounter, and forensic clinical summary. Improvement of self-directed learning will be assessed by using a pre and post survey of student motivation and self-directed learning using a modified Motivated Strategies for learning Questionnaire (MSLQ).(3) Written summaries and encounters about cadaver clinical cases will be monitored for depth of integration and clinical-pathologic correlation of content. 4) Behavior: Quality of self-directed learning activity will be tracked over next six months of academic year.

Potential Impact: Early integration of basic science and clinical knowledge in medical education promotes learner motivation and self-directed learning. It improves the perceptions of connected learning of concepts and knowledge across different curricula by the learner and educator.

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Living in a Digital World: Implementing Digital Health Skills in Pharmacy Education

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Idea: Development of a longitudinal digital health curriculum for all pharmacy students to promote use of digital health in patient care.

Need: The International Pharmaceutical Federation (FIP) released a report in 2017 in response to the changing landscape of healthcare addressing the need to incorporate digital health education into pharmacy curriculums (1). There have been several studies regarding competencies in digital health in medical school curriculums (2,3), however there is a paucity of data regarding digital health education in pharmacy schools. Prior to the 2021 academic school year, the USC school of pharmacy only taught digital health in one elective course. In response to the FIP report, faculty and administration have recognized digital health education for all students as an opportunity for growth within the pharmacy curriculum and created an academic fellowship to address how to best tackle this project. In the Fall of 2021, a pilot project was implemented that focused on integration of digital health topics into a pre-existing case conference course. Based on the information gathered from the pilot, a digital health curriculum is being developed to ensure digital health skills are being taught and assessed in all students throughout the curriculum. By exposing students to digital health, we will prepare them to provide excellent patient care.

Methods: Implementation of a digital health curriculum will start with the class of 2025, which consists of 199 pharmacy students. Several steps will be taken to ensure longitudinal inclusion of digital health through this curriculum. 1) During the Intro to Therapeutics course in the fall semester of the first year, students will be introduced to key digital health elements including electronic health records, and digital health tools like telehealth and mobile apps available to enhance the Pharmacist's Patient Care Process. 2) During the second and third year of the pharmacy curriculum, digital health will be highlighted in didactic therapeutic modules as they relate to specific disease states, including role in therapy of wearable health technology and digital therapeutics. 3) Digital health knowledge will be reinforced with active hands-on learning throughout the case conference course, where use of digital health will be applied to specific patient case scenarios. 4) Reflection on the role of digital health during their Advanced Pharmacy Practice Experiences during the Capstone course in the spring semester of the fourth year. In total students will be exposed to a minimum of two didactic lectures focused on digital health, a digital health highlight lecture in all six therapeutics courses, fifteen cases with digital health components during the case conference course series, and one reflection activity.

Evaluation Plan: Accountability for completing the tasks outlined above will be assessed by curriculum mapping of the new digital health curricular elements that we utilize. A comprehensive record of each activity, including when it occurred, what students were taught, and what material was covered will be kept and reported to the curriculum committee. Reaction to the new curricular elements will be assessed through periodic surveys that gauge if learners enjoyed and saw the value in the digital health content. Learner outcomes will be assessed in a variety of ways, depending on the course. Didactic lecture will assess learning through quiz and exam questions. Active learning in the case conference series will be assessed through active participation during case conference, as well as submission of post case assignments related to digital health. Overall comprehension of the role in digital health in pharmacy practice will be assessed via the capstone written reflection. Change in behavior will be determined by asking students specific survey questions applicable to a "call to action" to use digital health in their practice, as well as through student reflections in the capstone course.

Potential Impact: Potential Impact: The question of how to best incorporate digital health into pharmacy curriculums is pertinent to the pharmacy education sector as a whole. Our idea could serve as a model

for other pharmacy schools who desire to longitudinally integrate digital health into their curriculum in a comprehensive manner, using both didactic and active learning.

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Student TA Support Program for Diversity Equity Inclusion (DEI) Curriculum Integration

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Idea: Pairing student DEI TAs with course directors through a collaborative learning and teaching model to support curricular integration of DEI content.

Need: In the United States, health disparities based on various identities including race and ethnicity have been documented across a range of clinical conditions and healthcare settings. Physician bias contributes to disparities and is of particular concern for medical educators as medical students exhibit biases early in training. Students at the Mayo Clinic Alix School of Medicine (MCASOM) identified opportunities within the MCASOM curriculum to address systemic inequalities and better reflect societal diversity. As part of the DEI Curriculum Review Project, an initial audit of preclinical courses at MCASOM revealed disproportionately skewed image and case vignettes to white, male, heteronormative, and lower-weight individuals as well as other stereotyping content. Enhancement action planning meetings with course directors guided the development of attainable and high-yield interventions (Table 1). However, course directors and faculty expressed concern about lack of expertise and time to complete action plans and timelines. We will implement a longitudinal partnership between course leaders and student TAs for continuous review and development of DEI content within the preclinical curriculum to improve student-faculty disc

Methods: The DEI TA program, which spans a 24-month timeframe, will provide support to all 39 previously audited preclinical courses, and involve a minimum of 15 student TAs who will pair with course directors over 6-month blocks. Implementation of the program will include the following:

- Initial student TA training in project scope, interpretation of established DEI Action Items, and dashboard data and enhancement resources.
- Course director meetings to review scope and expectations of the DEI Curriculum Review Project to promote productive and collaborative interactions with DEI TAs. Course directors who are interested in partnering with a student TA will have support for up to a 6-month period.
- Direct partnership between TA and course director to support curricular revisions and explore opportunities to integrate DEI content not identified in action plans.
- Biweekly check-ins by the project team with TAs, and minimum monthly meetings between TAs and faculty will promote task momentum and resource sharing. TAs and faculty will be encouraged to apply a lens of diverse, equitable, inclusive, and anti-racist patient representations while implementing curricular enhancements. Support resources include but are not limited to case and image data, lecture evaluation checklists, and discussion point guides.
- Instructional DEI strategy and best practices designed by the Mayo Learning Solutions Center to create interactive and learner-focused education.

Evaluation Plan: Through regular monthly and biweekly check-ins, we will track the level of collaboration and integration between DEI TAs and faculty. A dashboard of action item progress will track completion across the courses. Bimonthly project evaluations in partnership with Mayo Clinic statistical services will be conducted to monitor quality improvement measures using run charts and to report significant project impact. Furthermore, student DEI pre- and post-course evaluation feedback will measure the amount of improvement in student engagement with DEI TA involvement.

Potential Impact: Through building upon a bold, student-initiated and led review of preclinical curriculum, the DEI TA program ensures curriculum that prepares future physicians for to care for a diverse patient population. This project aims to create a community of medical educational practice that envelops a DEI lens and contributes to a decolonized, antiracist

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Core Competencies of the Anti-Racist Physician: Addressing Anti-Black Racism in Medicine

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Idea: A course for second year medical students to increase awareness of anti-Black racism in medicine and develop concrete skills to respond to it.

Need: There has been increased attention in the academic medical community towards confronting structural racism both within the healthcare system and in other institutions. Many medical school faculty have been engaged in curriculum reform but impeded by a lack of resources to implement changes in a comprehensive way. In addition, there are currently no official anti-racism standards or competencies articulated by governing bodies (e.g., AAMC) to which medical schools are held accountable. Thus, there is a need for a competency-based anti-racism curriculum that educates medical trainees on ways that race, and racism influence medical practice and health equity, as well as strategies to address medical racism.

Methods: Working in collaboration with educators at the Georgetown University School of Medicine, we designed and piloted an elective course for second year medical students (n = 41) entitled, "Core Competencies for the Anti-Racist Physician: Addressing Anti-Black Racism in Medicine." The course included a 2.5-hour-long case-based seminar utilizing real life examples of anti-Black racism in clinical settings, such as devaluation of patient experiences, the clinical use of racially charged and stigmatizing language, racial correction factors, and racial stereotypes. Students were divided into small groups led by course facilitators who guided live discussions. Students were encouraged to identify examples of racism within each scenario while facilitators emphasized the influence of structural factors and historical context in each example. Additionally, course facilitators guided students to identify practical strategies for patient advocacy using the Take Action framework (Souza, 2018). Students completed pre- and post-assessments (using a Qualtrics survey) to measure student achievement of the learning objectives.

Evaluation Plan: We aim to examine the course's effectiveness in achieving the desired learning objectives with a pre- and post- assessment. The assessment consisted of select items from the Color-Blind Racial Attitudes Scale and Anti-Racism Behavioral Inventory (two validated measures; Neville et al., (2000); Pieterse et al. (2016)); Likert scale questions focused on anti-Black racism, historical awareness, and clinical advocacy in medicine; and an action planning framework to encourage students to set personal and professional racial equity goals. We will perform pre- to post- quantitative analyses of student responses to determine whether there was significant improvement in Likert scores. Students also completed an exit survey, which included constructed response items for self-reported learning and suggestions for course improvement.

Potential Impact: This elective course development contributes to an ongoing effort to make anti-racism education a foundational element of undergraduate medical curriculum. Reflections from this course will inform future content development efforts towards generating a novel anti-racism competency-based curriculum for medical students.

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Leveraging Radio-Frequency Identification (RFID) Technology to Track Surgical Involvement

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Idea: Leveraging Radio-frequency Identification (RFID) technology to objectively track neurosurgery resident's intraoperative involvement.

Need: Surgical competency remains a challenging metric to quantify and therefore ensure that trainees are achieving. Currently, case minimums outlined by the Residency Review Committee (RRC) are the standard for ensuring neurosurgery residents are competent at the time of graduation, however there is evidence that these are not a valid marker of competency. Several efforts have attempted to subjectively quantify a resident trainee's progress including the Surgical Autonomy Program or objective structured assessment of technical skills (O-SATS). To date, no reliable tool exists to objectively measure what portion of the case a resident participated in. Our solution attempts to leverage radio-frequency identification (RFID) technology to objectively measure trainee's utilization of surgical instrumentation, i.e., involvement with an ultimate goal of tracking intraoperative learning.

Methods: Prior to the operating room, several hardware components will be developed. The research team will develop RFID tags that can adhere to surgical instruments and can undergo the standard sterilization process. Further, wristbands that can be sterilized with attached RFID tags will also be created. An array of RFID readers that can be attached to the surgical bed will need to be implemented.

Neurosurgery residents assigned to the Senior Author's (P.C.'s) operating room will be prospectively included in the study. Both residents and faculty will wear a sterilized bracelet with a RFID tag on it. All surgical instruments will have an RFID tag as well. An array of sensors will be utilized to maintain a line of sight to the surgical field to track all the tags. By measuring the location and time in space of both resident and attending hands as well as the instruments, an algorithm can be developed to determine who's holding what tool at each moment in time.

As our pilot is conducted, only one type of surgical case will be included to provide proof of concept: endoscopic endonasal resection for sellar region masses. We intend to document a total of 10 cases for preliminary analysis.

Evaluation Plan: For each time point during the surgery, the point in three dimensional space will be known for the following: all surgical instruments in the field of interest, resident's right arm, resident's left arm, attending's right arm, attending's left arm. Several key insights can be gained with this data set. Who is holding what instrument at any time can serve as a proxy for who is actually doing the critical portion of the case? By knowing what combination of instruments are in the surgical field one can delineate what part of the surgery they are? Combining these two facts, one can start to objectively measure for a given segment of the procedure what the resident's role is? Further higher order analysis can be done. For example, if the resident is holding a set of instruments for a certain period of time and then transitions to the next "phase" of the operation and the attending did not need to take those same instruments to correct something then the resident likely completed that phase independently. Further, motion analysis may be done retrospectively on this data and compared to attending motion tracking to quantify surgical efficiency.

Potential Impact: There are over 16,000 general and surgical subspecialty residents in the United States whose competency is currently based on logging Case Minimums. Prior attempts to quantify competency have been limited by their subjective nature. Our hope with this technology is to objectively assess residency involvement and therefore surgical competency.

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Gistalt: A Mobile Application to Evaluate and Improve Clinical Gestalt

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Idea: Can a mobile application help emergency medicine trainees distinguish between sick and non-sick patients?

Need: Clinical gestalt broadly describes the intuitive application of prior experiences, heuristics and associated biases in medical decision making. It is a faculty that is presumably honed by iterative pattern-recognition and affords rapid identification of critical and time-sensitive pathologies – particularly important for emergency medicine practitioners. [1]

Several studies have shown that when compared to explicit scoring tools or alternative decision support utilities, clinical gestalt performs equally well or even better. [2-5]

Unfortunately, this nebulous process is difficult to analyze and, as a result, improve.

Methods: Gistalt (<https://gistalt.com/>) is a mobile application featuring a gamified model for the assessment and training of clinical gestalt. Gistalt uses an intuitive and engaging interface to promote the rapid identification of the acuity of patient presentations.

Gistalt presents a “stack” of patient encounters (“cards”) with variable information regarding their presentation. Subjects then “swipe” (dragging the card) left or right, indicating that the patient is “not-sick” or “sick” respectively and revealing the next card in the stack. Some cards are associated with follow-up questions assessing the next step in management or other higher-order concepts.

Upon completion of the stack, subjects are provided with a “raw” score and a “gistalt” score. The raw score is the percentage of correct acuity assignments. The gistalt score is weighted to emphasize the detection of sick patients.

The Gistalt mobile application was designed and developed by the principal investigator and is available for free on the Apple App Store and Google Play Store. The application is developed using React Native, an MIT-licensed, open-source framework for cross-platform mobile application development.

Evaluation Plan: Current research is evaluating the Gistalt application as a tool for assessing clinical gestalt performance by comparing raw and gistalt scores for subjects with different levels of training.

Additional objectives involve evaluating changes in performance using raw and gistalt scores for individual subjects over time and number of games played.

We hypothesize that subjects with more training will have higher raw and gistalt scores and that raw and gistalt scores will improve with time and number of games played for individual subjects.

Potential Impact: Creating an engaging, serious game helping hone a critical emergency medicine skill which is otherwise difficult to impart and analyze could be a significant advancement. The novel approach could be expanded to other fields and levels-of-training.

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**Virtual Microscopy Tagging and Its Benefits for Students, Faculty,
and Interprofessional Programs**

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Idea: This project explores the development and incorporation of an updated microscopy interface at University of South Florida (USF) Health.

Need: Histology is a foundational component of the undergraduate medical education that is necessary for a complete understanding of both normal and abnormal physiology and pathology. Most medical schools have completely transitioned from microscope exercises with virtual microscopy applications. (1) However, there is a lack of standardization in its education between and within programs. This can lead to unnecessary challenges on the part of both the students and the faculty in studying for and designing courses, respectively. Therefore, an organized and user-friendly resource that is accessible to medical students and faculty alike would enable a more consistent approach for longitudinal study and course design. This goal was the driving force behind the design of the updated microscopy viewer that has become integrated within the programs that make up USF Health.

Methods: The microscopy slides were first organized by organ system and then further within the organ system by normal and abnormal physiology. Each individual slide was then tagged with a set of keywords corresponding to microscopic features, as well as learning objectives. Curriculum directors assign these same objectives to all modes of educational content delivery: PowerPoint lectures, in-person laboratories, etc. By utilizing standardized objectives, a curriculum director can see the frequency and way a particular subject is taught and thus quantify the degree that it is taught and balance it accordingly across all schooling years. The virtual microscopy viewer's ability to track the objectives via tagging allows integration directors to easily deliver the content and incorporate it into the curriculum. Furthermore, this tagging system allows teaching faculty to easily identify histology slides to support the relevant objectives. Lastly, this system encourages students to be proactive in their learning since it provides the option to search a lecture's objectives within the microscopy viewer to find the same slides used in the lecture, in addition to other relevant slides that may help reinforce the same objective topic.

Evaluation Plan: The new software has been finalized for slides pertaining to normal physiology and the process of integrating it into the undergraduate medical curriculum is underway. In order to better understand the effects of the use of this new software has on a student's education, we believe that it would be appropriate to both perform a series of focus groups as well as distribute a survey to students and faculty of USF Health. The former would directly contrast features of the two resources, such as the UI and ease of use. This would allow for more specific feedback from a smaller group of students. In addition to this, a survey that is distributed to the student body, as well as relevant teaching faculty, would provide an opportunity to better delineate how effectively the software was integrated into the undergraduate medical education. This would go beyond simply asking about the software's functionality but additionally ask how it has affected pre-clinical courses and longitudinal studying more broadly.

Potential Impact: This software functions as a longitudinal resource that provides continuity to students' undergraduate medical education. It has additionally benefited curriculum integration directors and teaching faculty in curriculum mapping and optimization. This software could be integrated into other medical education programs within and outside USF Health.

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International Partnership to Train Informatics Professionals in Armenia

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Idea: Establish a partnership between US and Armenian institutions to train the first generation of health informatics professionals in Armenia.

Need: Healthcare throughout the developing world will be significantly improved and served by expanding informatics capacity. Armenia is a middle income country with a rapidly modernizing health system and a national electronic health record (EHR) system. Though the country has established many of the critical components for health information technology, there is still a dire need for a critical component: a health informatics workforce. Health informatics is defined as "the field that is concerned with the optimal use of information, often aided by the use of technology, to improve individual health, health care, public health, and biomedical research." This requires a unique combination of both clinical and technical skillsets to leverage health information technology to the fullest and innovate meaningfully. Currently, there are no health informatics training programs in Armenia, for any level or any type of provider. Given our programs focus on informatics, and our success with remote training and synchronous and asynchronous learning, we have embarked on a project to create the first health informatics training program for professionals in Armenia.

Methods: This pilot program seeks to train four individuals in the field of informatics by combining existing courses at Armenian Universities and supplementing with custom developed courses by our faculty in the US. In parallel to the education, the program will provide work placement, salary supplementation and ongoing mentorship by leaders in the field in both Armenia and the US. The training includes four main components including (1) Avetis Bootcamp, (2) Advanced Training, (3) Culminating Capstone, and (4) Independent Project. First, Avetis Bootcamp will include an introduction to topics that range from an overview of health informatics to more specialized courses focusing on public health informatics and clinical decision support systems. Advanced training will be tailored to the fellow's background, experience and project needs. The advanced training will occur at US based educational institutions. The culminating capstone will include a project executed by the fellow with guidance from mentors and program directors. The focus of the project will be on health informatics developed in partnership with the host institution/company to have a relevant impact on healthcare in Armenia. Finally, the independent project will be similar to the capstone with the differentiation of the project leadership on the fellow while still including the mentorship and guidance similar to the capstone project.

Evaluation Plan: Fellows will complete brief structured surveys after every educational activity, providing feedback on its delivery, content, and relevance. The Bootcamp and advanced training will both include formal knowledge assessments. Mentors and program directors will provide fellows feedback and using a performance rating scale tied to specific, objective milestones. Overall program success will be measured by the number of fellows that graduate, the type of jobs they take after graduation, whether or not they remain in Armenia, career progress, ability to recruit follow-up cohorts of fellows, and academic products generated by the fellows (abstracts, presentations, publications).

Potential Impact: If our fellowship program is successful in Armenia, it will contribute critical human capital and domain expertise to the rapid modernization of Armenian healthcare. If this pilot proves successful overall, it could serve as a model for training health informatics professionals in other LMICs that are digitizing their healthcare systems.

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Numose: A New Search Engine Built to Help Physicians Find Clinical Answers Fast

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Idea: To create a search engine that allows physicians to efficiently find answers to clinical questions.

Need: Emergency Physicians (EPs) work in busy environments and are expected to treat any patient who walks through the door. As a result EPs need to be able find answers to clinical questions efficiently. Extensive online medical resources (e.g. UpToDate) serve as curated libraries of clinical practice, but they can be out-of-date. EPs often search through multiple medical resources to find needed information. nuMose (<https://numose.com>) helps EPs search multiple high quality medical resources efficiently.

Methods: Our innovation is a search engine for EPs. nuMose (<https://numose.com>) pulls information from medical websites and journals to produce results that are specific for emergency clinical practice. The algorithm incorporates crowdsourced information (user up/down votes) to improve the rankings of articles. This allows for users to influence how highly an article is ranked for a particular search. nuMose also allows users to search primary literature for review articles and case reports from high impact journals.

For a video demonstration on how to use nuMose please visit
<https://www.youtube.com/watch?v=C3VZ5Zeq0D4>

Evaluation Plan: Future studies will utilize industry-standard usability testing to compare the results of nuMose to existing search engines.

Potential Impact: By using nuMose physicians will be able to find answers to clinical questions faster. This will allow them to see patients more efficiently while ensuring that the most up-to-date treatments are being delivered. nuMose can be used by busy primary care providers or inpatient hospitalists or intensivists.

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Feedback Delivery Innovation: Leveraging Data to Improve Quality through the Use of Live Dashboards

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Problem Statement: The use of live, dynamic dashboards to deliver feedback and their reception by physicians has not been studied.

Rationale: Physician performance reviews allow physicians to improve their delivery of care. Individual feedback reviews are typically given periodically in the form of static reports, which can be time-consuming to generate, subjective to the reviewer, and less transparent to the evaluate. The increasing ease and ubiquity of data collection has resulted in new methods of delivering feedback. Live interactive feedback dashboards represent an effective way of visualizing large datasets to identify problem areas that need corrective actions, analyze root cause of poor performance, and establish departmental benchmarks. They can also drive standardization and improve quality performance.

Methods: A dashboard was developed using Microsoft Excel to highlight the key performance metrics of the Transplant Service in the Anesthesia Department at MedStar-Georgetown University Hospital. Excel was chosen due to its widespread accessibility. Metrics representative of a process's actions and quality were chosen by the service's director. Metrics included pre-operative OR utilization time, patient temperature before and after a case, various anesthesia drug dosages, amount of blood products and other intravenous fluids. The dashboard incorporated current and past data from over 180 cases collected over the last 2 years. Surveys were sent to five physicians to gauge the introduction of the dashboard and preference over non-reporting or more traditional ways of feedback reporting, such as verbal feedback delivery during periodic performance reviews and 360-degree feedback.

Results: All five physicians responded to the survey. All five plan on changing some aspect of their practice due to the information displayed on the dashboard. Elements that were noted to competitively differentiate the dashboard from other feedback methods (including the 360-degree method and verbal feedback meetings) include: the highly objective, data-driven nature of the tool, and the ability for the evaluate and compare themselves to peers. The inclusion of peer comparison figures and the pre-selected metrics made the report more transparent and more likely for physicians to use to create more informed and personal goals in the future. Four out five physicians found the highly visual nature more effective at helping them retain and use the information. They also found the near real-time and dynamic nature of the dashboard more accessible and more relevant to their current practice.

Potential Impact: Overall, the reception of this new feedback method was extremely positive with the majority of physicians saying it would influence them to modify their behavior in some way or help them set more informed goals to satisfy Continuing Medical Education requirements. We believe that any Department would benefit from utilizing this or similar tools to provide feedback to his practitioners.

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Validation of an EPA-Based Assessment Tool in Pediatric Resident Resuscitation Simulations

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Problem Statement: Simulations are increasingly being used in residency curricula. However, there is no validated tool to assess resident competency in simulations.

Rationale: Critical resuscitation events are rare occurrences in pediatric patients. Research shows that teams need significant improvement in skills including: response times, role identification, communication, procedural skills, and adherence to standard of care guidelines.¹ Furthermore, studies have shown that there is progressive loss of retention of procedural/resuscitation skills.^{2,3} Residency training programs are designed to measure successful achievement of competency through performance in a multitude of clinical settings including managing acutely ill patients. However, residents endorse lack of confidence in their competency during resuscitation events.¹ The purpose of this project is to further augment an existing simulation resuscitation curriculum by introducing video-assisted debriefing and self-reflection for long-term retention and adjustment and validate an Entrustable Professional Activities (EPA)-based assessment tool for evaluation of residents during resuscitations.

Methods: This study is currently in progress at CHLA, the population being the program's 105 current pediatric residents. Collaborators from various departments formulated unique resuscitation scenarios, mapped them to applicable ABP Entrustable Professional Activities (EPAs), and committed to offering these simulations to residents. These simulations will be video recorded.

An EPA assessment tool developed in 2019 will be utilized for both faculty assessment of residents and resident self-assessments. The EPA tool is linked to a QR code that allows for tracking of residents' progress through the simulation curriculum and compilation of EPA data. Each resident's faculty- and self-assessment EPA data will be tracked, de-identified and analyzed. A set of standardized faculty facilitators will independently review each recorded simulation and evaluate the resident performance using the EPA assessment tool. Self and facilitator evaluation data were analyzed and video review of simulations was conducted by independent evaluators. Intraclass correlation coefficient (ICC) was determined using a two-way mixed effects model based on consistency to validate the internal structure of the EPA as per Messick's framework.

Results: Between July 2019 and March 2021, there were a total of 139 residents in the program, of which 77 (55.4%) submitted at least 1 EPA evaluation (39 (50.6%) were postgraduate year (PGY)-1, 22 (28.6%) were PGY-2, and 16 (20.8%) were PGY-3). There were a total of 44 simulations carried out in this time, and a total of 215 EPAs were completed. Of all completed EPAs, 140 (65.4%) were done by female residents, and 74 (34.6%) were done by male residents, and PGY-1 residents completed 135 (63.1%), PGY-2 residents completed 55 (25.7%), and PGY-3 residents completed 24 (11.2%). Female residents evaluated themselves with higher scores than males (2.58 ± 0.70 versus 2.54 ± 0.70 , $p = 0.24$) but were scored lower than by faculty evaluators than males (2.47 ± 0.72 versus 2.55 ± 0.70 , $p = 0.53$). Overall, increasing PGY level correlated with better EPA scores for both self and faculty evaluations (parametric: $r = 0.555$, $p < 0.001$; and $r = 0.427$, $p < 0.001$, respectively ;; $p = 0.565$, $p < 0.001$; and $p = 0.399$, $p < 0.001$, respectively). Upon comparing video recordings for validation, the ICC via mixed 2-way average measures was 0.698 (95% CI 0.58–0.79, $p < 0.001$) with moderate reliability.

Potential Impact: The EPA-based evaluation tool demonstrated consistency amongst gender, simulation setting/ scenario, and demonstrated development of competency-based on training level and independent evaluators through the use of video review. The results of this study are suggestive that EPAs are validated for use in evaluation in resuscitation simulations.

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The Impact of Virtual Reality on Female Medical Students Entering Surgical Specialties

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Problem Statement: To assess the impact of VR as an adjunctive tool in surgical training and how its use may encourage more women to consider a career in surgery.

Rationale: Medical school bodies are comprised of a substantive proportion of females, with women constituting over half of successful applicants to medical school in the last 25 years. Despite this, uptake of females into surgical specialties remains comparatively low with a ratio of 10:1 of male applicants compared to women. A review by Trinh et al. found that concerns regarding balancing family planning and the demands of surgical training impact career choice. This shift in attitude towards factors contributing to decisions on medical specialties across both male and female graduates, highlights a potential paradigm shift in the landscape of traditional surgical training. One potential solution proffered to redress the gender imbalance is the use of technological aids in surgical training to help surgical trainees achieve a better work life balance while preventing surgical decay associated with time away from theatre.

Methods: An online survey was developed to investigate factors identified in research that discourage female medical students entering surgical specialties and the potential role of virtual reality surgical training to address such concerns. The questions were arranged in a logical fashion with related question grouped together; demographic questions (age, stage of career) at the beginning and more complex questions at the end. Response format was both open response and closed (multiple choice). Closed response questions included binary (yes/no), nominal and Likert scale response options (1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree). The anonymous survey was distributed via email to medical students. Basic descriptive statistics were used to describe the responses to individual questions.

Results: 64.9% participants indicated an interest in pursuing a career in surgery, while 74.7% reported family planning impacted their decision. Despite little or no prior experience using VR, 75.5% believed it could enable effective training outside the theatre, with 68% expressing increased interest in surgical specialties if VR could help to maintain surgical skills while away on maternity-leave. 73.6% and 72.3% expressed similar interest if VR could minimize delayed family planning and training opportunities while on maternity-leave, respectively.

Potential Impact: Our findings suggest that VR may prove to be a valuable tool to help mitigate the perceived or real barriers reported by female medical students to pursue a career in surgery. Further exploration of the efficacy of VR integration in surgical training programs in preventing surgical skill decay is warranted.

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Use of a Mobile App to Instruct Cardiac Exam Improves Knowledge and Auscultation Accuracy

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Problem Statement: Cardiac auscultation instruction is essential, however in-person simulation may limit student learning, negatively impacting auscultation competency.

Rationale: Valvular heart disease is a significant health concern that necessitates early detection through skillful auscultation. Most medical curricula instruct cardiac auscultation through simulation events. However these events often do not allow for repeated auscultation of abnormal heart sounds and the equipment needed can be costly. Further, research shows that “one and done” simulation events do not allow students the ability listen to a high volume of heart sounds or incorporate science of learning techniques such as spaced learning and retrieval practice. The Littman Learning™ mobile app, which has been validated by board-certified cardiologists, is a promising, inexpensive tool that could be leveraged by educators to provide this training by way of remote simulation. Along with the ability for students to repeatedly listen to sounds and test their knowledge independently, this app allows faculty to design a curriculum of spaced learning by breaking the program into learning segments.

Methods: This study used a cross-sectional, quasi-experimental design using two groups: (1) a treatment group (Class of 2022- PA22) and (2) a non-equivalent comparator group (Class of 2021- PA21). Faculty at one institution designed a mobile app cardiac auscultation curriculum (MACAC) using the Littman Learning™ app. The MACAC was 12 weeks long and consisted of 14 independent listening modules and five remote, synchronous Listening Sessions (LS). The modules were assigned from the Littman Learning™ mobile app and were completed on students own time. Each LS was 45 minutes in length, facilitated by faculty, and occurred in a live, remote, large group setting through a web-based platform. Students were asked to virtually auscultate pre-selected heart sounds on their own mobile device, individually describe what they heard, and then apply the sounds to corresponding clinical vignettes, which were presented by faculty. PA22 completed the MACAC in their didactic (first) year. PA21 did not complete the MACAC in their didactic OR clinical (second) year. Both cohorts received previously established instruction on the cardiac exam. A baseline knowledge assessment was delivered to all students in their didactic year, regardless of MACAC completion. Knowledge and auscultation (behavior) assessments were administered to all students either after completion of the MACAC (PA22) or in the clinical year (PA21). Regression analyses were conducted to compare the performance between the two cohorts.

Results: A total of 174 PA students participated in the study. Comparing PA22 students to PA21 students (both didactic year), PA22 students who completed the MACAC had a higher knowledge score (mean=11.78, SD=0.78) than PA21 students who did not complete the MACAC (mean=7.67, SD=2.04). PA22 didactic year scores were 4.11 points higher than PA21 didactic year scores. Comparing PA22 didactic year students to PA21 clinical year students, PA22 students who completed the MACAC had a higher knowledge assessment score (mean=11.78, SD=0.78) than PA21 students who did not complete the MACAC (mean=8.82, SD= 2.12). PA22 didactic year scores were 2.96 points higher than PA21 clinical year scores. Comparing PA22 didactic year students to PA21 clinical year students, PA22 students who completed the MACAC had a higher auscultation (behavior) assessment score (mean=14.7, DS=1.31) than PA21 clinical year students who did not complete the MACAC (mean=13.87, SD=1.39). PA22 didactic year auscultation scores were 0.83 points higher than PA21 clinical year scores. All cohort comparisons were statistically significant ($p < 0.001$). Effect sizes (Cohen's d) were 1.61, 1.32, and 0.6, respectively. Didactic year students whose training only included the mobile app cardiac auscultation curriculum (MACAC), were able to match and/or exceed knowledge (learning) and auscultation (behavior) assessment scores of clinical year students who did not complete the MACAC but instead performed advanced patient evaluations.

Potential Impact: Cardiac auscultation skill development can be enhanced by using a mobile device to incorporate science of learning techniques such as repetition, retrieval practice, and spaced learning. A longitudinal cardiac auscultation curriculum, delivered remotely, is an effective and innovative method to teach cardiac auscultation skills to medical learners.

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The Milestone Journey – A Virtual Game-Based Education Tool

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Problem Statement: The aim of this project was to successfully teach Cardiff medical students developmental milestones through the developing a virtual board game.

Rationale: Gamification in medical education is an evolving concept. It can make learning fun, memorable and more effective. Some core paediatric topics like developmental milestones can be challenging for medical students to retain. Fun based learning relies on progress mechanics, and moderate evidence has been established for broader pedagogical purposes. Our research project was designed to compare lecture-based teaching versus game-based teaching on paediatric developmental milestones.

Methods: The final version of the game was created using the site <https://flippity.net/>. Cardiff medical school students were recruited from years 4 and 5 (similar knowledge level) by email and social media. Half the students were required to undertake a lecture teaching and the other half the game teaching on zoom. Students were equally divided between groups and assigned randomly using the site jamestease.co.uk. Participants were asked to complete a short Microsoft forms knowledge test before and after the session to conclude how efficient the teaching styles were. The tests both had the same 10 multiple choice questions, the answers of which would have been mentioned in the sessions. Students were encouraged to make it a closed book test so that statistics are as accurate as possible. After each session, participants were asked to fill out a Microsoft forms questionnaire which enquire on the students' views of the content, quality, presentation, usefulness, uniqueness, and overall satisfaction. All findings were recorded from both sessions and simplified onto an excel spreadsheet.

Results: 10 participants were recruited for this study. 5 were assigned to the game group and 5 to the lecture group. The final version of "The Milestone Journey" game was therefore tested against lecture teaching.

In the lecture group, the 5 participants had an average score of 44% before the session and an average score of 38% after the session. This made an average decrease of 6%. The scores before the session ranged from 20% to 80% and 20% to 50% after the session. In the game group, the 5 participants had an average score of 30% before the session and an average score of 38% after the session. This made an average increase of 8% in scores. The scores before and after the session both ranged between 20% to 50%.

For the questionnaires, participants were asked to rate aspects from 1 to 5 (5 being the best score). Both groups had a score of 4.4 for usefulness and recommendation to friends. The game group had a score of 4.8 and the lecture group 3.4 for uniqueness and fun showing that the virtual boardgame was seen as a more creative and quirky way of teaching milestones. The game group had a score of 4.6 and the lecture group 4.8 for meeting the learners needs possibly stating that lecture-based learning meets learning outcomes better.

Potential Impact: This research uncovered the exciting new prospect of game-based learning and supports that it can be effective in knowledge retention and satisfaction when teaching developmental milestones using "The Milestone Journey" game, supporting the possibility for it to be integrated in future healthcare curriculums and training programmes.

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Experiencing COVID-19 through Virtual Reality

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Problem Statement: To deliver high-quality patient care, it is essential for clinicians to understand the patient's experience, especially during the COVID-19 pandemic.

Rationale: When the pandemic emerged, little was known about the patient's experience with COVID-19 and even less was known about the experience of post-COVID syndrome, or long COVID.

Understanding the patient's experience, also known as empathy, contributes to high-quality, patient centered care (Wilkinson et al., 2017). While empathy is associated with benefits for patients and healthcare providers, its education often receives less attention than the development of technical skills (Heidke et al., 2018; Wilkinson et al., 2017). Additionally, clinicians find it more difficult to empathize with patients with conditions that they have not experienced first-hand (Catlow et al., 2020). To promote empathy, recent literature suggests that experiential and immersive education strategies, such as virtual reality (VR), may be useful and effective. As such, the goal of this project was to develop and pilot test VR videos aimed at promoting empathy among multi-disciplinary clinicians during COVID-19.

Methods: Given the importance of the patient's perspective, four patient partners with lived experience of COVID-19 and/or long COVID joined the project team. In collaboration with patient partners, a VR video comprised of five short vignettes was created. Vignettes depicted the patient's experience from initial investigation to diagnosis of long COVID, themes consisting of fear and uncertainty, as well as challenges navigating the healthcare system. VR was chosen as the approach given the immersive nature and ability to help viewers feel as though they can 'see through the patient's eyes'. To develop video content, patient partners were invited to share their experience with other members of the project team during an online session facilitated through Zoom. Narratives from the session were used to create a script, which was then shared with the project team for input. After several iterations, the script was finalized, and draft videos were filmed using a 360O camera. With feedback from the project team and support from a technology consultant, the video was edited and finalized. To assess acceptability and utility, as well as whether the video promoted an understanding of the patient's experience, multi-disciplinary clinicians from a large urban teaching hospital were invited to participate in virtual focus groups conducted using Zoom. Focus group recordings were transcribed verbatim and analyzed using thematic analysis.

Results: Two focus groups comprised of a total of eight clinicians have been held to date, with a third focus group scheduled. Analysis is ongoing; however, preliminary results suggest that videos provided viewers with a realistic sense of the patient experience and illustrated fear, frustration, and feelings of being dismissed. Several participants who had not cared for patients with COVID-19 found that videos reflected experiences of family and friends who had been similarly diagnosed. Focus group participants highlighted benefits of the videos, including being useful for generating conversations about managing uncertainty, as well as the need to acknowledge and validate the patient's experience. Focus group participants saw value in using videos in the education of students and practicing clinicians, especially if viewing was followed by opportunities for discussion. Participants shared numerous suggestions for improvement; some participants commented on technical aspects, while others felt that a more balanced perspective of clinicians' experiences would be helpful in providing viewers with an understanding of the challenges of practicing during the pandemic. Including family perspectives would further enhance understanding of the patient's experience. Responses to the VR aspect of the video were mixed, with some finding that VR made it more interesting and impactful, while others mentioned that it was a distraction. This will be further explored in the subsequent focus group.

Potential Impact: Early findings suggest that videos of this nature may contribute to a better understanding of the patient's experience with COVID-19. Building on feedback received from the focus groups, the team will continue to refine and enhance the videos so that they can be implemented in the education of clinicians and health professions students.

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YouTube as a Learning Source for Goals of Care Communication

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Problem Statement: To explore the availability and quality of Goals of Care educational videos on YouTube.

Rationale: There are many possible goals of medical care, from cure to prolongation of life. Advanced communication skills are needed for negotiating care goals. YouTube has been widely used for medical education purposes. Medical trainees and clinicians can potentially use YouTube to improve their communication skills, however a systemic review of the quality of these videos are warranted.

Methods: Based on literature search, we created a Goals of Care (GOC) educational video scoring system (VSS). This checklist included 7 vital criteria. A search of YouTube was conducted using keywords: 'goals of care,' 'discussion,' 'communication,' 'palliative,' 'conversation,' and 'training.' A search strategy was developed to record characteristics of a video. Two palliative care physicians independently reviewed each video using the VSS and agreement of both authors was sought.

Results: A total of 60 videos were screened and 12 met criteria for analysis. Video demographics showed total views (n)= 5198 ± 12827.99, video length (in seconds)= 479.65 ± 293.743. One-third were uploaded by academic centers. 7/12 (58.3%) video included a clinician-patient/ family encounter and only 4/12 (33.3%) video included both a clinician-patient/ family encounter with commentary. Mean VSS was 2.92 ± 2.353. There is lack of high quality GOC educational videos on YouTube. Utilizing YouTube as a sole resource to develop complex communication skills may be inappropriate.

Potential Impact: Our video scoring system can be utilized as a guide for anyone creating GOC educational videos. There is a need to further assess and evaluate online video instruction for complex communication skills. More research is needed to determine the effectiveness of these videos in improving learner communication skills.

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Elder Abuse Education in Medical Residency

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Idea: To develop, pilot, and disseminate an elder abuse curriculum for family, internal, emergency, and psychiatry medical residents and geriatric fellows.

Need: Elder abuse (EA) is a recognized and pervasive global public health problem affecting millions of older adults. EA is seldom reported and detected, exposing victims to ongoing and unremedied injury. Reportedly, 1 in 6 are affected. Most vulnerable are older people who are ethnically diverse, cognitively impaired, disabled, and/or socio-economically disadvantaged. Physicians with regular patient contact are ideally positioned to identify and respond to EA yet are rarely trained in the signs and symptoms of EA. As a result, they infrequently detect, report, appropriately treat, and manage incidents of abuse. This lack of knowledge inhibits the imminent and effective delivery of needed medical care and supportive services. Medical residents acquiring practical skills in hands-on patient care will necessarily treat older adults in clinical settings. Comprehensive and competent medical care includes the screening and assessment of older patients for the risk or presence of EA. The ethnogeriatric curriculum will educate frontline medical providers in the signs and risk factors of abuse, barriers to disclosure, and mandated reporting requirements, with the goal of preventing, detecting, and intervening in cases of mistreatment.

Methods: The project team is led by USC family medicine faculty in collaboration with geriatricians and educators at UCI, UCSD, and UCSF, experts in EA and curriculum development. All are members of the Geriatric Workforce Enhancement Program (GWEP), a national initiative funded by the Health Resources and Services Administration to improve health outcomes for older adults. Curriculum content will be delivered through (1) engaging, interactive online modules; (2) in-person facilitated discussions; and (3) a training manual. Resident instruction will be aligned with the core educational competencies for family, internal, emergency, and psychiatry medical residents and geriatric fellows recommended by the Accreditation Council for Graduate Medical Education (ACGME). The case-based EA instruction will highlight the delivery of patient care and management using a patient centered, trauma-informed, ethnogeriatric, and holistic approach. All materials will be developed, reviewed, and refined by the project team members using an iterative process. Technical assistance on the modules will be obtained from instructional designers at the USC Center for Excellence in Teaching and a retained module developer. Expertise on evaluation methods will be sought from the Keck Department of Medical Education. The curriculum will be piloted by the above-cited residency programs within the project team universities and broadly disseminated through participating GWEP educational institutions nationwide.

Evaluation Plan: EA curriculum including the instructional modules, in-person facilitated discussions, and training manual will be evaluated by the project team throughout the development process to ensure continuous quality improvement. Knowledge checks will be integrated into the materials to evaluate medical residents' learning. The curriculum will be piloted by the family, internal, emergency, and psychiatry residency programs within each of the project team universities. A retrospective pre-post evaluation survey will be developed to assess the effectiveness of the training in informing medical residents' knowledge, attitudes, and skills regarding EA signs, risk factors, detection, intervention, and reporting protocols. Survey content will align with ACGME core competencies for the relevant residency programs. The survey will be submitted for IRB approval, after which it will be administered to medical residents following the pilot study. Survey results will be analyzed and presented in professional meetings and peer-reviewed manuscripts.

Potential Impact: Emerging physicians will be educated and primed to identify and appropriately respond to older patients who experience EA. In addition to furthering essential abuse prevention and harm reduction efforts, the curriculum will markedly improve the delivery of ethnogeriatric primary care, foster population health, and advance social justice.

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Having a Heart to Heart: Palliative Care and Communication Training for Pediatric Cardiologists

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Idea: A palliative care and communication curriculum to give pediatric cardiologists the tools and confidence to lead difficult conversations.

Need: Pediatric cardiologists frequently help care for critically ill children near their end of life, and yet only 30% of pediatric cardiologists report receiving any formal training in palliative care (1). Many pediatric cardiologists believe that they are responsible for discussing limitations of care for their patients, however pediatric cardiologists rated themselves as less competent than palliative care specialists in discussing code status, goals of care, and providing care at end of life (2). The American Academy of Pediatrics recommends that competencies for subspecialist pediatricians should include end-of-life care, communication skills, and decision making support (3). The ACGME program requirements mandate that pediatric cardiologists be able to demonstrate communication skills that result in collaboration with families, however there are no specific communication or palliative care skills detailed. Given the high stakes field of pediatric cardiology, there is a clear need for development of a formal curriculum that is focused on palliative care and communication skills specific to pediatric cardiology.

Methods: The palliative care and communication curriculum is designed specifically for pediatric cardiology fellows and faculty at the Children's Hospital of Los Angeles. There are approximately 30 expected participants. There will be five monthly, one-hour interactive workshops that will take place at an onsite conference room. The workshops aim to teach methods for, and boost confidence in breaking bad news, responding to emotion, making challenging medical decisions, advanced care planning, and running an effective family meeting. The workshops will focus on interactive teaching modalities such as "rapid fire" videos to display emotions followed by group brainstorming on appropriate and effective responses, progressive case studies followed by think-pair-share to practice delivering bad news, worksheets to be completed in small groups to aid in medical decision making, and structured debriefing at the end of each session.

Evaluation Plan: Workshops will be tracked through the use of a shared division calendar. The curriculum will be evaluated using anonymous retrospective pre-test and post-test assessments, to be filled out at the end of each individual workshop. A retrospective pre-test and post-test will ask the learner to assess perceived change in competency in delivering bad news, assisting with challenging medical decision making, responding to emotion, running a family meeting and advanced care planning following completion of each individual workshop. The retrospective pre-test and post-test tool was selected as it significantly reduces shift bias allowing for a more accurate measurement of growth.

Potential Impact: Empowering pediatric cardiologists with communication tools and palliative care skills will allow them to more confidently and empathically engage in challenging conversations with families regarding end of life, advanced care planning, and medical decision making. This curriculum is generalizable to all pediatric subspecialties.

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A Dedicated Longitudinal Emergency Medicine Intern Curriculum

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Idea: A curriculum for introducing early emergency medicine interns to fundamental skills and knowledge focusing on common chief complaints and procedures.

Need: There is an enormous body of knowledge that is introduced over the course of an emergency medicine residency. This comes in the form of didactics, self-study, and on-shift clinical learning. In an ideal world, the most high-yield information would be front-loaded so that incoming interns would be proficient in managing common chief complaints and procedural skills early in their training, with the remainder of their residency spent building upon this core knowledge base. However, this is usually not the case. Interns begin their residency and are expected to start seeing patients and rendering clinical care on day one. Formal didactics are usually shared with upper-level residents. Didactics are not typically targeted at junior learners and the current paradigm leaves little room for fundamental content to be introduced early as a result. For this reason, interns may not be optimally prepared to manage common presentations and procedures early on in residency. There is a need for a standardized or published intern curriculum to provide interns with the foundational skills to confidently assume patient care¹. However, implementation of this curriculum has not been described.

Methods: A targeted needs assessment was performed by surveying current interns, upper year residents, and faculty in our emergency medicine residency regarding the need for a dedicated intern curriculum, specifically addressing core content. We aggregated topics using the above survey, The Shappell general needs assessment¹, the American Board of Emergency Medicine (ABEM) model of the clinical practice of emergency medicine², and input from our medical education faculty. A group of emergency medicine core educators then took this information to develop intern-specific content. Goals and objectives were formulated for each topic by consensus among the core educators. A variety of teaching modalities were selected with an emphasis on interactive and short-form content in response to feedback from current residents and acknowledging the educational preferences of millennial emergency medicine residents³. We then set aside a block of time at each weekly conference, in addition to self-directed asynchronous time, for this content to be delivered to the intern class.

Evaluation Plan: We will survey the incoming intern class prior to and after the delivery of this content. The pre-intervention survey will assess comfort level with selected chief complaints and clinical skills that will be addressed in the curriculum. The post-intervention survey will re-assess this comfort level. We will evaluate satisfaction with the content itself, and assess whether the interns feel the curriculum contributed to their comfort level and preparedness in caring for patients. Recognizing the differing needs of millennial learners, we additionally plan to evaluate satisfaction with the various teaching modalities used. Separately, outgoing interns were administered the same survey at the end of their intern year and comparisons will be made between the post-intervention interns and their cohort the year prior that did not receive the curriculum.

Potential Impact: Such a standardized curriculum may be introduced in emergency medicine residencies across the country. Our aim is to give beginning interns a standardized approach to the care of patients in the emergency department, providing them the foundational skills and giving them the starting blocks to build upon as they progress in their training.

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Dermoscopy Training in a Family Medicine Residency Program

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Idea: To improve the diagnostic accuracy for benign and malignant skin lesions of family medicine residents by incorporating dermoscopy into their clinical training.

Need: Dermoscopy is an innovative way of examining skin lesions using skin surface microscopy or a dermatoscope and allows a clinician to observe morphologic structures below the surface of the skin that have direct histopathology correlates, in which their absence or presence can lead to a specific diagnosis. Residents and faculty in my current and previous family medicine residency program have expressed discomfort in diagnosing skin lesions especially identifying malignancy. This can lead to unnecessary skin biopsies and referrals. In the current area I practice, there are very few dermatologists resulting in long waits and a delay in care for our patients. With this in mind, I propose a dermoscopy curriculum comprised of didactic workshops, regular quizzes, and application to patients measured by a dermoscopy log.

Methods: The curriculum will focus on the 18 family medicine residents and take place over one year but will be longitudinal long term for the second years and especially the interns. The program will purchase a few dermatoscopes to make available for use in the clinic. I will give the residents a pre-curriculum questionnaire that assesses their comfort with dermoscopy and in diagnosing skin lesions. The curriculum will include: 1) Didactic workshops on the following: Introduction to the 2-step algorithm, then consecutive workshops breaking down the algorithm into parts (melanocytic, non-melanocytic, malignancy, etc.). 2) Pre and Post workshop review and quizzes to reinforce learning. 3) Application to patients by keeping a dermoscopy log in which they must evaluate 10 skin lesions. They will be required to document the patient medical record number, complaint, naked-eye exam of skin lesion, dermoscopic exam of skin lesion, naked-eye assessment/diagnosis, dermoscopic assessment/diagnosis, and treatment recommendation. 4) The curriculum will conclude with a dermoscopy review during didactics in which the residents will evaluate numerous photos and provide their dermoscopic assessment. The residents will also re-take the curriculum questionnaire from the beginning for comparison.

Evaluation Plan: 1) Accountability: I will track resident progress and participation with the workshop quizzes and dermoscopy log. 2) Reaction: The residents are required to complete evaluations for every didactic session. I will also evaluate this with pre and post curriculum questionnaires in which I will use a Likert scale for measurement. 3) Learning: I will measure this with the workshop quizzes and post curriculum review in which I will set a target goal of 80%. I will also utilize the post curriculum questionnaire in which I should see a positive change from the pre-questionnaire. 4) Behavior: I should observe the residents confidence in assessing and diagnosing skin lesions especially malignancy during precepting, a reduction in skin biopsies for unknown skin lesions, and a reduction in referrals to dermatology for general skin lesions.

Potential Impact: Dermoscopy is a useful tool for family medicine physicians in assessing and diagnosing skin lesions, particularly malignant lesions. Since many patients come to their family medicine physician for dermatology complaints, dermoscopy is a welcome addition to practice and one that should be taught to future family medicine physicians.

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Piloting POCUS: A Thoracic Point-of-Care Ultrasound Curriculum for Pediatric Hospitalists and Pulmonologists

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Idea: A novel cross-divisional point-of-care ultrasound (POCUS) curriculum for faculty and fellows in Pediatric Hospital Medicine (PHM) and Pediatric Pulmonology.

Need: First introduced in emergency medicine in the 1980s, point-of-care ultrasound (POCUS) is a powerful diagnostic tool that helps answer focused questions in real time, in conjunction with the clinician's history and physical exam[1]. In the hospital setting, some potential POCUS applications include lung evaluation for consolidation, pulmonary edema, pneumothorax and pleural effusions, focused cardiac assessment of function and contractility, evaluation for pericardial effusion and detection of central venous volume status. POCUS allows for rapid diagnostic detection that can expedite care, alter management, help avoid unnecessary radiation exposure, and improve patient satisfaction[2,3]. POCUS has been gaining interest in many fields of pediatrics, but lacks widespread adoption in part due to a lack of established curricula for faculty and trainees. Although individual pediatric residencies have implemented longitudinal curricula[4], there is currently no consensus for formal POCUS training in PHM or Pediatric Pulmonology, including at the fellowship level. In contrast, academic training pathways are well-established in the field of pediatric emergency medicine (PEM)[5], and credentialing also exists in adult hospital medicine[6,7]. This pilot curriculum will focus on thoracic POCUS applications relevant to PHM and Pediatric Pulmonology, adapted from our institution's PEM curriculum.

Methods: The curriculum will be divided into three components: introductory didactics, a hands-on workshop and advanced scan shifts. Prior to the start of the curriculum, all learners will take a pre-survey and pre-test to evaluate their baseline comfort with and knowledge of POCUS.

The didactic portion of the course will be offered to all PHM and Pediatric Pulmonology faculty and fellows (n = 86). It will consist of 4 asynchronous 30-minute online modules for independent learning of core content, which will include basic ultrasound physics & "knobology" (the manipulation of ultrasound knobs and system controls to obtain the best possible image), focused cardiac, focused lung, and focused inferior vena cava (IVC) ultrasound. Each module will be paired with a 30-minute Q&A session, offering an opportunity for learners to ask questions and practice image interpretation with POCUS-trained faculty. The hands-on workshop will be available to learners having completed all didactic sessions. The format will be a small group session (n=4) led by POCUS-trained faculty to familiarize learners with basic ultrasound device operation and thoracic imaging technique. The advanced scan shifts will be piloted by 1 PHM fellow and 1 Pediatric Pulmonology attending (n=2). After completing didactics and workshop, they will participate in eight 2-hour scan shifts over a 6-month period, practicing thoracic POCUS under direct supervision by POCUS-trained faculty in the pediatric emergency and inpatient settings. Learners will acquire more advanced technical skills, including integration of 3D anatomy with spatial manipulation, hand-eye coordination, and fine motor movements.

Evaluation Plan: A multiple-choice test will be given 2-4 weeks after completion of the didactic modules, evaluating knowledge acquisition and retention.

A Likert-type survey will be offered at the conclusion of the didactic and workshop components to assess learner satisfaction.

Real-time feedback on image acquisition technique and interpretation will be provided to learners by POCUS-trained faculty for workshop & scan shifts

Scan shift learners will compile a portfolio of high-quality video files, with attention to gain, depth and appropriate topographic planes. Cases will be reviewed by POCUS faculty for quality assurance and interpretation accuracy.

- For cardiac/IVC applications: 25 cases with images in parasternal short axis, parasternal long axis, apical four-chamber, subcostal long axis and IVC longitudinal views
- For lung applications: 25 cases with findings of effusion (any size), sliding lung with A-lines, consolidation and B-lines

Potential Impact: This novel curriculum will create a much-needed training pathway, offering POCUS exposure and cultivating expertise in the PHM and Pediatric Pulmonology communities, and paving the path for other fields of pediatric health care.

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Synergism at Its Best: An Online Evidence-Based Practice Course for Clinicians in the US and Armenia

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Idea: An online interactive six-module evidence-based practice (EBP) course for practicing primary care and pediatric clinicians in English.

Need: Continuing education is a well-established method for keeping health professionals at any stage of their career to learn about medical and scientific advancements and to maintain their knowledge and skills that ultimately impact patient outcomes. [1] Providing high quality continuing education is a global dilemma and evidence supports collaborative efforts between high and middle to low income countries to provide staff development opportunities to resource limited settings, including online courses. [2,3] In particular, Armenia's process for providing continuing education has been evolving with its transition from a Soviet state to an independent republic to meet internationally accepted standards and overcome the barrier of location among rural-based clinicians. [4]

The Online Pediatric Educational Network (OPEN) is a collaboration between Children's Hospital Los Angeles (CHLA) and the Republic of Armenia Ministry of Health to improve pediatric healthcare outcomes through education and data. As part of these efforts, we have created an online interactive evidence-based practice course aimed at primary care and pediatric clinicians in rural settings.

Methods: Through a collaboration with a medical librarian and course designer, we developed and tested an English online interactive EBP course based on the framework of ask, acquire, appraise, apply, and assess.⁵ We partnered with the Armenian Pediatrics Association (APA) to ensure content was specifically tailored to the Armenian context, including open access resources and databases available in Armenian or Russian. Scripted audio was recorded, and designers created motion graphic videos to accompany and demonstrate core concepts and were accompanied with forums, activities, additional reading, and quizzes.

We invited clinicians with education or EBP expertise to test the site (n=4) and incorporated their feedback. The course was then translated into Armenian through a partnership with the Armenian Eyecare Project (AECPE) and we will undergo a similar user testing process with Armenian clinicians from the APA.

The course will be distributed through the OPEN Wordpress-based platform (learnwithopen.org). We will market the course through the OPEN social media presence (Facebook page) and email-based newsletter. Our Armenian-based partners (AECPE and APA) will also promote the course.

While the primary goal of the course was to provide support and education to Armenian clinicians, we see the benefit of providing the same course to American audiences. We will be pursuing opportunities to incorporate the course in local graduate medical education settings.

Evaluation Plan: We will collect data about participants who enroll in the course including their location, clinical role, device used, and fluency level of languages they speak. We will collect data while they interact with the course including modules and activities they complete, how long they spend in each module, and their performance on assessment pieces including pre/post quizzes. Lastly, we will be collecting their feedback through an anonymous online survey. We may also solicit learners who complete the course to participate in a semi-structured interview to gather additional qualitative data.

We will use descriptive statistics to summarize the data and identify trends. Based on these trends, we may incorporate inferential statistics to compare American and Armenian audiences and their outcomes.

Potential Impact: We anticipate the EBP course having a positive impact on participating American and Armenian clinicians' knowledge, behaviors, and attitudes around evidence-based practice. We hope that our collaboration in creating a bilingual online educational opportunity can be applied to other disciplines, topics, and settings.

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Podcasts for Teaching Pediatric Orthopaedics to Primary Care Residents

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Idea: What are the perceptions of pediatric residents and impact of the pediatric orthopaedic episodes of the Peds RAP podcast on learning and assessment?

Need: Musculoskeletal complaints make up 20% of pediatric primary care practice¹. A 2011 survey of training gaps in graduating pediatric residents identified orthopedics as one of the three main curriculum needs². As a result of this knowledge gap, patients are impacted by poor delivery of care with inappropriate or poorly timed pediatric orthopaedic surgery referrals³. Podcasts are a potential platform for delivering pediatric orthopaedic content to pediatric residents. Podcasts as an e-learning platforms continue to gain popularity. There is a paucity of information regarding their coverage of pediatric orthopaedic topics and the perceived impact.

Methods: The proposed study will be a single group pre and post test design. The CHLA Pediatric Resident trainees rotating on the Pediatric Orthopaedic elective will be eligible for participation. They will be given the 5 orthopaedic topic podcasts from Ped RAP podcast series to listen to. They will undergo semi-structured interviews. They also will complete a 3-5 questions pre-and post test on the podcast topic.

Evaluation Plan: 1) Accountability – We will ensure residents complete the required listening of the podcast as being a part of their elective 2) Reaction – a standardized resident survey will be obtained immediately after the workshop to evaluate their perceptions about the usefulness of the podcast delivery in their general pediatrics continuity clinic practice 3) Learning –knowledge based questions will be administered. 4) Behavior – semi structured interviews will be conducted

Potential Impact: This study can provide useful information as to what is already available to pediatric resident learners. It will serve as a guide the development of targeted pediatric orthopaedic content for a potential podcast in the future

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Creating an Interprofessional Online Pediatric Surgery Curriculum

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Idea: Increase knowledge and confidence of pediatric surgical conditions in medical and surgical trainees with online videos in a flipped classroom model.

Need: The optimal care of pediatric patients with surgical conditions requires an interprofessional approach. However, traditional training is often conducted within each specialty, and no videos or teaching tools currently exist to teach about pediatric surgical conditions in an interprofessional fashion [1,2]. The flipped classroom model has been shown to promote enhanced learning for medical learners [3]. We aim to develop an online interprofessional video series to teach pediatric, anesthesia and surgical trainees about common pediatric surgical conditions detailing pre-operative, operative and post-operative considerations that will be deployed using a flipped classroom model to better prepare trainees for teaching opportunities and clinical care.

Methods: We will invite pediatric, anesthesia, and surgical trainees rotating through the operating room or medical surgical intensive care unit at Boston Children's Hospital to the surgical video curriculum published online on OPENPediatrics (www.openpediatrics.org), an open-access educational platform used by pediatric providers globally. Trainees will be encouraged to watch these videos prior to caring for patients with the specific surgical conditions explained by the videos.

Evaluation Plan: 1) Accountability - Using learning analytics, we will evaluate the number of video views by trainees. 2) Reaction - We will use a post-rotation survey to determine satisfaction with the videos. 3) Learning- We will compare pre- and post-test scores on multiple-choice question tests to quantify improvements in knowledge. 4) Behavior - We will administer a survey to trainees at the end of their rotation to determine if watching these videos: a) promoted greater and more valuable learning opportunities/in-depth conversations with fellows/attendings, potentially across disciplines, as compared patients in which the learners did not watch a video, and b) improved trainees clinical practice/confidence in caring for patients as compared patients in which the learners did not watch a video.

Potential Impact: This video-based curriculum will supplement clinical learning and enhance teaching opportunities between trainees and supervisors, potentially across disciplines, to improve the care that pediatric, anesthesia, and surgical trainees provide for patients with pediatric surgical conditions worldwide.

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**Just in Time Teaching (JiTT) Infographics Teaching App:
Technologically Assisted Faculty Development**

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Idea: 'Just in Time' evidence-based teaching resources are needed. We must move traditional faculty development to align technology with quality outcomes.

Need: Teaching in the clinical environment mostly originates from trainees or clinicians who are not formally trained or naturally skilled in teaching. Clearly defined and geographically accessible structured postgraduate trainee/faculty teaching resources are very limited. Ability to access relevant evidence-based content is limited by time constraints in the clinical environment, access to relevant content at a point of care teaching moments, and lack of knowledge where to find the resources in the moment. These tripod variables lead to limited teaching skills and inadequate direct education to our learners. The innovation describes transition from an automated email software distribution platform to a mobile device App (IOS and Android) that presents evidence-based infographics for download on mobile devices to be used with trainee/clinician teachers to assure true "just in time" accessibly in any setting, not bound by geographic location, institutional or financial barriers across the world of medical education.

Methods: We will describe an innovation, "cool idea", that applies to faculty and trainee professional development in their role as clinician educators. A technology-assisted infographic program was developed to prepare trainees and faculty on how to teach and foster learning in busy clinical health professions environments. The development of both foundational and clinically specific JiTTs will be shared. We will outline intricate steps to create and maintain an innovative teaching application available to the public via a mobile device App. An iterative development and implementation timeline and product outcome will be described along with analytics on usage.

Evaluation Plan: We will share published Infographics (N=50) designed and uploaded to the App (Android/IOS) for health professions education, including both foundational tips applicable to all users and then clinically specific ones for 10 clinical disciplines, simulation, social justice, ethics, and research skills too. Preliminary implementation data, based on an internal satisfaction survey and analytics on downloads, usage and geographic distribution will be shared. Global distribution will be shared resulting from a partnership with Germany and their medical education system. Challenges for creation and implementation will be shared, as well as opportunities for partnership and collaboration on future iterations.

Potential Impact: • An App can deliver evidence-based resources to support diverse faculty developers, learners, and faculty, with no barriers to access.

Use of technology is an iterative process and end user input is essential and a challenge to gather.

Translation is feasible and can assure non-English speaking countries to use it as a resource for teaching.

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Introduction of a Trauma Curriculum into the Pediatric Resident Emergency Medicine Rotation

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Problem Statement: Pediatric residents identified a need on annual pediatric program reviews for additional and more formalized training in pediatric trauma.

Rationale: Injury and trauma is the leading cause of morbidity and mortality for children within the United States. Data show that most patients are not treated at a pediatric trauma center. The ACGME and American Board of Pediatrics both emphasize the need for training pediatricians in injury recognition and care, requiring three months of emergency medicine experience during residency and outlining trauma as a specific component on the general pediatric board exam. However, there exists large variation in the structure of emergency medicine (EM) curriculum within pediatric residencies resulting in variable exposure to traumatically injured children. Pediatric residents within our own institution cited trauma education as a specific area for improvement on annual rotation evaluations.

Methods: We developed a curriculum for 1st, 2nd, and 3rd year pediatric residents at a university hospital with a Level 1 Pediatric Trauma Center designation. Curriculum design drew on principles of adult learning, with a focus on self-directed, interactive, and multimodal components. First, residents on EM rotations were instructed to view a basic trauma video module prior to the start of the rotation. This video was adopted from a previously designed curriculum used for training of emergency physicians and pediatricians abroad and provides an overview of basic trauma assessment and pediatric trauma principles. Second, each resident was provided with a worksheet to use while observing primary and secondary assessments during the department's pediatric trauma activations. The worksheet included a proposed management plan to be completed after the trauma, using provided evidence-based trauma algorithms. Pre- and post-rotation data was collected via an anonymous electronic survey. Data included a 13-question quiz, which assessed knowledge of basic trauma principles and scenario-based management, in addition to 5-point Likert scale questions evaluating the value of each component of the intervention.

Results: Twenty-eight total surveys were obtained with 12 residents completing both pre- and post-rotation surveys. Four residents only completed the survey once and were included only in the post-rotation analysis. First year residents comprised 43% of respondents, 8% were 2nd years, and 28% were 3rd years. A total of 60% of participating residents reported viewing the trauma orientation video. Of those, 20% found it extremely useful, 20% found it very useful, and 27% found it moderately useful. The trauma worksheet was completed by 47% of post-rotation respondents at least once. Of those, 14% found it extremely useful, 29% found it very useful, and 57% found it moderately useful. Overall, 6% of the residents found the trauma education extremely useful, 40% very useful, and 27% moderately useful, though 27% reported not completing all the elements of the curriculum. The pre-curriculum examination had a mean score of 74% and the post-curriculum examination had a mean score of 80%. The mean difference of a 6% improvement between pre- and post-curriculum was not statistically significant ($p=0.08$, 95% CI -0.78, 13.6).

Potential Impact: The addition of a trauma curriculum within an EM rotation has shown preliminary benefit, especially in the self-reported response. However, further work is needed to identify and address barriers to more robust participation. Opportunities for future curriculum advancement also exist, such as the incorporation of additional hands-on experience.

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Improving Rapid Response and Code Blue Curriculum for Internal Medicine Residents

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Problem Statement: Graduating internal medicine interns feel underprepared to lead rapid responses and code blues.

Rationale: Like most other academic hospitals across the country, our institution places the responsibility of responding to inpatient emergencies on internal medicine (IM) residents. Interns (PGY-1) advance to the role of residents (PGY 2-3), who typically serve as team leaders during such events. Prior studies have discussed residents' lack of confidence (1,2) and trepidation in leading cardiac arrest and resuscitation efforts (3,4). The COVID-19 pandemic brought these concerns to the forefront. Trainees' acute medical skills were put to the test as overstretched hospitals saw an inundation of critically ill patients. Once intensive care units (ICU) reached capacity, general medicine units filled with patients, many medically unstable given the unpredictable nature and potential severity of the COVID-19 disease course. These circumstances led to a high number of inpatient emergency events, highlighting IM residents' responsibilities and the need to reevaluate resident emergency preparedness.

Methods: Interns in our program complete their first year of training at a 600-bed acute care public hospital in Los Angeles County that provides a full spectrum of inpatient services. There are designated codes for medical emergencies: a rapid response is called for an acutely decompensating admitted patient, and a code blue is called for a patient in cardiopulmonary arrest. We began building a formal curriculum to improve IM house staff emergency code training and conducted a descriptive study designed to investigate interns' perceptions on the adequacy of their emergency response training and confidence in leading rapid responses and codes prior to the start of PGY-2 when they would be expected to take on a leadership role during these events. As our first curricular initiative, we created an hour-long review lecture delivered to interns one month before their transition to PGY-2. The lecture reviewed:

1. Rapid assessment of a critically ill patient
2. A structured approach to the most common rapid response scenarios (e.g., tachyarrhythmias, hypoxia, altered mental status)
3. Practical tips on how to successfully run code blues

The interactive lecture was delivered by pulmonary and critical care medicine (PCCM) fellows and PCCM-bound graduating IM residents over Zoom. Following the lecture, attendees were sent an anonymous 17-item survey using 5-point agreement Likert scales and free response short answers to assess individual preparedness and evaluate lecture content and delivery.

Results: Of the 42 IM interns who attended the lecture and received the survey, 30 responded (response rate 71.4%). Most interns did not feel comfortable leading a rapid response (80%) or a code blue (86.7%) prior to the lecture, and only 30% agreed that they felt comfortable in their abilities to assess a critically ill patient. While a quarter of interns (26.7%) felt that they had received adequate preparation and instruction on how to assess a critically ill patient, no interns felt that they had received sufficient preparation and instruction on how to lead a rapid response, and only 13.3% felt that they received enough training on how to lead a code blue. All responders unanimously agreed that knowing how to manage inpatient emergencies is an important part of being a successful senior resident.

There was a positive response to the peer-peer teaching nature of the lecture with 93% of attendees agreeing, and 67.8% of those strongly agreeing that they liked receiving the lecture from fellows and senior residents. Following the lecture, most attendees felt more prepared in how to assess a critically ill

patient (86.7%) and how to lead a rapid response (66.7%), although only 43.3% felt more prepared in leading a code blue. Notably, almost all interns (96.7%) agreed that more formal teaching and dedicated curriculum on the topics of how to approach rapid responses and code blues was needed and that this more formal teaching should begin in intern year (93%).

Potential Impact: The COVID-19 pandemic and heightened presence of unstable patients underlined the importance of emergency code training in medical education. Graduating IM interns feel unprepared to lead rapid responses and code blues. There remains a need for further development and timely implementation of dedicated emergency response curriculum for trainees.

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Building Resiliency and Reducing Burn Out in Family Medicine Residency Through the Use of HeartMath

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Idea: HeartMath is a validated tool to reduce burn out and improve resiliency. We will seek to increase use of HeartMath in our family medicine residency.

Need: Fostering resilience among medical students, residents, physician faculty and clinical staff is a critical part of building a robust healthcare workforce. As a new residency, we built many mechanisms to support resident wellness into the structure of our program, including providing all residents and faculty with training and tools to do Heartmath, which is an evidence-based technique that focuses on heart wave variability to reduce anxiety and stress by achieving coherence between the sympathetic and parasympathetic nervous system. Although residents and faculty were provided with the tools to use Heartmath, we found that these tools were not being used frequently. In this quality improvement project, we seek to increase the use of HeartMath in the Kaiser Permanente Santa Rosa Family Medicine residency program.

Methods: To assess the use of HeartMath and other mindfulness techniques, we sent out pre-intervention surveys to residents, faculty and staff and will collect post-participation surveys 1 week, 6 weeks and 3 months after completion of a series of interventions. We are also collecting anonymous patient satisfaction surveys during the months of April and May 2021. We will compare patient satisfaction domains between the days that residents use HeartMath prior to clinic compared to the days that Heartmath is not utilized. We will analyze the data using descriptive and inferential statistics.

Evaluation Plan: Fifty four percent (n=22) of residents, faculty and staff in the residency module completed the pre-intervention survey. Ninety percent (n=20) of respondents had received training on the Heartmath quick coherence technique. The two participants who did not receive training were Medical Assistants or nursing staff. Most respondents (75%, n=17) practiced some sort of mindfulness or meditation at least once in the week prior to the intervention, yet most people (86%, n=19) did not use Heartmath at all outside of the clinic environment. We plan to increase the use of HeartMath for mindfulness practice in several ways. Three times a week we have a scheduled HeartMath session into the start of continuity clinic which precedes clinic duties for medical students, residents and faculty. We also implemented a mindfulness competition in May 2021, which involved introducing weekly mindfulness reminders and a friendly competition

Future data analysis will examine the effects of these interventions on the frequency of Heartmath and other mindfulness techniques used either during or outside of clinic.

Potential Impact: Interventions for this project will conclude in October when point data will be analyzed to determine the overall effects. Further efforts are needed to provide training to medical assistants, nurses and other support staff. We hope to see that all participants increased the frequency of HeartMath use and find a personal benefit from the practice.

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Improving Wellness: Defeating Imposter Syndrome Using an Interactive Reflective Workshop

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Idea: Imposter syndrome consists of self-doubt and internalized fear; correlates with burnout, decreased performance, health, and psychological defects.

Need: To determine 1) prevalence of Impostor Syndrome (IS) in a medical education cohort; and 2) if a reflective interactive educational workshop can improve perceptions and knowledge regarding IS.

Methods: At educational workshops from June 2019 to February 2021; participants completed IS self-identification surveys; participated in interactive and video-based presentations; reflected in group discussions to deliberate on corrective strategies for imposter syndrome and completed pre and post intervention knowledge, perception, and behavior-based surveys.

Evaluation Plan: Of 198 participants, there were 78% females and 23% males; 19% residents, 10% medical students, 30% faculty and 41% coordinators. Overall, 57% were positive for IS. For the imposter subtypes, participants classified as: Super-person = 31%; Expert =42%; Soloist = 34%; Natural Genius = 21%, and Perfectionist = 25%. Identified contributors of IS included: parent expectations = 72%, female gender = 58%, academic rat race = 37%; first generation to college = 36%; career change =35%; mental health concerns = 33%; minority status = 23% and unsupportive workplace = 20%. Pre and post intervention IS knowledge survey scores were 4.94(SEM=0.31) versus 5.78(0.18), $p=0.01$. Participants with IS had increased perceptions of IS as a cause of stress, failure to reach full potential, and negative relationships/teamwork ($p<0.001$).

Potential Impact: Impostor Syndrome was common in this medical education cohort. Those with Impostor Syndrome significantly demonstrated increased awareness of associated negative personal effects of Impostor Syndrome . An interactive educational workshop increased participants' knowledge and perceptions regarding Impostor Syndrome

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Effectiveness of an “Opt-out” Wellness Program on Physician Resident Wellness Session Attendance

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Idea: Our goal is to assess if LAC+USC’s transition to an “opt out” model for resident wellness visits has improved utilization of mental health services.

Need: A survey of over 7000 physicians found that more than one third of U.S. physicians screened positive for symptoms of depression and over 6% had experienced suicidal ideation in the past 12 months [1]. Depressed residents are more likely to have poor health, difficulty concentrating at work, report working in an impaired condition, and make medication errors than non-depressed residents [2]. Despite the impact of depression, physicians may delay seeking treatment for depression over fears regarding stigma, negative impact on their careers, and confidentiality concerns [3]. Although some interventions are being offered by programs to improve the mental wellbeing of physicians and residents, more research into their efficacy is needed.

Methods: In 2019, LAC+USC’s Emergency Medicine residency program transitioned to an “opt out” model for resident mental health check-in visits, where residents are automatically scheduled for one therapy session with a certified psychologist in the academic year and must actively opt out if they wish to not attend. In the years that followed, additional residency programs, including Dermatology, Anesthesia, OB/GYN, Med-Peds, Psychiatry and ENT have started to use this model. We will be reviewing attendance data from the past four years of wellness visits to determine if the transition to an “opt out” model has improved utilization of these visits.

Evaluation Plan: We will collect the total number of visits completed since the transition to the “opt out” model in 2019, the number of visits per specialty, and the number of residents who attended more than one session. We will also collect some demographic information of the residents. In addition to drawing comparisons between specialties, we hope to draw comparisons between the programs who adopted the “opt out” model and those who have not and determine differences in utilization of visits between the two.

Potential Impact: Physician depression is a well-documented problem, but limited research has been done regarding the efficacy of proposed interventions. Nationally, resident depression is a high priority issue, and our investigation hopes to determine a feasible and accessible solution.

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Grief Teachings: A Curriculum to Support Medical Students in their Experiences with Death and Grief

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Idea: Pilot curriculum to address medical students' experiences with patient death and grief, which was initiated and developed by a medical student.

Need: One of the most difficult aspects of the medical profession is patient death. Many, if not most, physicians will experience their first patient death in medical school. In a survey of 1,455 medical students in the US, half of fourth year students felt unable to manage their own feelings about patients' death and dying. The same study demonstrated that only 12% of those students felt well-equipped from their medical education. [1] Throughout their medical education, most students will not receive formal training regarding the impact of patient death and dying, and how to manage the resulting effects on their emotional well-being, mental health, professional duties, and personal relationships. These factors, as well as patient death and poor outcomes, significantly contribute to physician burnout. [2,3] Death and grief curricula are vital parts of medical education that most institutions have yet to find a productive and meaningful way to teach. There is a great need in medical education to address medical students' experiences with death and grief, provide individual and institutional support, and teach coping strategies.

Methods: The Grief Teachings curriculum pilots small group, peer-facilitated sessions during medical students' clerkship phase to address experiences with patient death and grief. The sessions create a neutral ground upon which medical students build a support system in their peers, discuss shared experiences, and learn/practice healthy coping skills for the short- and long-term. Students also gain an appreciation for the pervasive experience of patient death and grief. These student-facilitated discussions bolster peer support through the discovery and reinforcement of shared experiences. The curriculum also functions at an institutional level, to normalize grief in the medical community and medical trainees.

Peer facilitators are volunteers in their fourth year of medical school. The founding student and advising faculty mentor hosted training sessions to prepare facilitators to lead gentle and productive sessions for their third-year student-peers in the context of the internal medicine clerkship. The curriculum provides a detailed agenda for facilitators to follow during the sessions. The founding student assists with facilitation of all sessions throughout the year.

Evaluation Plan: A University of Arizona IRB-approved survey study is running concurrently with the first pilot year of the Grief Teachings curriculum. Students are requested to participate in pre- and post-session surveys. In addition, all clerkship students at the University of Arizona College of Medicine - Tucson will be invited to participate in a survey at the culmination of their third-year rotations. The pre- and post-session survey questions gauge students' perceptions of their own and their peers' experiences with patient grief and death, as well as changes in their perceptions after the group session. The surveys will also provide new data regarding the nature and impact of these experiences on medical trainees, a largely unexplored part of medical education. The longitudinal survey at the end of the clerkship year will aid in the evaluation of the effects and impacts of the curriculum over time.

Potential Impact: Medical trainees of all levels will experience impactful patient death and grief stemming from their professional duties. The Grief Teachings curriculum has the potential to address a substantial contributing factor to physician burnout and improve future physicians' ability to manage the impact on themselves and their peers.

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The Happiness Selective: An Approach to Improving Medical Student Well-Being

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Idea: Implementing an optional course that teaches first- and second- year medical students about evidence-based science of well-being and happiness.

Need: Despite the fact that matriculating American medical students begin training with reports of better mental and emotional quality of life than their peers, their well-being decreases during their medical school education [1]. A potential solution for tackling learner mental and emotional health challenges includes courses in the psychology of well-being. One such course is the “Science of Well-Being” created by Professor Laurie Santos at Yale University, which has been found to significantly increase the level of well-being in undergraduates when compared to a control population [2].

The Happiness Longitudinal Selective at the Mayo Clinic Alix School of Medicine - Arizona Campus provides 1st and 2nd year medical students with evidence-based psychoeducation regarding well-being. This selective (optional course), modeled after the “Science of Well-Being,” has been designed and led by medical students and is being offered for the first time in Fall 2021. This course will examine an argument against optional courses for wellbeing and mental health in medical school, which is that those who need it most may opt out. Additionally, impact of the course will be measured to evaluate whether this should be implemented in future classes.

Methods: The Happiness Longitudinal Selective was open to enrollment for all first and second year medical students from July to August 2021. To assess initial happiness scores, baseline surveys are offered to all first and second year students on the Arizona campus regardless of selective participation. Selective participants are also offered post-course and 3-month follow-up surveys and free-text course feedback. The survey collects demographic information and asks students to report their perceived level of well-being using the Subjective Happiness Scale and the WHO-5 Well-Being Index [3], where a lower overall score indicates lower perceived happiness and well-being. The survey also asks students to rank how much they agree or disagree with objectives-aligned questions and how often they implement well-being strategies in their life. ANOVA and Fisher’s Exact Test are used to compare responses of selective and non-selective participants for the baseline scores.

Evaluation Plan: All first and second year students have been administered baseline surveys. A total of 22 of 38 (58%) selective participants and 21 of 58 (36%) non-selective participants completed the voluntary survey regarding their happiness and well-being. On average, selective participants had a lower overall Subjective Happiness Scale score (4.5 vs. 5.6, $P = 0.001$) than non-selective participants. They also had a lower WHO-5 Well-Being Index score (56.2 vs. 69.3, $P = 0.008$). Several questions indicated a significant difference in responses between the selective and non-selective participants; in all cases, the non-selective group indicated a greater level of happiness/well-being.

What remains to be seen is how the actual intervention of taking our selective will affect their happiness and well-being scores, both immediately after and 3-months after the course. We hypothesize that there will be a significant increase in awareness and implementation of well-being strategies and a higher self-reported level of well-being at the end of the course than at the beginning of the course, and a slight decrease in all three at the 3-month mark but still higher than before the course.

Potential Impact: The preliminary results suggest that the baseline happiness and well-being scores of selective participants are significantly lower than non-selective participants. With further understanding of who takes the course and how it affects them, we can better understand if this curriculum addresses the issue of decreasing well-being in medical students.

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Student-Led Community Engagement: An Avenue Toward Improved Wellness in Medical Students

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Idea: Hoosier Health Hub (H³) serves as a wellness strategy to reduce the effects of stress and burnout that is often experienced during medical training.

Need: A sobering prevalence of psychological distress among U.S. medical students, including depression, burnout, and suicidal ideation has been documented extensively in literature. Medical schools' current strategies to address wellness assume a reactionary approach and seldom consider student-led engagement programs within their well-being curricula or activities (1). There is a need for student-led engagement programs that foster camaraderie, inquisitiveness, and problem-solving as these may contribute to improved perceptions of wellness by providing an opportunity for students to seek support from colleagues, reflect on shared experiences, and work toward common goals (2). H³ will draw from student's unique experiences to help identify and address the client's internal initiatives and provide client-centered, sustainable solutions and frameworks that will lend toward accomplishing organizational goals. H³ is a promising and proactive avenue for student wellness due to its ability to offer pro-bono community benefit, while concomitantly providing the student with fulfillment and accomplishment.

Methods: H³ will function as a pro-bono medical student consulting group who will collaborate on-site and online with nonprofit community members. Project timelines will be set over the course of three months. Concurrently, H³ will prioritize the wellness of its members by adopting a low-risk, high reward and multidimensional wellness model: 1) Occupationally: Recognizing each member's unique abilities and experiences and assigning them to projects that most closely align with their interests. 2) Socially: Cultivating a supportive atmosphere that fosters effective teamwork and encourages clear communication. 3) Physically: Honing time-management skills by scheduling deadlines for project tasks within the context of the demands of medical school; thus, allowing adequate time for physical activity, diet, sleep, and nutrition. 4) Intellectually: Creating solutions for community partners by engaging in critical thinking. 5) Emotionally/spiritually: Providing a protective effect against the attrition of empathy and sensitivity that may occur as a result of progression through medical training. 6) Financially: Maintaining mindfulness of the financial burdens of tuition and associated costs by utilizing reduced or free cost materials that may be required to produce viable solutions for community members.

Evaluation Plan: 1) Accountability: Mental health status will be tracked through the Copenhagen Burnout Inventory (CBI) prior to community engagement, throughout community engagement, and upon completion of community engagement (3). Regular member feedback will be incorporated into event sign offs and activity logs in order to address common issues and concerns followed by modification towards best practices. 2) Reaction: Member satisfaction will be gauged at regular intervals and member feedback will be incorporated to drive organizational improvement. The influence of H³'s projects on dimensions of member wellness will also be surveyed. 3) Learning: Students will learn how to incorporate the wellness model into their lives while interacting with and for the community. Students can also develop meta cognitive skills related to wellness such as insight and analysis of wellness themes. 4) Behavior: Effects of community outreach on member wellness will be evaluated using the CBI, and changes in CBI scores will be used as a measure of changes in behavior.

Potential Impact: In response to disconcerting trends of distress and burnout in medical education, H³'s pro-bono consultation and community engagement offer a proactive approach to wellness. By implementing a wellness model, H³ aims to positively impact the local community while concurrently bolstering short-term and longitudinal medical student wellness.

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Establishing a Community Garden Increases Access to Fresh Produce and Improves Overall Health

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Idea: Promoting healthier eating among shelter residents by building a community garden and organizing cooking demos.

Need: Roughly 14,500 Pitt County residents (~9%) live in a food desert while 35,400 are food insecure.(1,2) Though resources are available for the food insecure, such as food pantries and the Food Bank, many operate during normal business hours, leaving the working poor unable to benefit from these resources.(1) Community gardens are more flexible and would be a good resource for the food insecure to utilize in order to obtain fresh produce. Establishing community gardens in food deserts would provide myriad benefits, including improving mental and physical health, providing opportunities to eat healthier, revitalizing communities, and improving social well-being.(3) Establishing a community garden for CCC residents is especially important as poor nutrition is commonly associated with homelessness. According to the National Health Care for the Homeless Council, homelessness exacerbates chronic conditions such as high blood pressure, diabetes, and asthma. Additionally, homelessness makes it difficult to maintain a healthy diet, as meals high in salt, sugars, and starch tend to be cheaper and more filling.(4) Several community gardens already exist in Pitt County; however, many community gardens are unknown to most county residents.(1)

Methods: Expand the community garden at Dream Park, which is behind the Community Crossroads Center. Increase the variety of produce available. Enlist the help of local gardening organizations, college and medical students, and any other related organization that would be willing to maintain the garden. Work with the shelter in developing a program for including more garden produce into residents' meals, as well as work with shelter residents in developing recipes with garden produce that they'd actually eat. Additionally, hold seasonal cooking demos to educate shelter residents on how to cook produce that is currently growing in the garden.

Evaluation Plan: Survey residents to see if having access to a community garden made it easier for them to eat healthier.

Potential Impact: Community gardens improve access to produce. Residents will be encouraged to implement more fresh produce into their diet through collaborative recipes and cooking demos which educate residents on how to incorporate garden produce into their meals, potentially mitigating the risks/effects of diet-related illnesses such as hypertension or diabetes.

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Virtual Open House: A Novel Community-Building Initiative in an Emergency Medicine Residency Program

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Problem Statement: Residents' non-medical support networks can promote resident wellness, but these support individuals are disconnected from the residency experience.

Rationale: Burnout is highly prevalent in resident physicians and is associated with increased rates of depression, substance use disorder, and suicide. As a result, the ACGME has recognized the importance of addressing resident burnout, encouraging residency program leaders to support policies and practices that emphasize resident wellness. Residents' pre-existing social support networks are integral to enhancing overall wellness. Unfortunately, the geographic separation inherent to the residency match process may limit in-person social support from residents' families and friends. This emotional and physical distance may exacerbate residents' existing levels of emotional exhaustion and increase barriers to communication with loved ones. Our study aimed to evaluate the effectiveness of a novel Virtual Open House (VOH) in fostering a sense of community while enhancing residents' and loved ones' perceived comfort initiating and engaging in future discussions about workplace stressors.

Methods: This was a prospective, observational, single-center study. All 76 residents at the Los Angeles County Emergency Medicine Residency Program and their self-selected loved ones (guest attendees) were invited to attend a two-hour structured VOH during the regularly scheduled educational conference in April 2021. At the conclusion of the VOH, all residents and guest attendees were sent an electronic invitation to complete a voluntary anonymous survey regarding their experience participating in the VOH. Survey questions gauged participant's reactions to the VOH experience as well as their perceptions about its impact on a sense of community and connectedness between residents and guest attendees. To triangulate these findings, guest attendees were invited to participate in focus groups six months after the conclusion of the open house. These focus groups have not yet taken place, but will involve semi-structured group interviews aimed at exploring how participation in the Virtual Open House impacted guests' sense of connectedness to the residency program and their perceived comfort engaging in and initiating conversations with their loved ones about issues in the training environment. Focus group interviews will be audiotaped and transcribed for coding and subsequent reference.

Results: A total of 155 individuals attended the VOH, including 60 residents (38.7%), 86 guests (55.5%), and 11 faculty (7.1%). Forty residents (66%) and 47 guests (54.7%) responded to the post-VOH survey (N=146). Overall, attendees reported that they enjoyed the VOH (95% of residents, n=38; 98% of guests, n=46). Most residents reported that the VOH fostered a greater sense of community (85%, n=34), believed their loved ones now had a better understanding of their training (88.6%, n=31), and felt more likely to discuss workplace challenges with their loved ones moving forward (77.2%, n=27). Similarly, guests felt more a part of the residency family (72.3%, n=34) and noted a better understanding of their loved ones' residency experience (95.7%, n=45) and the characteristics of the workplace environment (93.6%, n=44). Finally, guests reported feeling more comfortable engaging in (93.6%, n=44) and initiating conversations (87.2%, n=41) about workplace challenges with residents. Themes from the free response section referenced guests' appreciation for the virtual format in light of travel restrictions and greater insight into the intangibles of residency training. Qualitative results are pending.

Potential Impact: Our findings suggest that VOH is a sustainable and low-cost intervention that may augment residents' social networks and encourage residents and their loved ones to engage in discussions about residency challenges. Given the importance of social support in promoting resident wellness, it may be useful for residency programs to adopt this initiative

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Efficacy of University of Nevada, Reno School of Medicine's Medical First-Year Intensive Transition

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Problem Statement: There is a lack of analysis on the efficacy of the University of Nevada Reno School of Medicine's Medical First-Year Intensive Transition program.

Rationale: Pre-matriculation programs for medical schools are gaining attention as they are showing better student integration and progression through school (Miller, 2014). The University of Nevada Reno School of Medicine's (UNR Med) Medical First-Year Intensive Transition (MedFIT) program began in 2017 with the intent of mirroring the undergraduate NevadaFIT program (DeWald, 2019). MedFIT has become a two-week orientation program that introduces matriculating students to the academic and extracurricular rigors of medical school. The program includes a curriculum of lectures culminating in a low-stakes, professor-written exam and anatomy practical. In addition, students are introduced to their Pack Mentor, a second year medical student that serves as a longitudinal peer mentor. Previous research on MedFIT has evaluated the curriculum structure through qualitative feedback, however, there is a lack of quantitative data analyzing the efficacy of each session through objective assessment.

Methods: A survey was used to evaluate the subjective efficacy of the MedFIT program as well as the objective assessment of student's gained knowledge from the program, both pre- and post-MedFIT in July 2021. The survey contained a mix of Likert-style and free response questions for the perceived efficacy and receptivity to various sessions. Additionally, multiple choice questions were included to assess true efficacy through student's retention of the information provided during the program. The data collected will be evaluated using a paired t-test to compare pre-and post-MedFIT survey scores of each question. Longitudinal retention of this material and relevance to performance in medical school will be evaluated with a post Block 1 and Block 2 survey in early October and December 2021, respectively.

Results: From preliminary analysis of our results, students viewed the lectures, mock lecture exam, and anatomy practical as the most helpful in preparing them for medical school. The nutrition lecture and student panels were deemed least helpful. From perceived efficacy questions, we saw large improvements between our pre- and post-MedFIT survey scores in students' confidence in finding reputable medical sources, understanding the Medical Student Performance Evaluation (MSPE), and gaining familiarity with what extracurriculars are available to get involved in. Scores in comfortability regarding the Pack Mentor program and how to manage stress in medical school neither increased nor decreased. The largest improvements in objective efficacy scores include questions pertaining to information about student body leadership positions in the Student Executive Committee and Student Outreach Clinic, as well as supplemental training sessions with a 51% and 49% increase in scores, respectively.

Potential Impact: Preliminary results indicate that MedFIT is effective at presenting salient administrative information and policies while acclimating students to medical school. In the future, more structured interactions should be implemented to allow the incoming students more time to meet their classmates through social wellness activities.

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Impact of a Kindness Course with a Mindfulness Intervention on Emotional Affect in Medical Students

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Problem Statement: Studies suggest that mental health and empathy worsen after students begin medical school and remain poor throughout medical training.

Rationale: Medical student's and physician's empathic skills appear to be related to their ability to cope with the daily stressors of medical school and modern-day medicine. [2] Developing strategies to cope with stressors and burnout are valuable skills to learn in medical school but are often overlooked. This served as the foundation for the human kindness curriculum at UC Irvine Medical School. [2] Although most medical students begin their professional education with idealism and score highly with respect to overall empathy, these attributes wane over time as students struggle to find a balance between their social and professional responsibilities. [3] The following study aims to determine if a simple mindfulness reminder (in the form of a bracelet) in conjunction with a human kindness curriculum will improve emotional affect and reduce empathy fatigue. The study also aims to measure the changes in emotional affect of first year medical students as they transition into medical education.

Methods: All study activities were conducted at the University of California, Irvine School of Medicine. First-year medical students who attended the human kindness curriculum introduction course were asked to participate in a survey to establish a baseline emotional affect score for each individual participant. Students completed the PROMIS Short Form v1.0 survey, which is a 15-item survey used to assess positive or rewarding affective experiences, such as feelings and moods associated with pleasure, joy, elation, contentment, pride, affection, happiness, engagement, and excitement. The instrument measures emotional affect over the past 7 days using a 5-point Likert Scale. They were then provided a positivity bracelet in addition to a standardized presentation reviewing the background of the bracelet and the purpose of the project. Student demographic information included race, ethnicity, and sex. Additional student demographic data included medical school year, whether the student was enrolled in a dual degree program, and specialty interest. At the two-month and three-month mark, students were asked to report how often they wore the positivity bracelet and complete the PROMIS Short Form v1.0 survey again during a kindness curriculum course.

Results: Data collection included 104 students at the initial distribution of the survey followed by 78 and 69 students at the first- and second-month mark, respectively. No significant associations were detected between students who wore a positivity bracelet and emotional affect. However, a trend was identified that showed students had a significant decrease in positive affect over the first month of medical school followed by a significant recovery in positive affect over the second month of medical school. Initially, students demonstrated a high score of positive affect (58.23 +/- 1.08) as measured by the PROMIS Short Form v1.0 survey, but significantly declined the next month regardless of positivity bracelet use (51.23 +/- 1.31). The students affect subsequently improved the following month (55.12 +/- 1.48), but to a lesser extent than their baseline affect scores. In addition, the demographic data revealed certain groups of students were more likely to have a continued decrease in positive affect at the second month. These groups included students who identified as Hispanic or Latino, female students, and students pursuing a dual degree. Our data also demonstrates students who identified as male, Hispanic or Latino, and those intending to pursue primary care were more likely to wear the positivity bracelet for >50% of the time.

Potential Impact: This study demonstrates that there is a negative change in emotional effect of first-year medical students and attempts to counteract that change with a mindfulness reminder and structured curriculum. Our findings provide justification for a follow-up study to understand the reasons for change in emotional affect and a framework for future studies.

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Provider Wellness During COVID-19: Evaluating a Virtual Provider Conference at a FQHC

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Problem Statement: Health care providers globally experience increasing rates of burnout and fatigue in response to working the frontlines of the COVID-19 pandemic.

Rationale: Burnout has been magnified during the COVID-19 pandemic but has been an ongoing concern particularly for front-line healthcare workers. Findings from a 2020 national survey by Merritt Hawkins report that 32% of physicians indicate that they will change practice settings, leave patient care roles, or retire in response to COVID-19[1]. Burnout trends of California providers reflect that of the nation, with greater toll on mental health and well-being on the healthcare workforce as the pandemic continues. Prior to AltaMed's 2020 Provider Conference, the Institute conducted a survey among 100 physicians that raised the following question: "What are three barriers that take away from your joy of practicing medicine?" Findings of the survey revealed top concerns such as: (1) need for support staff capacity, (2) workflow issues such as double booked appointments, (3) lack of administrative time, (4) lack of autonomy in controlling their time; and (5) limited to no down time.

Methods: An extensive amount of background work and coordinating took place in order to ensure the success of AltaMed's annual 2021 provider conference. Because this event was virtual, much of the communication and planning took place through online platforms such as email and WebEx. AltaMed's Medical Education team collaborated with the Branding and Communications Department to produce promotional items such as a detailed agenda, conference program with guest speaker biographies, conference videos, a promotional flyer, and a PowerPoint slide deck that corresponded to the program's script that took months to finalize. In addition, an evaluation survey was created, calendar invitations were sent to our 200+ providers, and memos and email reminders were sent from AltaMed's Leadership. AltaMed's Medical Education team made this conference especially memorable by providing each conference attendee with a framed art print of "AltaMed", a commissioned painting by José Ramirez, a Chicano artist and educator from East Los Angeles, which pays tribute to Chicano health care providers and their efforts to serve the community with equity and accessibility. In preparation for the event, technical support meetings took place with each guest speaker and multiple program rehearsals were organized. The goal of this conference was to celebrate all of the work our providers have contributed during the COVID-19 pandemic and create a feeling of gratitude for their commitment to serving our community.

Results: As the conference concluded, evaluation links and QR codes were distributed to capture the overall impact that our wellness conference event had on our providers from a diverse pool of medical specialties including family medicine, pediatrics, internal medicine, women's health, HIV prevention, and urgent care. As we analyzed the data, it was found that 90% of respondents reported that they will change the way they practice medicine as a result of attending the conference. We also asked our providers to list examples of how they would change their practice and generated a word cloud with the top submitted key words being connect, empathy, patient, and COVID. While evaluating the overall quality of the conference ranking from poor to excellent, we found that over 98% of respondents ranked the conference as good or excellent. Additionally, while looking at the overall quality of each guest speaker, our data showed that 85%-96% of our providers ranked each presentation as good or excellent.

Potential Impact: The feedback we received from our provider conference evaluations inspired me to continue working towards implementing provider well-being programs and demonstrated a significant need to invest more in physician well-being to prevent burnout and workforce shortage.

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Hardback Life: A Book Club Focused on Literature for Young People for Pediatric Hospital Staff

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Idea: We intend to examine the impact of a recurring children's literature book club on comradery and empathy among pediatric hospital staff.

Need: Studies using a variety of methods including wellness surveys and biological measures have established that pediatric health care providers experience high levels of stress and report feelings of compassion fatigue, post-traumatic stress disorder, and occupational burnout. (Branch & Klinkenberg, 2014; Fischer et al., 2000; Czaja et al., 2012). The COVID-19 pandemic appears to only exasperate these issues. (Jalili et al., 2021; Sriharan et al., 2020). A qualitative study from 2006 demonstrates that pediatric healthcare workers rely on support from their peers rather than their supervisors or institution when it comes to occupational related stress and burnout. (Barnard et al., 2006).

Health humanities offer different ways of thinking about human history, culture, behavior, and experience which can be used by practitioners to dissect, critique, and influence practices and priorities. (Shapiro, Coulehan, Wear, & Montello, 2009). Incorporating the literary arts through book clubs among health science students and clinicians has demonstrated changes in cultural perspective, improved communication, and impacted daily practice. However, few book clubs have been interdisciplinary or focused on literature for young people.

Methods: We intend to conduct a prospective observational study with mixed methods analysis of clustered data. We will recruit among all hospital staff and volunteers at Children's Hospital Los Angeles for three clusters: non-participants, readers, and reader-attendees (n=100). Non-participants will function as the control and will not read the book nor participate in a book club meeting. Readers will read the book but not participate in a book club meeting. Reader-attendees will read the book and participate in a book club meeting.

We intend to run three iterations of the book club where readers and reader-attendees will be given a free print copy of a pre-selected book for young people. Reader-attendees will also sign up to attend an hour-long book club facilitated by the co-primary investigators where they will participate in activities designed to promote reflection and discussion with colleagues. Activities will include polls, small group discussions, gallery walks, poetry readings, arts and crafts, large group discussions, personal writing exercises, etc. Book clubs will be offered either online through WebEx software or in-person in accordance with the hospital's evolving COVID-19 protocols.

Evaluation Plan: To collect quantitative data, we will use the Assessment Scale of the WE-10 (de Barros, da Silva, & de Francisco, 2020) and Interpersonal Reactivity Scale (Davis, 1980, 1983) as pre- and post-tests among all clusters following each iteration of the book club (expected at the 3,6, and 9 month mark of the study). Descriptive statistics will be used to summarize participant demographic characteristics and study measure scores at each time point. Repeated measures ANOVA will be performed to study the effect of group (non-participant, reader, reader-attendee) and time (pre/post-book club) on scores.

To collect qualitative data up to 5 participants from each cluster will be recruited to participate in a semi-structured interview after the final book club iteration (expected at the 9-month mark of the study). With the participant's permission, we will record the audio of the interview which will be transcribed and coded using grounded theory.

Potential Impact: We anticipate that sentiments of comradery in the work environment and empathy among readers and reader-attendees will be greater than among those of non-participants. We hope that demonstrating an impact will encourage other hospitals to consider fostering similar book clubs.

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Pediatric Adverse Childhood Experiences Screening in a Federally Qualified Health Center (FQHC)

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Idea: Address Adverse Childhood Experiences (ACEs) and toxic stress through trauma-informed practices by screening pediatric patients at four pilot sites.

Need: ACEs are traumatic life events in childhood that hold long-lasting physical and mental health impact for pediatric patients with scores ≥ 4 of the 10 factors that measure abuse, neglect, and household dysfunction. In a 2012 study, 12% of a comparable low-income FQHC pediatric population scored ≥ 4 on their ACE questionnaire and this score is significantly correlated with learning and behavior problems, as well as the potential risk for obesity and cardiovascular diseases.¹ AltaMed serves a similar population and 64% of our patients are at or below the 200% of the Federal Poverty line. This leaves our pediatric patients susceptible to a high ACE score, since studies have indicated that lower childhood socioeconomic position has linked to greater risk of ACEs.² By introducing ACE screenings at primary care clinics, early intervention through referrals to social services and resiliency programs can potentially mitigate the long term health outcomes of pediatric patients. Through this process of trauma-informed care, medical providers at AltaMed are introduced to a standardized protocol of screening and management for patients with elevated ACE scores.

Methods: In January 2021, AltaMed received an ACEs planning grant from the Office of the California Surgeon General to develop organizational infrastructure for ACE screenings. The intervention targeted Medi-Cal eligible pediatric patients and took place from February 2021 through the end of September 2021. Screening took place at four pilot sites and was conducted by four physician champions. These physician champions completed the ACEs Aware Core Training and Medi-Cal attestation in order to be eligible to screen patients. The screening tool used was the Pediatric ACEs and Related Life-Events Screener (PEARLS) which was developed by the Bay Area Consortium on Toxic Stress and Health (BARC). The screener includes 10 questions related to abuse, neglect, and household dysfunction. The score is calculated based on how many of those experiences apply. A screener is considered positive if more than 4 questions apply or if the patient scores between 1-3 and has an ACE-Associated Health Condition (AAHC.) Our screening process included: 1) Selecting the age-appropriate PEARLS screener, 2) Completion of the screener by the caregiver or teen patient, 3) Review of the ACE score by the provider and patient, 4) Development of a treatment plan for patients with a positive ACE score, and 5) Making referrals to internal departments such as behavioral health, patient care social services, health education, or to external community-based partners.

Evaluation Plan: To date, we have successfully screened over 400 pediatric patients. To evaluate the success of the Adverse Childhood Experiences screening pilot program at AltaMed Health Services, the team will review key metrics designed to capture information on patients reached, financial impact and MediCal reimbursement, rates of referrals, and the overall burden of ACEs among AltaMed's pediatric patient population in Los Angeles and Orange County. Due to AltaMed's large size, our organization is uniquely suited to roll out a screening program and make internal referrals to our behavioral health, youth services, health education, and medication-assisted therapy programs. Because of our ability to track internal data, we will monitor the uptake of these buffering services, providing the team with real-time insight into patients' receptiveness to the ACE screening and referral-based intervention.

Additionally, the team has implemented a human-centered design and will evaluate feedback from AltaMed clinic staff involved in the initial rollout. Qualitative interviews with physicians, nursing staff, and clinic office managers will be documented to adjust screening and clinic workflow prior to organization-wide implementation.

Potential Impact: The ACE screener enables us to identify and prevent chronic health conditions among our pediatric patients. The program has allowed us to educate providers and staff on the impact of toxic stress. Our goal is to provide a model and data for FQHCs to incorporate trauma-informed principles to prevent and treat the effects of ACEs and toxic stress.

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Framework for Implementing Wellness Classes for Adult Residents of Homeless Shelters

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Idea: Creating a framework for wellness classes that can be implemented by program coordinators who want to serve shelter residents.

Need: People experiencing homelessness in the United States have a higher prevalence of mental health issues compared to the general population (1). Studies show shelter residents who receive mindfulness training experience reduced anxiety and depression and enhanced overall well-being (5). Current wellness classes are designed to be longitudinal: individual classes ranging 1-2 hours in duration and courses held over a span of 6 weeks. Additionally, wellness classes tend to target women, children, and residents with substance use disorders (2, 3, 4). However, there is insufficient data on the benefits of wellness classes among homeless adults in general, especially classes which are not longitudinal. Our goal is to develop a framework for wellness classes targeting shelters with higher turnover rates, where residents do not reside in shelters long enough to enroll in a multi-week program. Classes will be condensed to a shorter time frame of 30 minutes to sustain resident engagement, and our class topics will be broad enough to appeal to shelter residents, regardless of demographic. Wellness classes will be participant-centered, where shelter residents will have input about what topics they would like to discuss.

Methods: This proposed study will focus on program coordinators who wish to implement wellness classes for homeless shelter residents. The curriculum is created and taught by a behavioral health graduate student utilizing established cognitive behavioral teaching strategies. Behavioral health graduate students attend an orientation session to provide a background of the resident literacy rate and shelter guidelines. There are 5 sessions total, taught once every two weeks over a ten-week period. Classes cover topics including stress management, coping strategies, anger management, assertiveness, and creating an effective social support system. Programs should allot one hour per session with thirty minutes devoted solely to instructional time. Classes are held in the shelter in person to provide residents with face-to-face discussions. Participation in classes is entirely voluntary; however, snacks are offered to those who attend. Participants are informed that all conversations are kept confidential. Researchers directly observe classes and survey residents with an anonymous written form to evaluate which topics were useful and which topics they are most interested in. Surveys will also provide opportunity for feedback on the duration of class and behavioral discussion format. Data obtained from surveys will provide input to further adapt the framework of the wellness class.

Evaluation Plan: We will observe classes and collect anonymous survey data to obtain feedback on the framework of the wellness classes for adult shelter residents. Researchers will track the number of class attendees for each session; however, no identifying information will be collected. Surveys will be reviewed by researchers and compiled to assess the subjective perceptions of the class framework and topics that are taught. The overall curriculum and framework will be evaluated and continuously adapted after each 10-week course to the needs and opinions of the shelter residents. Once a framework has been established, we will test the framework in shelters of surrounding counties to increase our database. Once the framework has been solidified across multiple shelters, it will be proposed to national shelter organizations and communities where other program coordinators can implement similar classes.

Potential Impact: We hope developing a wellness class framework will address the mental health disparity amongst homeless populations who may not have the resources available to seek care independently and return a sense of agency to their lives, allowing them to advocate for their own mental health.

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Menstrual Health Educative Protocol

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Idea: We hope to evaluate the likelihood of endometriosis in adolescent women and increase awareness so as to reduce the cascade of deteriorating health.

Need: Endometriosis is a chronic debilitating condition that affects 2 to 17% of women of reproductive age. This leads to millions of women worldwide suffering from endometriosis. Symptoms include pain during and outside of menstruation that is often exacerbated by intercourse, defecation, and urination. Chronic fatigue, mental health diseases, and infertility are direct consequences of this exhausting disease. Thus, this disease affects not only the women, but also their partners and society as well. This leads to increasing health care and non-healthcare expenses.

Currently there are minimal research studies in the topic of adolescent endometriosis despite increasing awareness of the disease occurring in this population. The “unhappy endometriosis triad” consists of inadequate awareness in both the medical and the public community, a lack of clinically competent biomarkers, and the nonspecific nature of endometriosis symptoms. This triad has been implicated as the reason that many women have a delay in diagnosis by an average of six to nine years before definitive diagnosis and treatment is performed by laparoscopy. In this study, we hope to tackle the first arm of this “unhappy triad” to increase public awareness of this disease.

Methods: We will host a zoom lecture detailing the signs of normal periods in contrast to the signs and symptoms of dysmenorrhea and endometriosis. We aim to give the lecture to approximately 200 adolescent women from local schools in Chino and surrounding cities. Attendees will be given a brief introduction of the lecture before registration; participation will be voluntary, and the attendees can opt out at any time.

At the start of the lecture, we conduct a survey to evaluate the comprehension of endometriosis and perception of women’s health in this population before the lecture. The lecture was created by the authors using scientifically proven facts, evidence from literature. The first author is the presenter of the lecture. The lecture will focus primarily on the characteristics, signs and symptoms of normal periods, dysmenorrhea, and endometriosis. We speak about the cultural taboos related to menstruation, common misconceptions of normal periods, and the importance of endometriosis awareness. At the end of this lecture, we conduct another survey assessing the attendee’s reproductive history; no personal identifiable information is collected. The goal of this survey is to interpret the statistics of dysmenorrhea in this age group and the possibility of endometriosis. They leave the lecture with educational pearls on menstrual myths and facts about endometriosis. We also invite them to our continuity care clinic for confidential follow up and possible intervention.

Evaluation Plan: Due to COVID-19’s impact on social gatherings and schools, we are giving the lecture multiple times until it has reached approximately 200 adolescent women. Currently, we are in the middle of conducting these lectures serially. As this is a cross sectional study, we plan on using Chi Square analysis to report our data.

Potential Impact: We hypothesize that by educating young women aged 13-18 years old, we will empower them with knowledge so that they may proactively seek care earlier. This will help reduce the time to diagnosis, prevent long term suffering, and improve quality of life for affected women in the community.

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Utilizing Art as an Educational Tool for Discussing Healthy Relationships with Adolescents

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Idea: Having conversations about relationships with adolescents is difficult; incorporating art can make the process more interactive and less intimidating.

Need: This project was part of the Tiana Nicole Williams (TNW) endowment created in honor of a former medical student who lost her life to intimate partner violence. As TNW recipients, we wanted to combine our interests in adolescent health, pediatrics, and women's health with an outlet which we have found uplifting. Discussing healthy relationships with adolescents is important to ensure that they have long lasting and positive relationships, romantic and platonic, throughout the course of their lives. Having discussions about intimate partner violence earlier in life and explaining the differences between healthy and unhealthy relationships will hopefully help teens understand what it means to have positive relationships, potentially saving lives in the future. However, having conversations about such sensitive topics can be difficult, so using art can make these topics more approachable for both the educator and the student. Teens can discuss and interact with each other during this process, as well as apply creative expression during the art projects.

Methods: Class curriculum was designed by consulting past literature and learning tools created by certified instructors. Curriculum underwent 2-3 iterations that received approval and critiques from faculty advisor Dr. Tana Hall (OBGYN). Classes are conducted at local community centers after school and are structured to be 45 minutes or shorter for optimal participation from middle and high school students. Classes contain two interactive art projects: 1) using a concept map to draw and write about healthy relationships in their lives, and 2) choosing someone about whom to write an acrostic poem. Currently, the curriculum is designed as a one-time class. Students participate by discussing aspects of healthy and unhealthy relationships and share parts of their art projects with the class. Following the discussion, they are given domestic violence prevention informational pamphlets with numbers to hotlines they can text or call. Students are also invited to take photos with their artwork following completion. By the end of September 2021, we will have conducted 2 educational courses in person. By the end of October 2021, we will have completed another 2 sessions through Zoom.

Evaluation Plan: While it is difficult to measure the impact a one-time class has on adolescent knowledge; we plan to host feedback sessions with community center staff to determine how valuable the course is and what can be improved. The post-class evaluation will consist of a survey and verbal interview to gather both quantitative and qualitative data about various aspects of the classes, including efficacy at message portrayal, participant engagement, clarity of presentation, and the enjoyability of the art projects. The TNW endowment provides annual scholarship opportunities for students to design and implement projects related to intimate partner violence. It is our hope that future medical students will continue to grow this project.

Potential Impact: The aim is to educate adolescents about healthy relationships in the hope of reducing the incidence of domestic and interpersonal violence later in their lives, as well as to help others in building educational curricula using art as a medium for discussing sensitive topics in school and other community settings.

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Implementation of Human Trafficking Screening at a Residency Clinic

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Idea: Incorporation of a provider-driven human trafficking screening tool into Well Woman Exams for female-identifying patients between the ages of 18-40.

Need: There are currently no formal human trafficking screening tools implemented into the WWE workflow at our residency clinic. Any screening that is performed by providers is done in a non-standardized way on a case-by-case basis, based solely on clinical suspicion. Our clinic cares for a diverse population of patients, many of which have one or more risk factors identified as “high risk” for human trafficking by the Joint Commission (1), and victims of human trafficking are likely being cared for but not identified.

Methods: The devised human trafficking screening protocol will take place over the course of an academic year and will be utilized by all providers who perform well woman exams. Under the guidance of local and regional human trafficking experts within our organization, the screening will take place using the PEARR format (Provider Privacy, Educate, Ask, Respect and Respond). Formal instruction on the use of this tool was provided during didactic lectures. During the screening process, the patient will be interviewed alone, and educated regarding violence and exploitation in the community in a way that is non-judgmental and normalizes sharing information. The patient will then be asked the three initial screening questions devised by the Indiana Protection for Abused and Trafficked Humans Task Force (2). Any positive answers will result in the offering of resources and referral to the clinic’s social worker and/or the Human Trafficking Hotline. Those who do not wish to pursue assistance will be scheduled for a follow up visit, while being mindful of mandated reporting laws. To ensure anonymity and patient safety, the results of the screening will be documented into the medical record as “PEARR positive,” “PEARR negative,” or “PEARR deferred.”

Evaluation Plan: A quarterly report will evaluate the protocol’s frequency-of-use during the preceding 3 months. Regardless of whether or not the target goal of 25% screening is achieved, “check in” sessions will be scheduled with providers during clinic meetings to identify barriers to use, and to allow for open forums for questions and concerns regarding the tool.

Potential Impact: This protocol will allow residency clinics to identify and support victims of human trafficking, thereby reducing the burden of violence and improving the safety and wellbeing of their communities.

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Asthma Clinical Score Validation in Risk-Stratifying Asthma Pediatric Intensive Care Unit Admissions

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Idea: Identify which clinical and social variables may contribute to severe asthma admissions to the pediatric intensive care unit (PICU).

Need: Patients with asthma can often manage their conditions at home as an outpatient. However, occasionally patients require visits to the emergency department for significant acute respiratory distress and may require inpatient admission. Currently, there is much data discussing risk factors for admission to the hospital, and guidelines for inpatient management. However, there is little data that discusses risk factors for admission directly to the PICU. We know that there are many factors that play a role in the development of asthma (both clinical and social/environmental), and we hope to establish which of these factors significantly increase the risk of admission directly to the PICU. This information can serve an important role in helping to stratify patients in the future and develop a prediction model that can shape clinical management and distribution of resources to best manage status asthmaticus.

Methods: This will be a retrospective chart review. We will look at all patients who have been admitted to the PICU from 1/1/2010-12/16/2020. Using ICD-10 diagnosis codes for asthma-related diagnoses (including "asthma", "asthma exacerbation", and "status asthmaticus"), we will generate a list of eligible patients. We will then identify the most recent 200 patients that meet these diagnostic and admission criteria. We will be working with CHLA Information Security to ensure that all safeguards are in place to protect the data collected.

A data collection instrument has been created using REDCap. The collection instrument will look at various clinical factors including: demographic/descriptive information (age, gender, race/ethnicity, body mass index), medical history (asthma, prematurity, eczema, allergic rhinitis, food allergies), asthma history and parameters (severity, risk score, control scores, spirometry/pulmonary function tests), medication history (number and names of asthma medications, compliance, steroid exposure), exposure history (tobacco), labs (eosinophilia), and asthma hospitalization history (ED visits, PICU admissions, and hospitalizations in the prior 12 months). The data will be used to risk-stratify patients, validate various clinical variables, and create an Asthma Clinical Score to use as a prediction tool for asthma-related PICU admissions in the future. Patient information will be de-identified and encrypted to maintain patient confidentiality.

Evaluation Plan: Statistical analysis will be centered around identifying correlations between clinical and social variables and PICU admissions. T-test and ANOVA or Mann-Whitney U test and Kruskal-Wallis H test (depending on parametric versus non-parametric distribution of data) will be used to identify associations. We will use relative risk and odds ratios to create an Asthma Clinical Score model with the above validated clinical variables to create a prediction tool for risk-stratification for asthma PICU admissions.

Potential Impact: The results of this study can help to guide clinicians in the future regarding clinical and social variables and risk factors of patients with asthma for admission to the PICU. This will help serve an important role in generating an Asthma Clinical Score risk-stratification system and guide management and patient triage in the future.

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The Effects of Gentrification on Pediatric Asthma Outcomes

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Idea: Identify the role that gentrification and displacement play as social/environmental determinants of health (SEDoH) in asthma-related health outcomes.

Need: Asthma is one of the most common childhood diagnoses in the United States. While there is a strong genetic component to asthma, there is growing evidence that there are significant social and environmental determinants of health (SEDoH) that are associated with increased risk of developing asthma. Of these SEDoH, gentrification, displacement, and shifting community support structures are important factors to consider. Patients of color and of lower socioeconomic class are disproportionately affected by gentrification and may have worse health outcomes as a result. While there is some growing sociologic research on the distribution and effects of gentrification/displacement, there is no significant literature that highlights the health outcomes of individuals and communities affected by gentrification. This research study will aim to evaluate pediatric health outcomes (as measured by emergency visits and hospitalizations as a result of asthma) in patients affected by gentrification.

Methods: This will be a retrospective chart review. We will look at three groups of patients who had ED visits or hospital admissions for asthma or asthma-related outcomes for the following date ranges: January 1, 2010 to December 31, 2010; January 1, 2015 to December 31, 2015; and January 1, 2020 to December 31, 2020. We will identify patients in these three years who have had an ED visit or hospital admission with ICD9-/ICD-10 diagnosis codes for any asthma-related diagnoses (including "asthma", "asthma exacerbation", and "status asthmaticus").

From the chart we will extract patient demographics, specifically home address at time of admission, age, gender, race/ethnicity, and insurance status. Using the patient address, the extracted data will be enriched with publicly available social determinants of health data.

Patient addresses will be used to identify which census tracts patients originate from. The aggregate American Communities Survey (ACS) variables for each census tract will be pulled from the ACS website and compared between 2010, 2015, and 2020. Patient information will be de-identified and encrypted to maintain patient confidentiality.

Evaluation Plan: Once all the data is collected, statistical analysis will be run to identify correlations between patient demographics, clinical outcomes, and neighborhood characteristics as they pertain to gentrification. T-test and ANOVA or Mann-Whitney U test and Kruskal-Wallis H test (depending on parametric versus non-parametric distribution of data) will be used to identify associations. We will compare the results for 2010 vs. 2015 vs. 2020.

Potential Impact: This study can serve an important role in understanding how SEDoH of gentrification and displacement influence pediatric asthma-related outcomes. This work may also serve as important context when considering health and urban policy that may exacerbate gentrification and displacement in particularly vulnerable neighborhoods.

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Analysis of Quality of Life in Women with Endometriosis to Develop a Screening Survey Tool

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Idea: We hope to test a screening surveillance tool that may lower the time to diagnose endometriosis if incorporated by providers.

Need: Endometriosis is a debilitating disease that impacts the quality of life of the women who are affected. The time to diagnosis averages 8-12 years in developed countries and even longer in underdeveloped countries. Common reasons include lack of awareness, lack of clinically relevant biomarkers and the unspecific nature of symptoms, comprising the three branches of the “unhappy endometriosis triad”. Delayed diagnosis and, subsequently, delayed treatment leads to decreased quality of life in the long term. These women may experience chronic pain, psychological distress, marital and fertility issues, work loss, and economic hardships, which may lead to higher risk of opioid and other substance dependence.

Many women with endometriosis have several emergency visits and are left undiagnosed. Due to the vague nature of the presenting symptoms, endometriosis is often lower on differentials which delays a gynecologist consultation. By incorporating a screening surveillance tool that takes these factors into consideration, we plan to address the first branch of the “unhappy triad”, or lack of awareness, by educating emergency room physicians.

Methods: Our cross-sectional study will analyze the burden of endometriosis among the patients who come to ER or clinic with lower abdominal pain. We will analyze the workup, diagnosis, and treatment of 200 women who presented to the Emergency Room (ER) with abdominal, pelvic, or back pain. The participants will be stratified into two groups by analyzing medical records. During chart analysis, we will eliminate the patients who received accurate diagnosis and treatment for their pain, e.g. diverticulitis and appendicitis. The remaining patients will be stratified into having endometriosis vs not having a diagnosis. The first group is the control group which will be those given a clear cut diagnosis of endometriosis. The second group or test group was not given a diagnosis, but we have a high clinical suspicion of endometriosis. A questionnaire evaluating the participants’ quality of life, menstrual and fertility history will be conducted via telephone to both groups. We hypothesize that the test group will have a high grade on the scale, indicating poor quality of life and possible endometriosis. We will analyze the data collected from both groups. Further studies will be needed to validate this tool and hypothesis. But this current study could be a foundational stone.

The aim of this project is to test a screening survey-grading tool that will give practitioners a more educated likelihood of endometriosis and will be able to confidently refer such patients to gynecologists.

Evaluation Plan: We are currently pending IRB submission. Once approved by IRB, we will be able to stratify the patients into two groups by chart analysis and test the surveillance tool. The surveillance tool also has a simple grading system as well. The data will then be analysed using chi-square and Fisher’s exact test.

Potential Impact: This will contribute to our understanding of endometriosis and women’s quality of life due to delayed diagnosis. We will test a screening questionnaire-grading tool for women who present with pelvic pain with the hopes of eventually decreasing the time to diagnosis. We hope to raise endometriosis on the differential diagnoses for ER physicians.

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The Impact of Gap Years During Training on a Trainee's Self-Perceived Sense of Wellness

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Idea: Identify if resident physicians who take gap years in training have better wellness and decreased levels of burnout compared to those who do not.

Need: The culture of medicine had always been that physicians-in-training pursue through their training path continuously, going straight from high school to undergraduate college, to graduate medical school, directly to residency. However, in recent years, there has been a growing pattern that trainees take breaks at some point during their training. There are a variety of reasons trainees take time off, such as research and academic interest or for personal time, and there is suggestion that trainees who take more time off are overall more satisfied compared to their colleagues who don't take time off.

There is some existing data centered around gap years in European training years and in some other specialties in the United States. However, at this time there are no studies that evaluate how frequently pediatric residents take breaks in their training, the reasons why, and how it might contribute to their sense of wellness. The purpose of this study will be to ask pediatric residents about their training timeline and if they took any anticipated gap years or unanticipated time off, and to evaluate if this break in training contributes in any way to their self-perceived sense of wellness.

Methods: The data collection instrument has been generated on LimeSurvey that consists of a maximum of 32 questions, which should take 5-10 minutes to complete. There are some sections required of all respondents (ex: demographics) and others that are only required if they are applicable (i.e. respondents fill out questions about gap years only if they have taken any gap years). The majority of the survey is selecting from options, with some opportunities for free text. This survey will be distributed by the Association of Pediatric Program Directors (APPD) to all residents at participating pediatric residency programs across the country (~40 programs). We will send the survey out twice in a 3-month period to maximize data captured. Given that this is a cross-sectional study, we will not require any additional follow-up surveys.

Majority of the information collected in this survey will be demographic in nature (age, gender, race, ethnicity, location of medical school, location of residency program, residency program type, resident training level, and undergraduate college/major). We will ask all respondents questions about wellness and about burnout (obtained from the validated Perceived Stress Scale). Then, residents will be asked about any planned gap years or unanticipated time off, only if they had answered yes to taking either during their training. Anonymous responses will be sent back to the principal investigator at Children's Hospital Los Angeles (CHLA) for data analysis.

Evaluation Plan: Analysis will be centered on comparing the control group (residents who have not taken any time off in their training) to the experimental group (residents who have taken time off at any point) in terms of wellness outcomes. The primary analysis will be Chi-square comparisons to compare categorical values. Additionally, we may further analyze data using t-test and Mann-Whitney U test, as appropriate, and linear regression to identify if there is a quantitative difference within groups as well (e.g. do residents who have taken 3 years off have a better sense of wellness than residents who have taken 1 year off).

Secondary analysis will be focused on demographic subgroup analysis using similar methods to those described above. Additionally, multiple groups may be compared using Analysis of Variance (ANOVA) and Kruskal-Wallis H test, as appropriate. In order to best address confounding variables, we will use stratification and the Mantel-Haenszel estimator, or multivariate models (such as linear/logistic regression or analysis of covariance) as necessary in order to best address confounders and still identify statistically significant outcomes.

Potential Impact: We hypothesize that trainees who take training gap years have an overall better sense of wellness compared to their colleagues who do not. This survey and the results may provide valuable insight into how we can best guide trainees moving forward to promote wellness and prevent physician burnout.

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The Teaching Connection when Your Clinic is Your Classroom: Ethnography as an Innovation

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Idea: Enhancing distinctive teacher identity relationship with professional identity for clinical teachers in healthcare cultures.

Need: Across healthcare communities of practice, it is common for clinicians to teach with little or no teacher training. Furthermore, clinicians rarely identify themselves as teachers in their field (2). Therefore, little attention is paid to the question of teacher identity, which can be an important factor that underpins the quality and safety aspects of healthcare that are reliant upon the foundation of healthcare education provided by healthcare teachers. The sharp distinction between “professional identity” and “teacher identity” makes the context of healthcare a unique window onto the professional/teacher dichotomy of clinicians. Extensive social scientific research (3) has shown that the professional identities of clinicians are built up in their interactions with each other – in relatively cohesive and distinct “cultures”. Most research on clinical identity and teaching focuses on cognition, and occasionally behaviour, but rarely on how identity can manifest collectively as a culture.

Methods:

Objectives:

Describe the beliefs and experiences of the relationship between professional identity and teacher identity in terms of the cultures of different health professions.

Express aspects of teacher identity that have been identified as meaningful, manageable, and useful for achieving effective teaching outcomes.

The cognitive bias in the approach to identity demands an ethnographic approach, and this is the innovation of this study. Ethnography involves observation, among other methods, to understand shared meanings and beliefs among particular clinical professions. A stratified sample of 20 faculty and 20 University students on placement, across 5 health professions will be studied. Methods will include the collection of data by workplace observations of clinical teaching, semi-structured interviews, and reflective research “memos” for methodological insights.

Evaluation Plan: Thematic analysis for comparison and contrast of codes will deliver a plausible set of concepts that characterize the data.

Potential Impact: The research will inform the prospect of an enhanced “teacher identity” in health care professions. Findings may inform future qualitative studies featuring teacher identity in health professions education, and innovation in specific faculty development initiatives targeting teacher identity.

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Neural Network Analysis of Medical Student Personality, Gender, and Perspective Taking

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Problem Statement: Neural network analysis was a better predictive analysis over logistic regression for medical student's perspective taking from personality.

Rationale: Neural network analysis (NNA) is a powerful predictive alternative to regression analysis when there are non-linear relationships between measures or low statistical power.¹ NNA is an analytical tool inspired by the structure of the human brain which has great conceptual appeal and practical utility in healthcare educational studies when used to analyze human cognition and behavior.² The literature is sparse when using NNA to examine the impact of medical student personality and gender on perspective taking, a major component of empathy³ and further analysis is required.

The purpose of this study is to analyze the impact of medical student personality and gender on perspective taking using neural network analysis.

Methods: In 2017/18, 205 of 500 M1/M2 medical students (106 males/99 females) completed the Five-Factor Personality Measure (IPIP, 50 items, scale:1=very inaccurate/5=very accurate) and the Interpersonal Reactivity Index (28 items, scale:1=doesn't describe me well/5=describes me well) to measure perspective taking.

NNA generated predictive models of perspective taking from five factors of personality using a multilayer perceptron with two hidden layers. Dataset partition initiated at 70% training/30% testing. Binary logistic regression was used for comparison to NNA and dichotomous outcome scores as high/low were split along the median perspective taking scores. IBM® SPSS® 26.0 generated the statistical analysis. This research was IRB approved.

Results: Overall mean medical student perspective taking scores was 26.8 (4.7) with a median of 27.0. Female mean perspective taking scores (27.3 (4.6)) were higher ($p < 0.143$) than male scores (26.3 (4.8)).

Decreasing NNA importance scores of personality predictors: (Females) conscientiousness (0.45), agreeableness (0.37), neuroticism (0.08), extraversion (0.06), openness (0.04). (Males) agreeableness (0.40), extraversion (0.26), openness (0.22), neuroticism (0.08), conscientiousness (0.04). Successful prediction rate of training/testing for female students was 70%/71%; male students was 83%/59%.

Logistic regression (Females, Nagelkerke $R^2 = 0.3$, $p < 0.001$) yielded two statistically significant personality predictors: conscientiousness ($B = 0.18$), and agreeableness ($B = 0.11$). (Males, Nagelkerke $R^2 = 0.4$, $p < 0.001$) yielded one significant predictor: agreeableness ($B = 0.22$).

Potential Impact: Female medical student's perspective taking benefitted from greater conscientiousness due in part to taking obligations to others seriously. Male medical student's extraversion and openness increased perspective taking suggesting that enjoying human interactions and being enthusiastic, assertive, and gregarious helps empathize with others.

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Foundational and Need-Specific Faculty Development to Achieve and Maintain Quality Medical Education

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Problem Statement: Faculty development is a crucial determinant in maintaining the quality of an institution's educational program.

Rationale: Advances in medical education and the continuously evolving regulations for the accreditation of medical schools have made it vital for such institutions to build a team of skilled educators to achieve and maintain the required educational standards of excellence. To attain this goal, startup, and maintenance courses, addressing the principles of medical education and their applications, have been designed as general core knowledge sessions as well as individual faculty development programs.

Methods: The faculty development (FD) program being described is based on the following 10 sequential steps:

1. Conduction of a needs-assessment survey, keeping in mind the Institution's goals and culture. Eight different areas of concern were identified: curriculum development; teaching skills; assessment and evaluation; educational technology; scholarship; student affairs; issues of diversity and inclusion; administration, career, and professional issues.
2. Development of a Core FD program ("entry course") with goals and objectives that address the principles of medical education and fulfill the needs of the institution and faculty.
3. Application of the principles of adult learning and diversification of delivery methods of FD sessions in order to stimulate curiosity and thereby increase faculty participation.
4. Inclusion of hands-on workshop exercises as much as possible.
5. Encouragement of the participants to apply and deliver the acquired educational knowledge and skills in carrying out their role as faculty.
6. Evaluation of the effectiveness of the Core FD program.
7. Creation of thoughtfully targeted maintenance and individual FD programs.
8. Involvement of previously prepared faculty in the delivery of future FD sessions.
9. Evaluation of the effectiveness of the entire FD program (core/entry, maintenance, and individual FD).
10. Formulation of plans to address new/uncovered challenges in the delivery of future FD programs.

Results: The need assessment survey was crucial in guiding the planning of the entire FD program. The core sessions of the FD program addressed important areas that stood out from the needs assessment which included curriculum development and management including curriculum mapping; multifaceted learning pedagogies; assessment and evaluation modalities; and the design of scholarly activities. For individualized FD programs, experienced faculty members with specific areas of interest in medical education were identified as mentors. Monitoring and evaluating the application of the learned skills by participants, in their faculty-related activities, were found to strengthen the program and provide indicators to measure its effectiveness. Feedback sessions were important to address any potential challenge and to further refine the FD program.

Recognizing and utilizing the principles of adult learning in the organization and delivery of FD sessions were vital. Motivation was a key element to ensure faculty attendance and active participation. Establishing rapport with participant faculty through supportive, respectful, and friendly interactions enhanced the motivation to learn, change, and improve. Effective delivery of FD sessions required more emphasis on self-directed learning supported by sharing relevant experiences, as well as the organization of relevancy-oriented practical hands-on exercises.

Potential Impact: Continuous monitoring & evaluation of FD programs' effectiveness help to calibrate the need for further improvement while reinforcing the maintenance of learned knowledge & skills both for the present and the future. The application of such an organized, stepwise procedure allows for the implementation of a successful FD program in any institution.

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A Cross-Platform HIPAA-Compliant Customizable Case Logging Tool for Gastroenterology Fellows

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Problem Statement: Residents and fellows are required to keep track of their procedural experiences yet most case logging tools suffer usability or security limitations.

Rationale: This problem is especially relevant to gastroenterology (GI) fellows, most of whom perform over 1000 endoscopic procedures throughout their training, given the absence of a universally adopted specialty-specific case logging tool. The few commercially available alternatives are, unfortunately, plagued by serious usability issues, such as the inability to add modifiers to a procedure and limited compatibility with mobile devices, as well as major security concerns, including the transmission of unencrypted protected health information (PHI) to remote servers. We have, therefore, decided to undertake the momentous task of creating a new case logging tool purposely designed to help GI fellows keep an accurate account of their procedural experiences.

Methods: We started by conducting an online survey to identify the popular case logging tools used by GI fellows across the country and to assess their degree of satisfaction with the tools as well as their case logging compliances. We proceeded to construct an online case logging tool based on feedback gathered from a focus group. Our case logging tool, the GI Service Tracker (thegist.app), is fully encrypted and HIPAA-compliant, is highly customizable to suit various workflows, is thoroughly optimized for mobile devices, and is equipped with powerful analytics and reporting features. Finally, we invited current fellows from selected GI programs to review our case logging tool and to provide firsthand feedback based on real-world experiences.

Results: Of the 50 survey responders, 30% have been recording their procedures manually on an Excel spreadsheet while 10% have been relying on summary reports generated by an endoscopy documentation software, such as ProVation. The most popular online case logging tools were New Innovation (new-innov.com, 20%), AGA Procedure Log (gastro.org, 16%), and MedHub (medhub.com, 16%). Only 40% of fellows logged their procedures on the same day that they were performed and just 28% were confident that their procedure logs were accurate and complete. Most importantly, 64% of responders were dissatisfied or very dissatisfied with their current procedure logging tool. Features that were deemed most important by our focus group were mobile device access, exporting to Excel spreadsheet for archival purposes, and the ability to document interventions, such as injection, clips, or stents, deployed during a procedure. Feedback from fellows who evaluated our case logging tool was overwhelmingly positive and the majority felt that the tool can help improve their case logging compliances and accuracies.

Potential Impact: Our cross-platform HIPAA-compliant customizable case logging tool outperforms currently available alternatives and has the potential to become the leading tool for all GI fellows. Our tool can also be modified to suit residents and fellows in other procedure-heavy specialties, such as cardiology and interventional radiology.

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**Inpatient Pediatric Clerkship Experience on a Pediatric Surgery Team:
Medical Student Perspectives**

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Problem Statement: Learner saturation in inpatient pediatrics has led to medical students having decreased exposure to general pediatric patients and faculty.

Rationale: Learner saturation and increased faculty pressure to see more patients has led to decreased student exposure to attendings nationally [1]. In pediatrics, students have higher satisfaction with teaching and are more likely to choose pediatrics as a career when there are less learners on a team and they have more direct contact with attendings [1,2]. Specifically at Connecticut Children's, there has been a saturation of learners on our inpatient pediatric medical team, with a stagnate number of pediatric medical attendings, requiring ingenuity to provide an adequate inpatient pediatric experience for students from the Frank H. Netter MD School of Medicine at Quinnipiac University. To gain better understanding of this experience, we performed a qualitative analysis of this inpatient pediatric clerkship experience in order to inform curricular change. The ultimate goal was to improve the quality of pediatric education for all medical students at Netter, and beyond.

Methods: We performed a qualitative study using two focus groups with a semi-structured format comprised of medical students enrolled at Netter who completed their required third year inpatient pediatric rotation with the pediatric surgery team at the Hartford campus of Connecticut Children's in the 2018-2019 academic year. Students were recruited via email. Participation was voluntary and did not impact their pediatric clerkship grade. The focus groups were facilitated by a faculty member that was not directly involved in the grading of these students during their clerkship or any subsequent rotations or other activities within the medical school. Because of the COVID-19 pandemic, the second focus group was conducted remotely via Zoom. We also reviewed and coded anonymous student written evaluations (98 student evaluations with 263 individual comments) of the pediatric inpatient clerkship that were completed during the 2018-2019 academic year.

Data analysis was achieved by two independent reviewers immersing themselves in the data (for both the focus group and evaluation data) and using the constant comparative method to create a list of initial codes. A third investigator was used to resolve any discrepancies in coding. Similar analysis occurred with the written evaluations of the clerkship. The data for the focus groups and evaluations were analyzed separately with triangulation using grounded theory in order to better inform future curriculum development.

Results: The main themes that emerged from the focus group analysis were (1) feeling a lack of inclusion in the medical team and impact on professional identity formation, (2) the balance of self-directed versus proctored learning and (3) the difference in medical versus surgical preceptors and the experiences these different faculty and teams provide. More specifically, students expressed that being on the surgery team but rounding with a pediatrician did not always allow for them to feel part of the team or ownership for their patients, so their impression was they were not contributing to care of their patients.

Analysis of the evaluation data revealed similar themes around lack of inclusion in the medical team and differences among medical and surgical preceptors, but also brought to light additional elements regarding types of feedback and educational sessions that were or were not helpful. Specifically, they didn't always find sessions helpful that were targeted to pediatric residents, and that feedback on notes was generally useful, but that the content of feedback on presentations was not always beneficial. There were parts of the day of the surgical team work flow (i.e., sign-out and rounds) that the students did not feel were helpful as the students were not part of that process, or team.

Potential Impact: For institutions requiring involvement of non-medical based patients care teams for medicine based specialties, preserving the medical student role in the care team, to promote professional identity formation and continued emphasis on the content areas for the student's current clerkship are of utmost importance to a fruitful clerkship experience.

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Preliminary Survey of an Unconventional Hybrid Documentary Format for Medical Edutainment

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Problem Statement: The conceptual framework, design themes and technological specifics for medical edutainment videos require further development and research (1A,1B).

Rationale: Change and innovation in medical education hark back to the origins and birth of formal American medical training (1C). Recently, a primary change in medical education has been the transition from live teaching and lecture halls to the online venue. This transition has met with mixed reviews (1D), e.g. so-called 'digital fatigue' and the boredom that can result from watching taped lectures are common criticisms (2A, 2B).

Edutainment, the presentation of educational topics within an entertaining framework, has yet to enjoy substantial application within conventional medical didactics, but as medical education is further presented in the online forum, formats which aim to present a more engaging experience may effectively supplement conventional medical pedagogy (2C). Indeed, preliminary medical edutainment "reception research" has asserted that the introduction and use of different edutainment formats requires further investigation (1A).

Methods: The formats which may accommodate presentation of medical didactics in a novel and more engaging manner are presumably myriad. To evaluate whether a format prioritizing visual effects (VFX), music, and a double narrative (2D, 3A), might serve as an effective medium for presentation of neuropsychological concepts, participants were shown two versions of an unconventional documentary stratified by degree of documentary formatting (both videos were developed and produced by myself, partly during graduate studies at the University of the Arts, London). Relative to the first video ("Emotion's Brain SECTIONS"), the second video ("Brain Waves from Outer Space") involved a more explicit documentary format and additional neuroanatomical references. Both videos were designed to be engaging and relied on a double narrative structure, i.e. a primary didactic narrative presented the basic human emotions (3B), but this presentation occurred within the context of a secondary sci-fi gimmick narrative.

An online survey evaluating genre categorization and the video's unconventional use of VFX as a didactic tool was sent to 25-30 acquaintances (please see www.ual-vfx-student-study.weebly.com). A simple semiquantitative analysis (frequency ranking) involved identifying the most common response for each multiple choice question (MCQ) and secondarily, a qualitative verbatim documentation of the most notable responses was conducted for the open ended questions.

Results: Of the 19 survey responses [please see pg. 50-52 of <https://19003419-vfx.weebly.com/thesis.html> (3C)], only complete responses were used (n=14). In brief, the artistic and didactic effectiveness of the video was assessed by open-ended question #2.1. Ten of 14 responses were positive, three were mixed, and one was negative. Examples of positive responses included #1) "I really enjoyed the use of VFX and theme to portray the scientific aspects, thought it was a clever way to generate interest and learning", #2) "I thought the videos were very interesting. I've not seen learning tools designed like this before" and #3) "The visual effects were fantastic...Overall, the theme was strange, consistent, and forced me to stay glued to the screen, which impressed me." The negative response was "The graphics is terrible...I can't take your work seriously because I have been looking at so much professional material...". MCQs evaluating the capacity for the video's VFX to enhance education primarily revealed positive responses (7 for question 3.3; 6 for question 3.4). MCQs evaluating acquisition of emotion and neuroanatomy knowledge found most answering correctly (e.g. #3.2, 11/14 correct responses: #2.4, 11/14 correct responses). MCQs evaluating genre categorization (#2.2, #3.1, #4.1) primarily endorsed that the videos spanned a cluster of genres, - a hybrid of documentary, music video, etc. Only 4 responses implied that the documentary formatting was more apparent in video #2.

Potential Impact: This informal unblinded survey with a sample of 14 participants provides rudimentary evidence that a hybrid documentary format may hold relevance for innovations in medical education. Given the ongoing transition of medical education to the online forum, it may function well as a web-based “edutainment” supplement within a multimodal platform (3D).

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Breathing Life into Respiratory Physiology Team-Based Learning (TBL) Via Student-Built Devices

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Problem Statement: TBLs typically focus on the in-class activities, however pre-assignment changes can significantly improve student satisfaction and motivation.

Rationale: Team-based learning (TBL) activities increase active learning in medical education. However, student satisfaction and motivation for TBLs can be improved by making changes based on student feedback, and educational theories. Based on the 2020 student satisfaction survey feedback, three (3) TBL quality improvements were made to the pre-assignment materials in 2021 and grounded in the cognitive apprenticeship (1), Vygotsky ZPD, and experiential theories:

1. The material was better scaffolded with clear instructions and matched to course content,
2. Addition of hands-on activities to translate abstract concepts into concerted activities
3. Increased peer-peer teaching via reflection questions, and discussion board postings

These changes are affordable, and the devices are relatively easy to assemble and use. The impact of these TBL changes was assessed by student feedback surveys.

Methods: To address 2020 student feedback, the respiratory course TBLs underwent quality improvements in 2021 via a collaboration of students, engineers, basic scientists, and clinicians. The improvements focused on the pre-assignment converting abstract concepts via affordable, student-created devices, structured pre-reading with reflective questions, and peer-peer interaction via discussion boards. These changes were grounded in cognitive apprenticeship, experiential learning, and Vygotsky's ZPD theories.

The students in the engineering medicine respiratory course were surveyed in 2020 and 2021 [class sizes 25 and 34, (1)]. Student TBL satisfaction was assessed via a 5-point Likert scales survey with 26 questions probing seven categories including learning process, pre-assignment, team activity, orientation, course content, peer evaluation, and physical environment (24). The survey and data were administered and collected via Qualtrics in both 2020 and 2021. The number of students with a Likert score of 4 or higher is presented as % of respondents.

Additional feedback for the 2021 TBL quality improvements changes was obtained from course evaluations, as well as via responses to open-ended questions (3). The latter were from 4 research students involved in the 4 month project of creating the TBL devices. These research students also participated in the course after the project. The research student responses to the open-ended questions were manually coded.

Results: The pre-assignment reflection questions & discussion board allowed for peer-peer correction of misconceptions. 76% and 35% of the class completed the satisfaction surveys (2020 & 2021, n= 19 & 17). The 2021 TBL changes increased satisfaction in previously lower-scoring categories. Pre-assignment satisfaction increased from 59.21 to 96.67%, orientation from 57.89 to 80%, and course content from 63.16 to 84.88% comparing 2020 to 2021.

Comments from the survey instruments (course evaluation, satisfaction, and open-ended feedback) indicated that the changes promoted knowledge, comprehension, increased the perceived integration of

engineering and medicine, and increased intrinsic motivation to learn the content. Area of improvements included streamlining the TBL duration and delivery.

Sample students' comments include:

"(TBL) prework activities... were actually very fun, helpful, & allowed us to prepare ...for what we would be discussing (later)."

"I appreciated getting to learn with my teammates who are at similar states of learning as .. & .. are typically able to explain things to me better than experts in a field because they have a better understanding of where & why I am confused."

"Integrating engineering concepts into medicine drives students to learn medical concepts well enough to understand how technology ties into them, which is an effective motivator for deeper understanding."

Potential Impact: Significantly increased student TBL satisfaction & intrinsic motivation with simple & affordable changes. Converted abstract concepts to concrete examples with hands-on activities. Increased peer-peer teaching via the reflection questions, & discussion board posts. Improved educational activities guided by educational theories & student feedback

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Quick Response (QR) Codes to Facilitate Formative Feedback in Clinical Skills Course

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Problem Statement: The objective was to determine if feedback facilitated by QR codes leads to a perceived increase the amount and quality of feedback in a CS course.

Rationale: High quality feedback is imperative to promote lifelong learning, inspire goal setting, and improve medical students' knowledge and skills. Effective feedback is timely, specific, and based on direct observation of learner's performance. The Clinical Skills course (CS) at Wake Forest School of Medicine (WFSM) is a preclinical course consisting of longitudinal small-group instruction in communication, history taking, physical examination, clinical documentation, clinical reasoning, and oral presentation skills. The CS course is designed such that students receive verbal feedback from their coaches and peers during each class session. In order to improve the effectiveness of feedback delivered, we proposed that written documentation via Quick Response (QR) codes and compilation of feedback over time would increase opportunities for student self-reflection and longitudinal improvement.

Methods: The CS course consists of 26, 3.5 hour class sessions across the course (18 sessions in year 1; 8 sessions in year 2). Students have the opportunity to practice learned skills with both standardized patients and real inpatients under direct observation by faculty coaches. Individual QR codes were created and distributed to the 312 1st and 2nd year students enrolled at WFSM from July 2020 to April 2021. Both students and the 38 faculty coaches were instructed on QR code use prior to the first class session. Each QR code provides a unique link to the individual student's feedback form in RedCap, which is pre-populated with the student's name, multiple choice questions for core clinical skills, and a free text field for narrative comments. After submitting the form, students are emailed a copy of their feedback. The aggregated feedback for a student is stored in RedCap and accessible for faculty at the mid-year and end-of-year course meetings. We distributed a 6 question survey on the QR code feedback system to all students and faculty participating in the CS course during the 2020-2021 academic year. In addition, we emailed the faculty with the highest rates of QR code usage to request additional insights on their perspectives of the QR code system. Outcome measures of this study include: amount of feedback, perceived benefit of written feedback, and student/faculty reflection on implementation.

Results: The survey response rate was 18% (57/312) for students and 39% (15/38) for faculty. Quantity of feedback was reported as "rare," with 47% of faculty using the QR codes only 1-3 times per semester. Of faculty who used the QR codes, 53% used the summary reports for mid-year and end-of-year feedback meetings with their students. The most valuable elements of the QR code system to students were the ability to quickly receive documented feedback and ease of use of the tool. Faculty most appreciated the ability to review past feedback given to a particular student and the aggregate data available for review at the mid-year and end-of-year meetings. Overall, 72% of students and 53% of faculty reported that the QR codes did not change the quality of their feedback in comparison to the previous verbal feedback. Student responses were centered on the potential of the QR codes, as many did not receive feedback from this system.

Potential Impact: The QR code system provides an opportunity for specific feedback, but it requires willingness of faculty to complete it, streamlining of the form for ease of use, and education on best practices for QR code use. Limitations to this study included a low survey response rate, which could be due to timing of the survey, burnout, or limited interest.

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Perceptions of Academic Dishonesty and Cheating in PA Education

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Problem Statement: There are varying perspectives about cheating and academic dishonesty among Physician Assistant (PA) students and practicing PAs in the United States.

Rationale: PA and other medical educators are routinely faced with concerns over academic dishonesty and cheating. While many educators may agree on these issues, informal student and clinical peer feedback demonstrates that there are many different perspectives on what practices are ethically and morally acceptable in medical education and which practices are actually considered "cheating". Current literature suggests that a minority of students "cheat" during their medical education and that the cheating occurs in different forms. After discussions with peers and students of multiple age groups and a literature search, the authors of this study decided to survey PAs and PA students from varying backgrounds to further assess these perspectives and look for trends based upon age, student status and years practicing as a clinician.

Methods: After IRB approval was obtained by the St. John's University Human Subject Review Board, an anonymous quantitative survey via SurveyMonkey was distributed via email, Physician Assistant Education Association (PAEA) Professional Learning Community and posted on social media platforms between June 2020 and June 2021. Survey respondents accessed the questionnaire through a secure link and completed it online. The survey contained demographic questions, as well as their current standing as a PA student or the profession. The study sample size included 231 responses. Survey data were analyzed using descriptive statistics and cumulative logistic regression by the St. John's University Office of Assessment.

Results: There were 437 overall respondents with 231 respondents that completed a majority of the questions. 28% of them were 21-23 years old, 27% were 24-26 years old, 19% 27-30 years old, 10% 31-34 years old, 12% 35-44 years old. The remaining few were 18-20, 45-54 and 56-64 years, with no respondents greater than 65 years of age. 46% of respondents were NOT current PA students. Of those currently practicing PAs, 6% were PA educators and 13% reported being clinical PA student preceptors. The majority of individuals surveyed agreed that cheating in PA education is morally and ethically wrong (93%). 60% and 75% of respondents agreed that a person who cheated in PA school will be a less competent PA and a less trustworthy healthcare provider, respectively. 76% believed that cheating on an exam in a PA program will lead to poor patient outcomes in the future. Data revealed varying perspectives on what constitutes cheating. 71% of respondents strongly agreed that purchasing a test or paper from a previous student or online source is cheating. Only 42% strongly agreed that copying or using answers on a test from a free online source is cheating and 27% strongly agreed that using information about a test posted by previous students from a free online source is cheating. No respondents disagreed that looking at someone else's answers during an exam is cheating but 18% disagreed with the statement "working with other students when the work was meant to be individual is cheating."

Potential Impact: PA students and practicing PAs have many different views on how they define academic dishonesty and cheating. Educators must consider the wide variety of opinions when creating examinations and other high stakes assessments. Effective communication of expectations is critical in order to maintain consistency of student performance and behaviors.

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The Changing Landscape of Graduate Programs in Health Profession Education in North America

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Problem Statement: Health professions education program proliferation has made recruitment challenging for programs and program selection challenging for applicants.

Rationale: Graduate programs in health professions education (HPE) have proliferated rapidly since Tekian and Harris first compiled a census in 2012.¹ This surge in program establishment appears to correlate with increasing difficulty recruiting students in recent years. This study's primary objective is to examine and document the changing landscape of North American graduate programs in HPE. Secondary objectives were to provide insights that may help existing programs adapt to the changing landscape and potential students navigate the program selection process.

Methods: A descriptive study was designed to assess the current landscape of North American graduate programs in HPE in 2021 compared to the landscape as documented by Tekian and Harris in 2012. A current census was compiled by combining the original work published by Tekian and Harris and an update produced by the Foundation for Advancement of International Medical Education and Research (FAIMER) available online and last updated on December 22, 2020.² Google Search was queried with various combinations of the terms: health professions, education, graduate, degree, masters, certificate, diploma, doctorate, and PhD, but no additional programs were discovered. A single reviewer (MK) visited each program's website and extracted the following data: setting (e.g., in-person or remote), delivery (e.g., synchronous cohort, asynchronous), location, description, mission/objectives, recruits, degrees offered, units/credits required, length of study, tuition, date of establishment, date of dissolution, and program director contact information. Summary statistics were calculated and broken out by programs referenced by Tekian and Harris as a proxy for programs established prior to 2012 and by programs referenced by FAIMER as a proxy for programs established between 2012 and 2021. Regionality was described per Tekian and Harris' methods. Educational setting and mode of delivery were described using a combination of Tekian and Harris and FAIMER's methods.

Results: In 2012, Tekian and Harris identified 79 graduate programs in HPE with most based in Europe (35/79, 44.3%). North America lagged Europe with a total of 15 programs (15/79, 19.0%). Between 2012 and the publication of the FAIMER directory in 2020, the number of graduate programs in HPE grew to 141 globally. The number of American programs grew from 10 to 34 and Canadian programs grew from 5 to 10.

Among North American programs, we observed a significant change in course delivery (e.g., in-person only, remote only, and hybrid). In 2012, only 14.3% of the programs (2/14) were remote-only while 33.3% of the programs (14/42) in 2020 were remote-only. Though many programs did not explicitly state their mode of delivery, we were able to discern this information for more than half of the programs. Mode of delivery shifted in parallel to the changing landscape of educational setting. In 2012, most programs relied on synchronous instruction (5/14, 35.7%). In 2020, most programs relied on asynchronous instruction (15/44, 34.1%), up from only 1 program incorporating asynchronous delivery of content in 2012 (1/14, 7.1%). Seven of the new programs established since 2012 are entirely remote and asynchronous.

In parallel with the overall proliferation and development of HPE programs over the past eight years, the number of programs offering a certificate also expanded from five (5/14, 35.7%) to 18 (18/42, 42.9%) and a doctorate degree from 0 to five (5/42, 11.9%).

Potential Impact: Programs have adapted to match trends in higher education (e.g., remote or asynchronous curricula) while maintaining differentiators such as networking opportunities (e.g., cohorts,

occasional in-person activity).³ Yet, the publication of details critical to applicants (e.g., setting, delivery, tuition, value proposition) continues to vary widely.

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Revisiting How We Train All Health Care Students to Measure Blood Pressure Accurately

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Idea: Ensure every health care student within the U.S. is competently trained to consistently measure blood pressure (BP) accurately every time.

Need: Accurate BP measurement is an established performance gap among healthcare providers. Market research in this area shows that BP is not measured accurately on a consistent basis in clinical settings and inaccurate BP readings are linked to improper high BP diagnosis, treatment, and management. Current training efforts are one of the leading reasons for inaccurate readings. BP measurement knowledge and skills are often taught in the early phases of a students' training and rarely revisited. The training tends to be limited to textbook content and brief demonstrations. Additionally, some health care schools do not provide any training on self-measured blood pressure (SMBP), which is an important component of care for patients with hypertension.

Methods: The American Medical Association (AMA) set out to address the gaps in training by developing a guideline driven e-learning solution that can be adopted and implemented by all healthcare schools. The AMA's new Student BP Measurement Essentials Series consists of three modules. Module 1 is the foundational module and designed to be taken during the initial clinical skills training. The second module focuses on SMBP which can be taken later in school once students become more familiar with foundational BP care. The final module is the refresher module that can be taken before students begin clinical experiences and repeated as needed. As schools begin to adopt the modules, the AMA is collaborating with five health care schools across the nation to evaluate the impact of these modules. Specifically, UC Davis is using a train the trainer model where medical students will be training undergraduate students on accurate BP measurement at a student run clinic. University of North Carolina is working on a longitudinal and interprofessional implementation of the modules integrated into the Patient Centered Care Course. Keck School of Medicine is implementing and assessing the modules across the medical and PA student continuum. Alabama College of Osteopathic Medicine is also taking a longitudinal implementation and assessment approach throughout the medical school curriculum. Morehouse School of Medicine is integrating clinical skills training with an emphasis on BP measurement.

Evaluation Plan: Each school will:

- Track the utilization of the module series
- Collect student feedback post module completion to identify improvement areas
- Evaluate whether implementing the student modules impacts learners BP measurement skills and knowledge
- Identify what additional resources are needed to standardize BP measurement curricula

To evaluate the impact of the modules on student skills and knowledge, all five schools will utilize and tweak existing knowledge tests and skills assessment checklists and where possible, schools will utilize a pre-post study design. The skills assessment approach will likely mirror the BP Check Challenge conducted by the AMA and will focus on patient preparation, positioning, taking a manual measurement, and communicating and documenting the measurement.

To obtain student feedback, all five schools will collaborate to develop a survey instrument that will include questions on the usefulness of the module and help identify content areas that require further training or in-person instruction.

Potential Impact: Standardizing accurate BP measurement and making sure health care students across disciplines are comfortable measuring blood pressure is one of many steps that can help eliminate health disparities that exist for Hypertension.

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Lifelong Connections: Can Residents Help Patients Who Frequent the Emergency Room Access Primary Care

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Idea: Emergency room (ER) overutilization is common. Lifelong Medical Care Family Medicine residents work in multiple settings and can facilitate follow-up.

Need: Patient centered care through medical homes has been shown to decrease ER overutilization. Lifelong Medical Care residents complete 1 month of emergency medicine at Kaiser Permanente Richmond Medical Center (KP ED) in PGY1 and 1 month in PGY2. Residents have observed that uninsured and non-Kaiser patients are given follow-up instructions for local clinics but frequently return to the ER for care. Residents complete 2 months of inpatient medicine at Contra Costa Regional Medical Center (CCRMC) in PGY1 and 2 months in PGY2. Uninsured and undocumented patients admitted to the hospital are frequently unable to access follow-up care at the county clinics. These patients are covered for only one appointment after discharge. Creating a referral/follow-up system benefits patients who otherwise may be lost to follow-up and educates residents in systems-level thinking, care coordination and quality improvement.

Methods: At KP ED, residents identify non-Kaiser patients (average 3/shift) and give the patients written instructions for follow-up at our clinic. Using a smart phrase in the electronic medical records, directions for follow-up, eligibility, and establishing care are given. Residents also relay patient information to a dedicated clinic staff to schedule appointments and outreach. At CCRMC, residents identify uninsured patients (2-3/month) and then contact clinic staff to schedule appointments. In both cases, clinic staff proactively reach out to patients for care continuity.

Evaluation Plan: Data collection is ongoing and will include how many patients needing follow-up in our system have been identified, referred, scheduled, and attended appointments. This will be compared to referral rates prior to the start of the family medicine residency. Preliminary success rates have appeared higher when patients are given appointments before discharge from the hospital or ER. The personal connection of meeting a doctor from the clinic was felt to increase the likelihood of follow-up.

Potential Impact: Challenges with implementing this care coordination include identifying appropriate patients, contacting them, and determining if patients are uninsured. Future directions include understanding the scope of the need and then identifying the best protocol to ensure patients can follow up. This might include creating a direct referral system to Li

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Reducing Stigma Regarding Drug Use in Patients at a Family Medicine Clinic

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Idea: Implement education initiative for clinic staff to reduce stigma faced by patients who use drugs.

Need: Addiction is a chronic, relapsing, treatable disease. People who use intravenous drugs have 3-4 fold increase in premature death (1), increased rates of infection, chronic health problems, malnutrition, and tobacco use (2). However, people who use drugs are less likely to access healthcare for preventative or acute issues (3). Stigma is one of the most significant barriers to healthcare for people who use drugs (4). By identifying and improving stigmatizing attitudes and misperceptions held by clinic staff, we can help patients to feel more comfortable, motivated for positive health behavior change, and promote engagement with the healthcare system.

Methods: The Drugs and Drug Perception Questionnaire (DDPPQ) is a validated survey tool used to evaluate confidence and attitudes about working with people who use drugs (5). It includes 29 questions in 5 domains: role adequacy, role legitimacy, role support, role related self-esteem, and work satisfaction. By surveying staff and clinicians in each position in our clinic, we can evaluate areas of strength and opportunities for growth when caring for people who use drugs. Using these results, we will develop training to address areas of concern. After the training, the DDPPQ will be readministered to all staff and clinicians to evaluate change.

Evaluation Plan:

Stage 1: Pre-initiative DDPPQ survey of confidence and attitudes given to staff at every level

Stage 2: Create targeted education initiative based on identified needs, disseminate to staff

Stage 3: Post-initiative DDPPQ survey re-administered to staff to evaluate for improvements

Stage 4: If successful, expand evaluation and initiatives to other hospital departments and clinics

Potential Impact: The DDPPQ survey will increase our understanding of stigma toward people who use drugs. Developing initiatives that target stigma-reduction will improve patient experiences and outcomes

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Virtual Rotation: An Innovative Approach to Away Rotations for Medical Students

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UCSF Benioff Children's Hospital Oakland

Idea: Extending medical training for medical students into the virtual realm to reduce barriers that intentionally includes a near-peer educational approach.

Need: The past 18 months changed education and technical boundaries forever. With pandemic restrictions, many programs closed to visiting students and schools placed limits on the numbers of off-site electives for students. Concurrently, we recognize and seek to address the financial and social barriers that students face when seeking away rotations. For many, these rotations offer a critical opportunity to showcase their skills to residency programs of interest. However, as a program in the Bay Area, we know the cost of travel and housing to visit in-person disproportionately affects students with financial challenges. In our experience, rotating at our hospital unintendedly favors students with families close by or ties to the area. As our program deeply values the diversity and inclusion of our residents, it is important to us to reduce barriers within our control to provide education and experiences for all students interested in learning at our hospital. In addition, there is a national movement to address easing the transition to residency. By using faculty-led and resident-led education, we seek to provide opportunities for prospective residents to initiate mentorship, relationships, and experience prior to the start of residency

Methods: A 4-week virtual advocacy rotation will be developed and designed specifically for fourth year medical students that includes at least 8 half days of near peer educational sessions. In order to foster diversity and inclusion, the rotation will provide knowledge and skills-based training in our Culturally Humility framework that emphasizes the broader social, structural, and cultural influences that impact children's physical health. This framework was home-grown in our institution through the leadership of Dr. Melanie Tervalon and Dr. Jann Murray Garcia in the early 90s. Through this curriculum, pediatricians-in-training (aka residents) and medical students learn how to implement partnerships with the community to deliver authentically comprehensive care. Additionally, the rotation will be a mix of independent and virtual content that includes opportunities to engage with fellow students, residents, and faculty before and after independent study time. The rotation will utilize residents-as-teachers model to play to strengths of residents who have expert content in health systems science which medical education reform efforts have called for adding as a new pillar of study in medical education. Near-peer mentorship changes dynamics and can positively affect group vulnerability.

Evaluation Plan: Prior to implementation, we will develop an evaluation plan designed to measure the impact of our cool idea. Medical students will be surveyed via a web-based data collection platform after participating in the rotation regarding their knowledge and skill of advocacy and Cultural Humility prior to and after the rotation. They will be evaluated based on their participation in discussions, self-guided activities, and shadowing opportunities. Presenters including residents and faculty will also provide qualitative feedback to medical students individually. Similarly, we will examine medical students, residents, and mentor's perspective on the mentorship process, allowing for medical students to provide valuable feedback on our program's mission to promote diversity and inclusion, ability to engage in the community virtually, and potential to establish a resident-led curriculum. This feedback will be elicited via data driven Rapid Quality Improvement Cycles (RQCI) with the goal of continually assess what is working and what is not from MS4 students, residents, and Attending Physicians perspectives.

Potential Impact: The impact is greater equity among medical students doing away rotations; and increased opportunities for students to develop knowledge and skills in competencies that represent future health delivery such as advocacy and cultural humility, setting up excitement and expectations for these skills to be major curriculum components in residency.

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Targeting the Equitability of Medical School Admissions with Peer Application Consulting

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Problem Statement: We offered free student-led medical school application help as an alternative to paid consulting, which is often cost-prohibitive to applicants.

Rationale: Applying to medical school is a competitive and expensive process, requiring thousands of dollars in application fees and interview expenses in addition to academic and extracurricular excellence. Some applicants can pay hundreds or thousands more to third-party application consulting services for essay help and interview preparation, which disadvantages applicants from underserved and lower socioeconomic status backgrounds. University pre-professional advising offices, while free of charge, are often inundated with applicants each year and unable to offer personalized assistance. To overcome this disparity, Giving a Boost (GAB) was founded at the University of Pittsburgh School of Medicine to provide free individual peer support from medical students, helping applicants present their best selves to admissions committees at every stage of the process. Our objective is to provide evidence for the efficacy of medical student volunteers as a resource in admissions counseling.

Methods: Giving a Boost was established in February 2020. Over the 2020-2021 application cycle we matched over 100 applicants, consisting mostly of University of Pittsburgh undergraduates or recent alumni, with 75 volunteer medical student mentors. Mentors met with applicants throughout the year to provide feedback on personal statements and secondary essays, as well as mock interviews and letters of intent. Surveys were sent out in March and June of 2021 to both mentors and mentees to gauge acceptance rates and overall satisfaction with the program. In the 2021-2022 application cycle, we have continued serving a similar number of new applicants in addition to a few reapplicants from last cycle. Mentors have continued providing feedback at all stages of the application process, editing essays, and conducting mock interviews in both traditional and multiple mini-interview (MMI) formats.

Giving a Boost supported each cohort of applicants and mentors with various group workshops throughout the year. Applicants were invited to workshops focused on essay writing, personal statements, traditional and MMI interviewing, update letters, letters of intent, and reapplication. Mentors attended workshops pertaining to essay editing, mock interviewing and letters of intent. To mitigate the stress of the application cycle, GAB also provided well-being and mental health support with student volunteers that had been trained to address these needs.

Results: Both applicants and mentors demonstrated enthusiastic satisfaction with our program in the 2020-2021 cycle, with numerous applicants leaving overwhelmingly positive comments (rated 9.3/10 on willingness to recommend to others). Our surveys from March 2021 (n=38) and June 2021 (n=22) indicate that we significantly increased the number of applicants with offers of admission to at least one medical school at 65.8% ($p = 0.0029$) and 72.7% ($p = 0.0034$) compared to the national average of 42.8%. Further analysis of our March survey also showed that we increased the number of acceptances per student, with 68% of our applicants having more than one acceptance ($p = 0.030$) compared to the 53% reported by AAMC. Out of our initial cohort of 97 applicants, only 5 students reported working toward reapplication. Qualitative analyses of our mental health, reapplication and mock interview services are forthcoming.

Potential Impact: Our experience provides evidence for the efficacy of medical students as a resource for free medical school application support. Future work will encourage the expansion of this model to peer institutions as a method of targeting the socioeconomic barriers inherent in the medical school admissions process.

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Development of Civility Codes at the Minneapolis VA

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Problem Statement: Learner mistreatment is perpetrated by both staff and patients and is most often not disrupted in the moment by the targeted individual or bystanders.

Rationale: Based on a literature review, we believe some of the challenges with changing culture in the clinical and learning environments stem from a lack of general awareness about behaviors that constitute harassment. The second challenge stems from staff and learners' level of skill, confidence, and readiness to intervene in a meaningful manner. We plan to improve knowledge and sensitivity around the range of behaviors that constitute harassment and exclusion among our staff, trainees and patients. We further want to improve effectiveness of behaviors by staff and learners to lessen and disrupt harassment and increase the likelihood to act as an effective bystander. As a result, we hope to create a change in behavioral and cultural norms to promote a more inclusive environment for all.

Methods: We created and implemented the climate survey, which was sent to all health professions trainees (medical, nursing, associated health) that trained at our facility during the 2020-2021 academic year. The main intent of the survey was to capture various types of harassment behavior, their frequency and perceived impact on trainees. We also wanted to explore barriers to reporting and trainee attitudes toward the importance of inclusion in the learning environment. We used the data to identify themes to use in the development of standardized scenarios which will be used to develop mock civility codes (akin to a mock code blue) within the institution. During civility codes we will deploy standardized actors, with skill-sets to enact the problem behavior in the clinical environment and subsequently debrief bystanders (clinicians and learners) on the possible interventions that could have taken place. We plan to perform these codes within the hospital regularly across all the different clinical environments for a period of 2 years and continue to survey learners every year to determine the effects of our intervention. The codes will be a valuable addition to more traditional training modalities (bystander intervention training workshops, discussions on rounds, formal reading, etc.) as they will occur in-situ, embedded in the clinical environment, conducted in an inter-professional manner, targeted to high-risk areas, and require only 10-15 minutes of time.

Results: Survey responses identified that the main source of learner mistreatment were patients. Among the 159 responders, learners reported hearing disparaging and insensitive remarks about a person's race (66%), gender (41%), sexual orientation (33%) and body shape or physical abilities (25%), and mental health (23%) originating from patients at least once during the academic year. 16 % of responders also felt humiliated or shamed by patients at some point in the year. 29% of surveyed participants reported having experienced sexual harassment by patients at least once in a year. Between 64% and 73% of trainees reported the mistreatment having some degree impact on learning and skill development, ability to provide high quality care, confidence, desire to work at the VA, and likelihood to recommend VA as a training or worksite. The highest effect was seen in the desire and likelihood to work at the Minneapolis VA where 26% reported a very significant impact of experiencing or witnessing mistreatment. The events are under-reported due to not thinking the incident was severe enough or the learner did not believe that anything would change because of reporting. Additionally, some simply did not have energy to report. Over 56% of people stated they will definitely or probably not report incidents through the systems formal reporting structure.

Potential Impact: We identified areas of focus for development of civility code. While training in improving bystander capabilities exists, it is often a one-time intervention and not systematically rolled out to all health professions trainees or targeted to high-risk learning environments. We propose that mock civility codes will have institutional impact.

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The Impact of an X+Y Schedule Model on Neurology Residency Training

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Problem Statement: Within the current landscape of Neurology training, there is a need for earlier outpatient exposure, and modifications to reduce trainee burnout.

Rationale: There is a need for earlier outpatient exposure in neurology training. In 2017, 90% of residents on the American Academy of Neurology Graduating Resident Survey reported that they would be pursuing a fellowship after residency. However, 54% felt the fellowship process started too early; and 46% did not feel they had adequate outpatient exposure prior to making a fellowship decision (1).

Currently, the majority of United States neurology residencies place an emphasis on inpatient training during the Post-Graduate Year 2 year (2). This is especially striking given the ongoing accelerated timeline for fellowship applications during residency.

Previous work by the AAN has also identified a high rate of burnout amongst Neurology trainees. 73% of 212 neurology residents surveyed in 2016 described at least one symptom of burnout. On pooled analysis of all residents surveyed, the characteristics most closely associated with a lower burnout risk were work-life balance and meaning in work.

Methods: We created an X+Y model within the UCLA Neurology residency program for 2020-2021, with the hypothesis that handoffs would diminish; work hours would improve; resident satisfaction of inpatient and outpatient care, markers of well-being, and fellowship decision-making would increase; and resident in-training examination (RITE) scores.

Work hours, handoffs, and number of clinic days were compared across each year via analysis of the resident schedule. Variables were analyzed by unpaired t-test. Resident perceptions were obtained via an online Learners Perception survey at the end of the PGY-2 year for both the pre-intervention and post-intervention classes. The survey was divided into 3 sections: the first assessing outpatient experience, the second assessing inpatient experience, and the third assessing readiness for fellowship. Specific questions were marked for a subgroup analysis assessing trainee well-being, based upon the criteria identified to be significantly associated with burnout and career satisfaction in the 2016 AAN trainee survey.

Resident In-Training Examination scores were compared across a variety of subspecialties. We utilized the 2020 and 2021 RITE program result reports to compare performance in each year by subspecialty based upon the additional rotations introduced through the X+Y model. Results were tested for significance via 2-tail Z-test for comparison of proportions with the assumption of a normal distribution nationally for the RITE exam.

Results: In the post-intervention year, handoffs were reduced by 6.13 (95% CI 4.73-7.54) per week. Average clinic half-days increased by 4.51 (95% CI 7.76-0.53). Resident responses regarding their outpatient experience improved from 42% to 93% positive responses and from 60% to 94% for their inpatient experience. There was no difference in average work hours per week before and after the intervention. Regarding resident well-being, responses improved from 42% positive in the traditional model to 96% in the X+Y model. Amongst the RITE subjects covering primarily outpatient subspecialties, scores improved in each category, with no statistically significant difference across inpatient subspecialties. 60% of respondents in the 2020-2021 class reported higher levels of confidence in making a fellowship decision compared with 0% in the 2019-2020 class.

Potential Impact: The X + Y model reduced burnout and inpatient handoffs while improving outpatient exposure, learning and career satisfaction, and resident education on subspecialty topics.

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Simplifying Safeguarding Month – A Dedicated Programme in the Emergency Department

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Problem Statement: Use of a themed educational programme to identify staff concerns and improve clinical practice regarding delivery of safeguarding.

Rationale: Safeguarding needs have increased significantly over the last year and this is expected to continue¹. According to the Office for National Statistics, 2.3 million adults experienced domestic abuse in the year ending March 2020 with a 7% increase in police recorded domestic abused-related offences between March and June 2020 during the COVID-19 pandemic². With the Emergency Department (ED) often being the first and only contact vulnerable children and adults have with safeguarding procedures, it has placed a greater importance on the ability of staff to deliver the appropriate services within an already high-pressured environment. Most ED staff acknowledged the importance of safeguarding but perceive the practice to be difficult and confusing. “Simplifying Safeguarding month” was employed as a way to not only encourage open and honest discussions around how to improve the provision of adequate safeguarding services in the GWH ED, but also to enhance staff learning experiences.

Methods: A programme was devised by a team consisting of ED consultants, safeguarding leads, senior and educational nurses to run over June 2021, dubbed “Simplifying Safeguarding month”. The aim of the programme was to improve general knowledge and practice of local safeguarding procedures in ED. Information was delivered in various formats including formal teaching sessions for nursing staff including talks from police and the Sexual Assault Referral Centres (SARC). Doctors were formally taught in the form of case-based discussions and informal teaching occurred during daily handovers with a specific weekly topic. Focused, multidisciplinary “Tea trolley” sessions were held by allocating a few staff members during their breaks to discuss relevant safeguarding topics. Further information on various topics such as domestic abuse, vulnerable adults, referral methods and county lines were displayed in the form of posters on staff toilet door, aptly deemed “bogBlog”. Social media platforms were also utilised to share information and guidance on safeguarding cases. All topics taught and resources used during teaching sessions or posted through social media were shared with all other members of staff through direct trust-specified e-mails. Various members of the adult safeguarding team, an Independent Domestic Violence Advisors (IDVA), and the Learning Disability nurse were invited to be on-site in the department to facilitate face-to-face discussions with staff and provide further guidance.

Results: 45 members of staff were surveyed before the programme and the findings compared to 40 staff members after the “Simplifying Safeguarding month”. These established shared attitudes and concerns towards safeguarding procedures amongst ED staff who saw them as “important” and “necessary”, but “time-consuming” and “confusing”. The initial survey suggested that not all staff were up to date with their level 3 safeguarding competencies and those who were, reported that they still did not feel confident in their delivery.

Common concerns amongst staff were regarding the adequacy of training and support available as well as the complexities of having to complete multiple forms and referral systems involved in safeguarding provision. This included difficulty navigating a complex system made up of a multitude of acronyms and area-specific proformas of which none appear to be available through a unified platform. 100% of staff surveyed following the “Simplifying Safeguarding month” reported that they had received safeguarding information or learnt something about safeguarding procedures from one or more of the planned delivery methods. All staff reported an overall improvement in their confidence regarding knowledge and the processes involved in providing essential safeguarding.

Potential Impact: This programme has led to ongoing processes to rectify the highlighted issues, including improvement of resource availability and provision of dedicated safeguarding support staff in

the department. It has also demonstrated the positive effect of diverse methods of information provision under a dedicated umbrella theme in a clinical setting.

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Use of Case Demographics Tool to Reduce Bias and Increase Inclusion in Clinical Skills Education

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Problem Statement: Underrepresented minorities continue to be subjected to microaggressions in treatment and practice; our patient profile tracker aims to mitigate bias.

Rationale: At Kaiser Permanente Bernard J Tyson School of Medicine (KPSOM), we have taken a systemic approach by providing ongoing faculty development on equity, inclusion, and diversity (EID) in medical education, curriculum design and implementation, and developing cross-departmental tools, resources, and processes to support faculty curriculum writers. This strategy not only furthers our school's mission, but also improves the school learning environment, ensuring students experience content that is both representative of the diversity of patients they will encounter, and is also inclusive of their own diversity.

Our comprehensive patient tracker, detailing health and social characteristics of our mock patients, has held us accountable to our EID goals and laid the groundwork for the inclusion of these profiles in our electronic health record, ensuring continued representation (while guarding against stereotyping) in later stages of the curriculum.

Methods: Our internally developed patient narrative tracking system identifies and monitors the representation of key case demographic information. This includes, but is not limited to, race, ethnicity, ancestry, gender identity, sexual orientation, socioeconomic status, education level, neighborhood address, and immigration status.

Specifically, the patient profile tracker was created to track the demographic makeup of patient profiles within the Phase 1 case-based curriculum. All patient profiles created by faculty members, including their demographics, were added into the tracker (N=34). Demographics of patient profiles were then reviewed and cross-referenced by American Community Survey (ACS) data provided by the U.S. Census Bureau, as well as the L.A. County Department of Public Health. Descriptive data were collected, and trend analysis was conducted within Excel to compare patient profile demographic percentages to the population percentages of L.A. County. Race and ethnicity data were primarily captured and recorded for the initial review. By the time the curriculum was launched, revisions to the total number of case-based narratives (N=30) as well as racial and ethnic identities for patient profiles were completed.

Results: Upon initial review, White non-Hispanic identity was the predominant racial/ethnic identity represented within the curriculum (35%) across available patient profile demographics. Latinx/Hispanic ethnic identity was largely underrepresented within the curriculum across all racial groups (12%). Asian and Pacific Islander representation was overall comparable to L.A. County demographics (15%), while Black representation was greater in comparison to county population (26%). 9% of patient profiles had not been provided a race or ethnicity.

After recommendations from our EID team, patient profiles were modified to better match local community representation. After revision, Latinx/Hispanic ethnic identity was increased across both non-White and White racial identities (43%). White racial identity was reduced (27%), and increased representation was made for Asian and Pacific Islander patients (23%). Native American and Alaska Native representation with the patient profiles remained constant from review to revision (3%), as well as Black representation.

To continue this work, this fall we will conduct a survey of our students to determine effects on the learning environment, the alignment of the diversity of curricular content with that of the patients in our health care system, and the contribution of these efforts to the school's mission, vision, and values.

Potential Impact: The preliminary data have shown that tools like our patient tracker help to hold us accountable to the enacting the school's diversity and inclusion mission. Going forward, we plan to use the data as a springboard and to develop truly inclusive learning experiences.

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Longitudinal Coaching Program to Optimize Outpatient Training for Pediatric Residents
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Idea: Revamp coaching program to enhance pediatric resident outpatient experience and professional growth while supporting faculty development.

Need: Nationally, residency programs are attempting to enhance the impact of longitudinal competency-based education through coaching (1,2). Coaching's unique style guides learners through thought-provoking questioning to help them achieve their goals. Successful resident coaching includes clinical skill development, reflective practice, feedback, goal setting, and improved learner assessment (2). At Children's Hospital Los Angeles pediatric residency, our coaching program has been identified as a priority improvement area by our Education Committee. This faculty and resident team recognizes the limited knowledge and utilization of our program. Coaching can also increase faculty burden, job dissatisfaction, and burnout (3). When revamped, our CHLA coaching system will be grounded in conceptual and educational frameworks with appropriate faculty support. It will be integrated into the outpatient curriculum where residents have the most continuity across residency. The longitudinal nature will allow trainees to gradually progress in their goals and clinical skills, regardless of specialty choice. Coaching in this setting will build a skillset that learners can continue to turn to for self-improvement at all stages of their career.

Methods: We are completing a systematic literature review to understand current medical education coaching programs. We are developing quantitative surveys and qualitative interviews of general pediatrics faculty and 109 pediatric residents using validated, published instruments to understand past experiences and identify future participant needs. This ensures a formative evaluation for improvement and will enhance resident and faculty program engagement. Using educational theory, published coaching models and local data, we will write coaching expectations, competencies, and guides using conceptual frameworks of reflective practice, self-determination theory and lifelong learning and goal setting (2). We will implement a formal tool for resident learning plans, tailored to our unique learning experiences. We will establish a central system to schedule quarterly coaching meetings. For increasing resident awareness and knowledge of the program, we will present at their educational conferences. We will also develop a 3-part coaching series for faculty development. Follow up sessions will allow for further improvement of our coaching system. We plan to create resident and faculty end-of-year feedback forms using previously published goals and objectives for use in local program evaluation and formal resident evaluation such as clinical competency committees. We will provide detailed descriptions of coaching roles for use on annual faculty review, enhancing academic scholarly activity.

Evaluation Plan: We will use the Nyquist Integrated Model of program evaluation tailored to our program's needs. Accountability will be assessed through a checklist of activities to ensure program implementation according to the initial program plan. We will also review data from annual resident evaluations and coaching session. To evaluate learner reaction, residents and faculty will be evaluated using quantitative surveys and qualitative focus groups. To evaluate resident learning, we will use resident surveys in knowledge, skills and attitudes at the end of each academic year. Faculty learning at faculty development sessions will also be assessed. To evaluate behavior change, residents will be assessed by faculty at the end of each coaching session. We will also compare data from our direct observation sessions over time. Preliminary data will be reviewed every year with residents and faculty and final evaluation will be completed after three years of data. This will allow us to longitudinally review one complete resident class.

Potential Impact: Our coaching program will develop self-reflective, effective pediatricians. We hope to overcome obstacles identified in other programs, particularly with faculty preparation to enhance

professional identity and reduce burnout. We hope to create an adaptable program for other residencies that can be tailored to enhance their own growth areas.

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“The Secret Ingredient”: Making Mentorship Available to Residents

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HonorHealth Academic Affairs

Idea: Create a system which promotes visibility of, and access to, successful mentorship for internal medicine residents in their fields of choice.

Need: Mentorship in medical training is an invaluable but underutilized resource. It has been shown to increase career satisfaction, impact choice of specialty, and improve board passing rates. It also provides opportunities for professional stimulation, rejuvenation, and professional growth for the mentor. [1] Despite these benefits, mentorship has been shown to be significantly underutilized in medical trainees. Studies cite only 1/3 of residents having participated in formal mentoring programs. [2] Furthermore, formal mentorship programs with assigned mentors can lead to resident dissatisfaction compared with informal self-directed mentorship programs. [3] We hypothesized that in our Internal Medicine residency program, the mentorship underutilization was due to barriers of low visibility (not considering the need for mentorship), difficulty with access (not knowing who to ask for mentorship or how to connect with them), and lack of readiness for the mentorship/mentee relationship, on the part of both the resident and the faculty members. Our goal was to create a system that both addressed these barriers and preserved the freedom of an informal self-directed mentorship program.

Methods: In an effort to test our hypothesis, we approached our faculty members in every specialty and sub-specialty of our program and asked if they would be open to mentoring residents with potential interest in their respective fields. If the faculty member confirmed their willingness and ability to commit to mentorship, we labeled them as “available mentors”, and comprised a list of their specialties, credentials, academic interests, and contact information. We then published this information to our residency library website on a dedicated “Available Mentors” webpage.

We distributed this information to the residents both in person at our Academic Half-Day, as well as by email. We showed them where to find the website, and verbally discussed the importance of mentorship. We also discussed self-motivation in building the mentor-mentee relationship and gave suggestions for achieving maximum benefit from it. It was then up to the resident to access the website if desired, initiate contact with an “available mentor”, and structure their mentorship as both the mentor and mentee saw fit.

Evaluation Plan: We believe that post-graduate surveys over several years will be the best approach. This will allow us to include graduated senior residents who can discuss the impact of this informal, improved-access, self-directed mentorship program on their various career goals.

Potential Impact: As we continue to emphasize the importance of quality mentorship and improve access to it, we believe that we will increase resident career success and satisfaction; as well as add a professionally enriching element to both mentor and mentee.

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WE WILL: Making Mentorship Virtual

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Idea: Identify the benefits and challenges of virtual mentorship for female-identifying students by comparing the same annual mentorship event across years.

Need: Despite more women entering medicine, the number of women holding leadership positions remains low [1]. Targeted mentorship of women has successfully addressed barriers to professional development: one systematic review of mentorship programs for women in academic medicine found that implementation of such programs led to high satisfaction rates, along with increased recruitment and retention of female faculty [2]. However, the COVID-19 pandemic forced a shift in how medical education is implemented—with potentially detrimental effects on preexisting mentorship models. While one medical school reported success in moving career counseling programs online, data on the effectiveness of virtual, compared to face-to-face, mentorship remains inconclusive [3]. Further investigation of virtual mentorship, particularly for female medical students, is necessary. We sought to fill this need by translating an annual mentorship event for women in medicine at our medical school into a virtual format and assessing its impact compared to prior in-person iterations.

Methods: WE WILL (Women Empowering Women In Leadership) was created to support female-identifying medical students in pursuing leadership positions in medicine. This pursuit begins with fostering community among female-identifying physicians, faculty, and trainees at our academic institution, the University of Utah. We have multiple annual events, with the focal point being the Spring Mentorship event. At this event, medical students at every stage, including pre-meds, are provided the opportunity to interact in small groups with several female-identifying physicians and trainees to discuss pressing topics. Conversations range from pursuing academic careers, navigating motherhood in medicine, and identifying mentors.

The annual Spring Mentorship event is traditionally held in-person, allowing for ample opportunity to network and identify mentors organically. Following the last in-person event in 2019, feedback was solicited from both faculty and students. In 2021, the Spring Event Mentorship event was held virtually due to precautions surrounding the COVID-19 pandemic. In this year's feedback, we solicited opinions regarding the virtual nature of the event compared to years past. Specifically, we were interested in the difference between students and faculty in preferring a virtual format. We also compared the most frequent pieces of feedback, both benefits, and drawbacks, between the in-person and virtual events.

Evaluation Plan: 1) Accountability: After each mentorship event, feedback is solicited using an electronic survey sent to all attendees. The efficacy of a virtual format compared to an in-person format will be assessed by surveying attendee satisfaction across years, paying careful attention to feedback from repeat attendees. 2) Reaction: Preliminary findings suggest that faculty tend to prefer the ease of virtual events, while students strongly prefer the in-person mentorship event. 3) Learning: The feedback from the planned 2022 in-person event will be compared to 2021 and 2019 to evaluate the potential impact of virtual mentorship on mentees and mentors in a pandemic-adapted setting. 4) Behavior: Identifying mentors requires an element of in-person interaction that can be difficult to achieve virtually. Feedback following the shift back to in-person events in 2022 following an abrupt virtual transition in 2020 will allow us to combine the benefits of both types of programming for optimal mentorship to female-identifying medical students.

Potential Impact: Understanding the impact of virtual mentorship on female students will help improve programming to improve professional development for women in medicine.

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Using Peer-To-Peer Induction to Improve Confidence among Junior Members of the Surgical Team

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Problem Statement: Every four months, Junior Doctor's in the UK rotate departments, taking with them months of experience working in a department.

Rationale: Foundation Year 1 (FY1) training – the NHS equivalent of Internship - consists of three four-month hospital-based rotations (1). Switching to a surgical rotation is a daunting prospect for a newly qualified doctor, with early starts, fast-paced rounds and ever-changing patient load presenting different challenges to other departments.

FY1 Doctors become more efficient with time and experience in a rotation. However, without a peer-to-peer induction system, this experience is lost overnight as trainees change rotations. New trainees will start the job with no experience of doing it before, but the demands remain the same.

Prior to the implementation of this induction package, King's Mill Hospital General Surgery Department relied solely on an induction session led by a Consultant Surgeon (the NHS equivalent of an Attending). The benefits of peer-led teaching are well evidenced, as are the benefit of interactive over passive learning in a clinical setting (2).

Methods: FY1s and consultants worked together to identify focus areas for the induction presentations. The first outgoing FY1 of the year were consulted for experience-learned advice to pass on to incoming FY1s. A presentation-based induction was created for the December 2020 changeover.

Pre-induction and post-induction surveys were used to assess the effect of the induction presentation on incoming trainee confidence, as well as to identify areas for improvement in future. After presenting these results to the department, relevant changes were made, and an improved induction presentation delivered for the April 2021 changeover.

Survey data and feedback from these induction presentations was compiled to produce an interactive e-learning induction that could be accessed at any time. This was rolled out for the newly-qualified FY1s in August 2021, who would be starting their first jobs. Again surveys were used to assess trainee's confidence versus previous cycles.

Results: Eleven focus areas were identified for the first induction presentation, this was increased to twelve for the April induction before being altered again to eleven focus areas for the e-learning package.

The December and April induction presentations both led to a complete reduction in trainees rating themselves overall 'not so confident' or 'not confident at all' to start the General Surgery rotation.

Four of the six focus areas targeted for improvement showed increased improvement in confidence in April versus December, with the other two areas showing similar levels of increased confidence after the induction presentation.

The August e-learning induction showed a 71% increase in newly-qualified FY1s rating themselves as overall 'confident' or 'very confident', an improvement on both of the previous induction presentations. 'Confident' and 'very confident' ratings for focused areas increased by 62% on average, versus 37% and 27% in December and April respectively.

Potential Impact: Combining the evidence-based methods of peer-led teaching and interactive e-learning resulted in a replicable, cost-effective and time-efficient template for improving confidence and continuity of care in the changeover period, that could be implemented in any hospital department.

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**Mentorship And Leadership Development for Healthcare Students
in an International Online Course**

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Problem Statement: Travel restrictions due to COVID-19 have limited opportunities for international interactions for students wishing to learn about global healthcare.

Rationale: In Summer 2021, the USC School of Pharmacy offered a virtual International Student Summer Program (ISSP) for undergraduates enrolled at overseas partner institutions. Participation in international experiences permits development of cultural awareness and self-perceived growth (1), and these experiences can have innovative effects in international leadership (2). The study-abroad experience brings students from diverse cultures together (2) and such experiences were included in the ISSP through recruitment of professional Pharmacy (PharmD) students to serve as course assistants. The assistants developed mentorship and leadership experience by preparing content, guiding learning, and anticipating and overcoming technological and communication challenges caused by country restrictions, language, and cultural barriers. These activities contribute to improvement of global health as a goal in education of healthcare students and future healthcare professionals (3).

Methods: The 2021 ISSP enrolled about 170 international students from 9 countries in a two-week online program. There were 20 course assistants from PharmD and Masters programs, and one additional course assistant with greater teaching experience who served as the assistant coordinator. Leadership and mentorship opportunities were centered on facilitation of discussions and reinforcement of learning within an assigned group of 10 students. The course assistants also provided feedback to the group by evaluating their daily progress and making sure that deadlines were met. These activities developed leadership and communication skills in an international setting. Additionally, course assistants were available to assist students on the weekend and outside of class via email, group chat, and Zoom meetings. These activities gave a unique opportunity to the assistants to coordinate a group and adjust the educational approach based on the needs of the group. This included making course content accessible to students with an English language barrier to ensure that all students had a positive learning experience. This was particularly challenging because the course included four areas within the pharmacy profession: clinical pharmacy, pharmacology, regulatory sciences, and health economics. The course assistants were also responsible for formative evaluation of the group in each session and submission of a formal evaluation of each student at the end of the course.

Results: The program provided a unique international and interactive environment for the course assistants. This included the challenge of fostering integration of the four areas of pharmacy into an active learning format in each course session. In a post-class survey (response rate 17/20, 85%), 14/17 assistants (82%) indicated that they would choose to be a course assistant again in a similar course; 16 (94%) believed that the course had improved their cross-cultural communication skills; 14 (82%) had deepened their knowledge about careers open to pharmacy students in other countries; 15 (88%) had greater confidence working within diverse teams; 16 (94%) believed that they had further developed their leadership skills; and 14 (82%) felt that they had learned more about different areas in the pharmacy field. A summative evaluation of each student by course assistants using a numerical scale based on participation, contribution, and attendance was consistent with the peer evaluations of the students of each of their team members. This indicated the integration of the assistants into the group dynamics as a bridge between the students and the course faculty.

Potential Impact: The ISSP facilitated development of leadership, mentorship and communication skills for course assistants in managing a group of international students. The success of inclusion of

advanced students as facilitators in the course provides a model for implementation of online education and incorporation of global experiences into student learning.

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Asynchronous Online Education of Genomics of Kidney Disease and Effect on Clinical Practice

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Idea: Develop a curriculum on genomics of kidney disease and assess the impact of live virtual sessions on retention and translation into clinical practice.

Need: Studies have shown that multimodality delivery of information is more positively received by participants than one modality alone with increased likelihood of positive impact on clinical decision making.¹⁻² With respect to virtual learning, several studies have shown equivocal outcome (based on qualitative surveys on attitudes and perceptions) between virtual based learning modules and in-person small group learning.³ There is limited data on the added benefit of virtual live small group sessions when added to a multi-modality virtual curriculum in knowledge acquisition and promoting the use of knowledge in clinical practice. To our knowledge, this is the first multi-modality virtual learning curriculum to integrate genetic information into clinical practice in the field of Nephrology at Mayo Clinic. The virtual curriculum will allow for increased flexibility of viewership, ability to view multiple times, and to present to multiple audiences over time. We seek to identify if the addition of live facilitated small group discussion to a recorded webinar series and interactive online model will have similar outcomes.

Methods: This study proposes a prospective randomized study of nephrology trainees, allied health staff, and physicians who practice at any Mayo Clinic location. The study will consist of one cohort randomly divided into a control and intervention group. Participants in the control group will have access to the webinar series and the interactive online module. Participants in the intervention group will have access to the same online material as the control group AND a 45-minute synchronous small discussion group with peers facilitated by content experts. The online content will be hosted on a Mayo Clinic supported platform and accessible digital platform available 24 hours a day to accommodate various working schedules and preferences. There will be on average two small group sessions for each key topic highlighted in the webinar series. The small group size will be equally divided between the two sessions. Content experts leading the discussion will utilize a standard guideline to support consistency between groups during the discussion and ensure key concepts are integrated. Potential participants will be recruited via email. Following completion of the intervention outcome, measures will be assessed at four time points: pre-education, immediately post-education, 6 months, and 12 months post-education. An electronic tool, such as REDCap™, will be utilized to obtain and securely store the survey data. Demographic data will be collected via survey to describe the sample.

Evaluation Plan: Assessment of the impact of virtual curriculum plus small group discussion versus virtual curriculum only will be measured using several key parameters, including:

- Knowledge acquisition: assessed by a set of multiple-choice questions based on content from the webinar series
- Assessment of attitude and perception about value of genomic integration in nephrology practice: assessed using theory of planned behavior framework and a qualitative questionnaire constructed with an average of 20 items using a Likert-scale.
- Likelihood of integrating genomics into clinical practice: assessed by the number of referrals to clinical genomics department that learners participated in.

To evaluate the between-arm mean difference in knowledge assessment and questionnaire at post-education time points, a mixed model will be estimated using scores from all 4 time points. The mixed model will include a fixed intercept, fixed effects for time, intervention arm, and arm by time interaction. Mixed model estimates will be used to construct 95% confidence intervals for the mean difference in scores at post-education and 6 and 12 months between arms, using a two-sided t-test with a nominal significance level of $\alpha = .05$.

Potential Impact: With the COVID-19 pandemic, there is increasing use of virtual learning strategies. Our goal is to identify additional virtual learning methods, including facilitated group discussions, to increase retention and translation to clinical practice. By identifying these strategies, we seek to influence best practices of online learning.

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Ultrasound-Guided vs. Blind Lumbar Puncture in the EM Clerkship

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Idea: Comparing fourth year medical student procedural confidence and mastery of lumbar punctures by blind needle insertion versus ultrasound-guidance.

Need: Lumbar punctures are a common procedure performed throughout the hospital as a diagnostic tool to determine cerebral spinal fluid pressure and presence of infective agents. However, injuries such as nerve palsy, herniation, hematoma, and hemorrhage can occur due to improper procedural technique (1). Adverse effects can be exacerbated if a medical student is not competent or confident in performing lumbar punctures. A study by Coberly and Goldenhar (2007), states that a majority of fourth-year medical students surveyed do not feel competent or confident in performing a lumbar puncture (2). Medical students are traditionally taught to find the needle insertion site by palpation (blind method); however, student confidence and mastery of the skill may be improved by learning the procedure through ultrasound guidance. As ultrasounds are gaining popularity, they can replace the need for fluoroscopy during a lumbar puncture, by providing visualization of spinal landmarks for the student (3).

Methods: This study will involve fourth year medical students participating in the Emergency Medicine clerkship at the Brody School of Medicine. There are twelve cohorts of students that rotate during an academic year. Six cohorts of eight-ten fourth year medical students will be taught to perform lumbar punctures by traditional palpation, while another six cohorts will learn needle insertion through ultrasound-guided lumbar punctures. Each cohort of students are taught to perform a lumbar puncture by rotating physician instructors using simulation lab models in the medical school classroom. Students have fifteen minutes of direct instruction and fifteen minutes of hands-on practice with simulation lab models. Ultrasound-guided lumbar punctures require a longer instruction time; therefore, students will be required to watch an instructional video prior to their clerkship orientation. Students will complete an anonymous survey on an online platform shortly after completing the clerkship orientation. The survey will ask students to rate their confidence level and anxiety if asked to perform a lumbar puncture independently. Clinical professors will then assess each student on their ability to perform a lumbar puncture using the method the student was taught. Data of students who learned to perform lumbar punctures using traditional palpation will then be compared with data of students who learned ultrasound-guided lumbar punctures.

Evaluation Plan: The fourth year medical student curriculum requires that students participate in the Emergency Medicine clerkship. Students who are willing to participate in this study will sign a consent form and will be sent an online survey regarding this research study. Researchers will track the number of responses for each group based on the lumbar puncture instructional methodology they were taught. No student identifying information will be collected. The data of one academic year will be compiled and analyzed. If students have increased confidence and mastery when performing ultrasound-guided lumbar punctures, this data can be presented to other medical schools' curricula to incorporate ultrasonography. Learners with this adapted curriculum will have increased procedural confidence and be further exposed to ultrasound imaging techniques. One year post official implementation, learners will submit anonymous feedback to faculty and this research team in an effort to review and continuously modify the curriculum.

Potential Impact: Through this research study, future physicians will be able to effectively perform lumbar punctures using new imaging techniques, allowing for increased procedural confidence and improved patient safety.

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Evaluating the Educational Benefits of Ophthalmology Clinical Escape Rooms vs. Case-Based Discussions

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Problem Statement: Although the Socratic method encompassing use of case-based discussions is widely used in Ophthalmology teaching, it might not be the most effective.

Rationale: Ophthalmology teaching traditionally takes the form of didactic lectures or case-based teaching built upon the 'Socratic Method' (1), where individual learners are questioned in the presence of a student group in order to prompt and guide students' thinking. Evidence suggests that a learner centred teaching is more effective as it encompasses personal growth (2). Studies have also shown that "gamification" increases motivation to learn (3). Therefore, we designed an ophthalmology escape room to incorporate a learner centred experience into regional ophthalmology teaching for the Yorkshire and Humber deanery, United Kingdom (UK).

Methods: A comprehensive literature search was performed using MEDLINE. Relevant articles were reviewed by the authors, who also attended a "clinical escape room" workshop at The University of Leeds, UK. A standardised clinical escape room was designed with relevant ophthalmology learning objectives. A case-based discussion was also designed to achieve the same learning objectives. Ophthalmic trainees and foundation programme doctors completed a google questionnaire designed for comparison of the two methods. A score of 1-10 for six aspects of learning were included in the questionnaire. These were 1) motivation to attend, 2) perceived enjoyment of the session, 3) opportunity for feedback from seniors, 4) peer to peer support, 5) partnership & teamwork, and 6) opportunity for self-reflection.

Results: Twenty trainees completed the survey. The distribution of trainees by grade was as follows: Five foundation programme doctors, six junior ophthalmology trainees (ST1-3), and nine senior ophthalmology trainees (ST4-7). The average score given for the two types of teaching methods included foundation doctors (escape room 9.0, case-based discussion 7.1), junior ophthalmology trainees (escape room 8.6, case-based discussion 7.5), and senior ophthalmology trainees (escape room 7.7, case-based discussion 5.1). The overall combined score was 8.3 for clinical escape rooms and 6.3 for case-based discussions respectively. Clinical escape rooms scored higher in each of the six aspects of learning, in particular, attendees reported greater enjoyment (escape room 9.0, case-based discussion 7.4), partnership and teamwork (escape room 8.8, case-based discussion 6.8), and opportunity for feedback (escape room 8.1, case-based discussion 5.9).

Potential Impact: Ophthalmology escape rooms is a novel method that can positively impact trainee engagement in learning, peer to peer support, communication, partnership and team working over and above current methods of curriculum delivery. It is method which can be applied to other post graduate specialties within medicine, as well as undergraduate education.

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Increasing Confidence in the Delivery of Anticipatory Guidance Through a Reflective Passport

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Idea: Using a reflective passport with preceptorship to increase first year pediatric resident confidence in the delivery of anticipatory guidance.

Need: Providing anticipatory guidance to families in pediatric clinic visits is a key vehicle to promote health, as it is associated with injury reduction, enhanced developmental knowledge and parenting skills, and favorable discipline techniques [1]. However, interns at Children's Hospital L.A report low confidence in providing anticipatory guidance. A preliminary 4-point Likert scale survey assessed resident confidence after intern year and revealed that more than 50% reported low confidence on providing guidance on toilet and sleep training, behavioral concerns, discipline strategies, and social determinants of health. This impacts families, as some national surveys have shown 90% of parents report unmet needs for parenting guidance, education, and screening [2]. Additionally, while pediatric program directors believe educating residents about topics like parenting skills is important, only 11% rated their program as doing so very well, with the most frequently reported barrier being a lack of a curriculum [3]. A reflection passport for pediatric interns to complete during a two-week clinic rotation, will alleviate the perceived barrier of a lack of curriculum and allow residents to reflect on preceptors' style of counseling.

Methods: The intervention will focus on 2 pediatric interns at a time, during a required two-week continuity clinic rotation. By the end of the academic year, all 38 interns will have completed the rotation, and therefore the intervention. This is an immersive outpatient experience, where residents can work with different members of the care team, including nursing, case managers, family support team and parent navigators. Trainees are also paired with one attending per clinic, who provides preceptorship for all patient encounters. The implementation of a passport during this time will allow interns to reflect on the rich learning gained throughout the rotation and remind preceptors what counseling topics to focus on when providing "teaching points". Interns are to document lessons learned in an interactive anticipatory guidance passport that covers topics in six domains, including nutrition, safety, development, behavior and parenting, social determinants of health and health maintenance. Through attending role modeling, direct observation of patient encounters and timely targeted feedback with opportunities for practice, by the end of the two weeks, residents should be able to educate families on the introduction of solid foods in infancy, provide counseling on safety topics, describe positive parenting techniques and their benefits for children, interpret results of screening tools with families and integrate social determinants of health discussions into well child checks.

Evaluation Plan: Completion of the reflection passport by pediatric interns will be tracked bi-weekly, with reminders sent to residents who have not concluded the assignment. Documentation of anticipatory guidance given to families in the clinical notes will also be monitored through review of the electronic medical records. A resident survey, one week after completion of the clinic rotation and reflective passport will assess usefulness of this tool to increase confidence in the delivery of anticipatory guidance and review any suggestions for improvement. In addition to direct observation, preceptors will also complete formal resident evaluations using the ACGME milestones framework. At the end of the academic year, a confidence survey will be sent to all 38 first year pediatric residents who received the intervention and responses will be compared with the prior intern class, who did not receive the intervention, in order to assess the impact of this teaching instrument. Learning will also be reinforced and directly observed by an interactive end of the year noon conference, where residents will have the opportunity to engage in role-play of clinical scenarios where "caregivers" seek counseling on the topics covered by the reflection passport.

Potential Impact: Interns receive a large influx of new knowledge and engage in fast-paced clinic visits. With the goal of better meeting the needs of patients and families, this tool that emphasizes reflection

and preceptorship may help increase confidence in the delivery of anticipatory guidance and is applicable to primary care disciplines other than pediatrics.

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Implementing a Nurse Practitioner-Led Oncology Education Program for Pediatric Resident Physicians

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Idea: Enhancing oncologic clinical care and building confidence of pediatric residents utilizing a nurse practitioner (NP) led education curriculum.

Need: Pediatric residents often approach their oncology rotation with trepidation, feeling unprepared for the complexities and unique challenges of patient care (1). We gathered preliminary data at Children's Hospital Los Angeles (CHLA) in 2021 which similarly found that residents lacked basic oncology education, knowledge about supportive care, and confidence in managing oncologic emergencies. With this in mind, we initiated a comprehensive oncology education program led by inpatient NPs to enhance residents understanding and comfort during their rotation. The program also includes case-based learning which has been shown to provide an effective and active learning environment (2). Finally, our intervention also seeks to foster an environment of comradery to improve overall satisfaction with the oncology rotation.

Methods: The intervention will focus on 48 pediatric residents during their one-month oncology rotation from 2021-2022. Surveys will be collected at the beginning and end of the one-month rotation and will assess resident's oncologic clinical knowledge, comfort in managing care, and areas of support within the division. The intervention will be led by inpatient oncology NPs who will provide a didactic lecture on the first day of each resident rotation. This lecture includes an overview of medical management, common oncological emergencies, chemotherapy agents and their supportive care, as well as numerous case studies. After the session, a laminated, pocket-sized reference card will be given to each resident as a quick resource for frequently asked oncology questions. Furthermore, detailed resource binders will be placed in the resident workroom to provide more in-depth oncologic knowledge on topics such as diagnoses, treatment plans, supportive care, and chemotherapy agents. The NP team also performs daily check-ins with the residents to offer support and assist with any questions that may arise throughout the day.

Evaluation Plan: 1) Accountability: We will provide monthly educational sessions and collect pre- and post-intervention surveys. 2) Reaction: Each month we will review resident responses to a survey that assesses educational knowledge and includes a Likert scale on comfort and support levels before and after their rotation. 3) Learning: Using Qualtrics data collection platform we will analyze pre- and post-rotation data collected and experiences. This will provide insight on oncology knowledge, support, and experiences gained throughout the rotation. 4) Behavior: Residents will be more knowledgeable in oncological care and will be empowered to reference available resources. This will be evidenced by increased self-reported comfort and confidence on closing rotation evaluation.

Potential Impact: Pediatric Oncology is comprised of a complex patient population that requires specialized care. NP-led clinical education can provide the tools, skills, and confidence required for residents to better care for these patients during their clinical rotation. Residents and NPs will work together to provide utmost care for pediatric cancer patients.

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Developing and Evaluating an Educational Web-Based Tool for Promoting Flipped Classroom Pedagogy

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Problem Statement: Globally, healthcare institutes have attempted to redesign their curriculum to align with modern pedagogy for promoting student-centered learning.

Rationale: Blended learning is a novel student-centred pedagogical approach that includes technology-mediated online education and face-to-face (F2F) learning. Flipped classroom pedagogy (FCP) is one of several modern blended learning strategies. FCP involves using several educational technologies. Therefore, teachers and students from undergraduate health professional education (HPE) would be likely interested in enrolling in an introductory training and development FCP course (2). Nevertheless, it is necessary to take into account that the teachers and students from HPE are usually overloaded with multiple clinical and academic responsibilities, which may hamper their ability to enrol in a F2F training course due to time constraints. Therefore, it is vital to develop attractive, flexible, and asynchronous training for these HPE associates. Thus, this study aimed to design, develop, and evaluate a web-based tool for fostering FCP in undergraduate HPE.

Methods: This is an educational design-based research study with a descriptive evaluation component which was conducted in two steps: (i) design & development and (ii) evaluation of an educational website. An expert panel was formed to evaluate the website by using a website evaluation questionnaire (WEQ) (3). Descriptive statistics were employed to calculate the expert's agreement level.

Results: An innovative website design was adapted to provide access to the broadest range of digital devices. The development process occurred simultaneously in two steps: (i) website development and (ii) learning content development. A simplified homepage was developed commonly for teachers and students. The home page guides users to an attractive, colourful, and title-based course content page which direct users to topic pages which incorporated learning content. Learning content pages were developed in three different forms word/picture-based illustration, videos and quizzes, which were constructively aligned with the intended learning outcomes of the training programme. The educational website was branded as Flipped Classroom Navigator (FCN). The FCN obtained a good level of agreement (>80%) for its' feature and usability from the expert panel.

Potential Impact: The FCN is an effective method for providing training to promote FCP in the HPE. The FCN achieved good ratings from experts. However, it is essential to obtain acceptance from the end-users, which will be a focus of future research. Nonetheless, the experts' panel pinpointed areas for further development before being rolled out to end-users.

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Learning Stations to Enhance Students' Interaction in the Undergraduate Medical Pathology Lectures

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Problem Statement: Turning Pathology didactic lectures into student-centered interactive ones to enhance students' learning.

Rationale: Student-centered learning strategies proved superior to teacher-centered instruction in achieving many learning outcomes as knowledge retention, deeper understanding, developing critical thinking and problem-solving skills, generating positive students' attitudes toward the subject and self.

Learning stations is a student-centered learning strategy that promotes differentiated instruction and is based on the constructivism learning theory. It is used mainly for teaching children in schools. Students learn actively through collaborative group discussions and activities present in the stations. Students do most of the learning work. The instructor's role is mainly guiding them in the process. The use of this approach is not popular in higher education though it proved effective.

In medical education, its use is limited to practical and clinical learning and assessment. Learning stations were not tried before in medical education as a method of boosting interactivity in lectures.

Methods: This is an exploratory qualitative study. We used the learning stations' approach in a face-to-face Pathology lecture at the Faculty of Medicine, Helwan University, Cairo, Egypt. The study was done on 500 first-year undergraduate students, the 2018/2019 batch. The lecture's topic was "Criteria of malignant tumors".

The lecture objectives were divided over 4 learning stations each concerned with teaching some of them. Each learning station had learning material that is suitable to the nature of the objectives targeted. Learning material included videos on laptops, 3D gross models, articles, microscopic pictures, and reports. The session was executed in a flexible learning space where parallel rows of 4 tables were arranged. The 4 consecutive tables presented the 4 stations. Each table had 15 students. One instructor, 2 teaching assistants, and a leader student from each team supervised the session.

Thirty minutes were set for each station then students were asked to move to the next one till finishing the row. Students studied the learning material, discussed it collaboratively, and applied knowledge to the requested tasks. Students handled their assigned tasks solved, and written feedback on the approach used.

We assessed students' perceptions qualitatively through thematic analysis of students' written feedback on the approach used (Kirkpatrick model of evaluation level 1), and by assessing their learning through reviewing their written assignments for the requested tasks.

Results: The response rate was 87.4% (437 students). The themes extracted from students' responses included motivation, engagement in learning, understanding process, learning environment, self-learning, teamwork effect, and improvement steps. A synopsis of responses was prepared. Most students felt more motivated and engaged in their learning process. The learning was described as fun, and students loved the variation in the learning materials used. They preferred to find the information themselves. They felt a sense of competition in fulfilling the tasks. They reported a better and easier understanding through collaboration with peers. They asked for turning more lectures into similar activities. Some students recommended that each team is given the chance to present their assignment to all teams and getting live feedback. On reviewing the students' assignments by the instructor and the assistant instructors, >85% of teams got very good and excellent for their evaluation.

Potential Impact: Didactic medical education lectures can be turned more interactive, motivating, student-centered with better knowledge acquisition via implementing the learning stations' strategy. It is also applicable to educate large enrollment classes being implemented on 500 students. A good selection of the learning material is important.

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A Curriculum of Lived Experience: Promoting Gender-Diverse Care Competency for Healthcare Learners

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Idea: A brief didactic and direct interaction with trans- and gender-diverse people may reduce bias and promote advocacy behaviors in healthcare learners.

Need: Transgender and gender-diverse (TGD) individuals face considerable barriers to healthcare that negatively impact health outcomes (Safer). Provider unfamiliarity with concepts in gender diversity and limited interactions with individuals known to be TGD contributes to negative healthcare experiences by TGD individuals (Chong). These factors are potentially addressable through educational interventions during the pre-clinical training of pre-health students. In the proposed study, didactic content and a facilitated conversation between physician-assistant students (PA-S) and TGD individuals will aim to promote learner knowledgeability and comfort in working with this stigmatized and underserved population.

Methods: This study will assess the impact of an educational intervention on a cohort of 30 pre-clinical PA-S and potentially other pre-health students over the course of 18 months. The educational intervention consists of an hour-long session divided into two components: a fifteen-minute didactic on concepts in gender diversity, including discussion of sex assigned at birth, gender identity, and simple advocacy behaviors, and a 45-minute moderated panel discussion between PA-S and TGD individuals with experience in healthcare worker outreach. Prior to the educational intervention, a survey given to PA-S will assess for the presence of stigma toward TGD individuals, knowledge of concepts in gender diversity, and the presence of advocacy behaviors. A survey will be given immediately after the educational intervention, and again one year later to assess for attitude toward TGD individuals, retention of didactic content, and changes in advocacy behaviors. The educational intervention will be given to other pre-health students, such as licensed practical nurse and registered nurse students, depending on institutional support.

Evaluation Plan: 1) Accountability: One session will be given per academic year to an audience of 30 PA-S. Additional sessions will be given to cohorts of other pre-health students pending support and interest from their program directors. 2) Reaction: The TGD panelists will be informally polled for suggested improvements to the didactic material. Post-intervention surveys issued to pre-health students will include questions on reaction to the didactic content. 3) Learning: Surveys given pre-intervention, immediately post-intervention, and one year post-intervention will assess for knowledgeability on concepts in gender diversity and attitudes toward TGD individuals. 4) Behavior: Post-intervention surveys will assess for advocacy behaviors; these include behaviors such as asking patients for pronouns and appropriate charting.

Potential Impact: The proposed study will provide PA-S and other early learners with a gender care-competency curriculum that emphasizes direct interaction with TGD individuals. It is hopeful that this intervention will result in sustained retention of material, reduction in bias toward TGD individuals, and the adoption of advocacy behaviors.

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The Integration of Diversity, Equity, and Inclusion (DEI) into a Family Medicine Curriculum

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Idea: Family medicine residents will learn about DEI through the integration of DEI topics into their scheduled didactic lectures by faculty.

Need: A curriculum in cultural humility, diversity, equity, and inclusion, and health disparities is essential to the training of family medicine residents.¹ However, challenges to implementing an effective curriculum include a lack of integration into the core curriculum and the perception that there are few faculty members who can teach in this material.² At Adventist Health White Memorial, the family medicine program has had a robust curriculum in cultural humility, cross-cultural and nonbiased communication, and patient-centered care since its inception in 1988. In addition to this earlier focus, residents have asked for a more integrated approach to learning about DEI and health disparities relevant to their practice of medicine. This project will create opportunities for residents and faculty to critically appraise and discuss healthcare policies, medical practice and current research initiatives aimed at achieving diversity, equity, inclusion. The objective of this project is to ensure that over 70% of the lectures given to residents will include information on DEI and health/healthcare disparities related to the specific medical topic, thereby producing systems-based thinking to promote positive DEI actions in medical practice.

Methods: The intervention will focus on the 24 family medicine residents and the faculty who giving scheduled lectures over the 2021-2022 academic year. The intervention will include the following: 1) Communication with faculty lecturers the importance of teaching about the specific health and healthcare disparities related to their topic; 2) Creation of a virtual library of articles categorized by specialty, with resources on diversity, equity, inclusion, and health disparities; 3) Dissemination of this virtual library and specific articles to faculty to supplement their lecture; 4) For every lecture, faculty will interweave relevant DEI material into their teaching, so that residents learn about specific health and healthcare disparities related to that topic. For example, a dermatology lecture would include information from the article from American Family Physician, "Dermatologic Conditions in Skin of Color," or a prenatal care lecture would address ethnic disparities in maternal morbidity and mortality; 5) Faculty development will be supported with literature, web resources, guest speakers and continuing education on DEI will be provided throughout the year; 6) Faculty members will self-evaluate and update their knowledge of DEI concepts and heuristic tools relevant to the practice of medicine, so that residents will be inspired to develop their own unique critical DEI stance and personal commitment to promoting equity, and increasing inclusion and diversity in healthcare.

Evaluation Plan: 1) Accountability: We will communicate to faculty 1-2 weeks prior to their lecture and send an email with attached articles specific to their topic. All lectures are recorded, so that the integration of DEI topics in each lecture can be tracked; 2) Reaction: After each lecture, an evaluation will be sent out to faculty about what they learned from incorporating this material into their lecture and suggestions for process improvement. On a quarterly basis, residents will be asked about their perception of how integrated DEI topics are in the core curriculum and suggestions for improvement; 3) Learning: Residents will self-assess their knowledge of health/healthcare disparities on quarterly surveys. Overall improvement in learning will be measured by their progress on specific ACGME Milestones (SBP-3, SBP-4, ICS-1) focused on identifying and addressing health/healthcare disparities and nonbiased communication; 4) Behavior: Residents and faculty will prioritize addressing health/healthcare disparities in their patient care and teaching. The integration of DEI in their own professional practice will be addressed at biannual evaluation meetings, where both faculty advisor and resident advisee will share about their growth.

Potential Impact: Not only will residents apply their knowledge of health disparities to patient care, but faculty participants may also feel more confident to teach in this area, creating a culture where DEI work is fully integrated into the family medicine curriculum. Furthermore, the virtual DEI library may be shared widely across other institutions.

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Utilizing Telemedicine to Teach the Principles of Gender Affirming Care

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Idea: Utilizing telemedicine to teach 4th year medical students the principles of gender affirming care through didactics and patient visits.

Need: Health equity and social justice are important topics of conversation particularly in light of the events of 2020. Academic institutions are looking for ways to support medical students as they develop their skills as health advocates and allies. Care for gender non-conforming patients has been hindered in part by lack of provider knowledge as well as lack of trust by patients. The 2015 US Transgender Survey reported that one-third of respondents who saw a provider in the previous year had a “negative experience” and nearly one-quarter didn't see a doctor due to “fear of being mistreated as a transgender person”. Medical students need exposure to inclusive, affirming care. Up until now we have relied on curriculum opportunities such as lectures to provide this learning experience. Telemedicine gives students an opportunity to engage with patients and health care providers so they can apply the knowledge that they have gained in the classroom and create confidence that they can provide high quality gender affirming care.

Methods: Academic institutions are grappling with the call for change spurred by a national conversation about health inequities based on race, age and gender. Our gender non-conforming communities struggle with issues of access and quality health care. At USC Student Health, we started our Gender Affirming Care Team in 2013. When we pivoted to telemedicine in 2020, due to the COVID pandemic, we brought medical student education with us. Using the zoom platform, we were able to continue providing gender affirming care to our patients in a safe space where they did not have to experience inadvertent misgendering or trauma. Our Keck medical students do not often have exposure to clinical hands-on gender affirming care. Patients were given the option to allow medical students to shadow visits during which time a medical provider would discuss issues such as hormone therapy, gender affirming services and primary care. Students were also given a didactic lecture on gender affirming care to reinforce their knowledge. This allowed both student patients and student learners a valuable experience with the healthcare provider while maintaining both physical and psychological safety.

Evaluation Plan: 1) Accountability – We can track the number of didactics and gender non-conforming patient visits seen with the medical students via telemedicine. 2) Reaction – We will use end of rotation evaluations to elicit learner feedback. 3) Learning – Consider pre and post didactic knowledge assessment tool

Potential Impact: Telemedicine changed the landscape of medicine and created an opportunity for both our student learners and patients in a space that provides both physical and psychological safety. Using virtual platforms, we are able to create another medium for medical student learning and patient care which will be around for years to come.

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**Improving the First Year Medical Student Experience:
A Structured Community Engagement Model**

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Idea: Hoosier Health Hub (H³) provides a model for first year medical students to leverage previous experiences through project-based community engagement.

Need: Social determinants of health account for 84% of health outcomes in the United States. There is a need for community-oriented doctors who attack healthcare problems systematically (1). H³ intends to leverage an eager population of first year medical students to integrate themselves within their new community, collaborate, and use their acquired understanding of healthcare disparities to identify the needs of the surrounding population. The first year curriculum at Indiana University School of Medicine includes a 'Foundations of Clinical Practice' course giving students insight into how social determinants of health can lend themselves to addressing healthcare disparities (2). H³ will create a network of individuals, sharing unique areas of expertise, to address root causes of disparities. The time commitment required of first year medical students who join H³ will be determined by project team feedback from the organization's pilot project. The overarching goal is to create a structured experience for first year students to have sustained community interactions, identify health-related problems, and work toward solutions. Our mission is to foster community-oriented doctors while also addressing current healthcare disparities.

Methods: The student consulting group will focus on involving first year medical students in community engagement during the early stages of their preclinical years. First year members will join project teams serving multiple nonprofit sites within the H³ model. Project teams will consult both on site and virtually, depending on community partner needs, with projects spanning an average of 3 months to create an immersive, yet time sensitive atmosphere for the rigorous first year schedule. Those with prior experience in H³ project leadership will serve as mentors and sponsor first year medical students to ensure proper guidance. Our model will include the following: 1) Identify community partners that address social determinants of health. 2) Meet with partners to decide on projects ranging from organizational effectiveness to new program implementation and education. 3) Projects begin with a planning period in which teams are staffed based on member 'areas of expertise.' 4) Once the project outline is well developed, the H³ project team will conduct research, data analysis, and creative problem-solving to address partner needs, all of which are familiar to a first year medical student. 5) First year members will collaborate with their second year peers, industry partners, and nonprofit leadership to create a solution. 6) The results of the project will then be shared with our community partners and progress toward the project goals will be continuously monitored.

Evaluation Plan: 1) Accountability: Activity logs will be used to keep track of projects and ensure active first year participation. 2) Reaction: Both client and first year member satisfaction will be evaluated through satisfaction surveys. Clients will be offered the opportunity to provide comments on their experience with the program and suggestions for improvement. First year members will be asked to assess how participation in the program prepared them for future community engagement and whether it changed their desire for community involvement as future medical professionals. 3) Learning: We plan to assess the impact of community engagement on members by following the framework outlined by Szilagyi et al. Individual interviews and survey responses will be used to gather feedback on the program and assess the degree to which members developed project management skills, increased their awareness of community needs, and generated awareness for the importance of community involvement (3). 4) Behavior: At the end of the program, first year members will be evaluated on their ability to identify community problems and brainstorm solutions that involve community engagement and recruitment of the next generation of medical students.

Potential Impact: Through the facilitation of real-world project-based learning opportunities, H³ will build a community-driven foundation for first year medical students to develop effective leadership and project management skills. The H³ model fosters future physicians who will longitudinally promote the importance of community engagement.

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Teaching History of Experimentation, Medical Abuse and Malpractice against Marginalized Communities

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Idea: Building culturally sensitive knowledge and empathetic attitudes of medical trainees and providers utilizing a historical perspective.

Need: Rarely does medical curricula in the United States address the history of experimentation or medical abuse and malpractice suffered by marginalized communities for the innovation and advancements that the medical field benefits from today. This gap in teaching can lead to reinforcement of negative stereotypes and a lack of trust from affected communities that inhibits clinicians from providing the highest quality of empathetic care to all of their patients.¹ We hope that by educating the audience on the history of racism, experimentation, and malpractice in medicine, as well as the long-term implications of these violations of the Hippocratic oath, medical trainees will better understand the perspective of these marginalized communities and be equipped with resources to improve care. We plan to implement this series into the current medical education curriculum for first-year students but have the sessions available for anyone at the institution to attend. The series will be constructed using a known strategy to help combat implicit bias through specific steps: introspection, mindfulness, perspective-taking, learning to slow down, individuation, checking your messaging, institutionalize fairness and take two (IMPLICIT)².

Methods: The intervention will focus on 230 first-year medical students and take place over one year with 12 one-hour sessions within the core curriculum. There will be one every two weeks for the first three sessions and then transition to one per month starting on the fourth session. The intervention will include the following: 1) Didactic teachings on the history of experimentation, abuse, and malpractice faced by differing marginalized communities in medicine in the United States. 2) Discussions with established physicians speaking on their experiences treating patients from communities who have this history and how they combat mistrust and provide empathy. 3) Direct observation: Our Practice of Medicine coordinators will incorporate discussions of medical mistrust into the clinical practice scenarios with standardized patients, as well as during the first-year Objective Structured Clinical Examination (OSCE). 4) Quarterly reflection written assignments will be asked of students and reflection seminars will take place the same week for students to discuss their progress, thoughts, and possible plans of action with their peers and facilitators.

Evaluation Plan: 1) Accountability: We will track the integration of these seminars into the first-year curriculum. 2) Reaction: Evaluations of each session will be collected through checkout forms completed by the participants noting key takeaways and usefulness of the session. Quarterly reflections will be completed by students to assess progress and perception. The cultural competency grade of the OSCEs will be observed for consistency. 3) Learning: Written feedback containing comments/recommendations will be reviewed from each session. Quarterly reflections will be monitored for content and depth of reflection on how increased knowledge and understanding of the history of mistreatment is informing their learning. Pre- and post-testing of cultural competency and empathy will be assessed with the Intercultural Developmental Inventory.³ Overall improvement in knowledge, attitudes, and skills will be measured by the IMPLICIT guideline and facilitator discretion. 4) Behavior: End of course plans of actions on how students will continue to implement this knowledge and skills in their career will be tracked and reviewed by specialized faculty in the field.

Potential Impact: The importance of cultural competency through the knowledge of historical experimentation, abuse, and malpractice in medicine is essential to better understand patient mistrust and hesitancy towards many providers today. We must then equip learners with appropriate tools to address these valid concerns and provide equitable and empathetic care.

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Building Trust with Underserved Minorities: Standardized Patient-Based Learning for Medical Students

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Idea: An effective communication skills instrument based on trust-building with racially minoritized patients will be developed with workshops to practice.

Need: There is a deeply-rooted history of mistreatment of African Americans and other racially and ethnically minoritized communities by American medical institutions, which has contributed to cultural distrust and hesitancy to engage with the healthcare system in many of these communities (Roberts Kennedy et al, 2007). Therefore, establishing trust in healthcare providers is essential to improve the health outcomes of racially minoritized patients. Affective communication skills (ACS) have been shown to be an effective means of establishing doctor-patient trust with these unjustly treated populations (Martin et al, 2013). Medical students are taught basic ACS in all medical schools, but ACS have not been focused on minoritized communities, specifically; and students have little opportunity for the deliberate practice necessary to achieve mastery. This educational intervention aims to develop an ACS instrument to teach medical students strategies to build trust with racially minoritized patients.

Methods: A novel ACS instrument will be developed and tested that will assess higher order skills focused on trust-building in racially minoritized communities. A defensible minimal passing standard will be set for this instrument. "Trust-building" standardized patient vignettes will be created in collaboration with five volunteer community participants who have lived experience of discrimination within the healthcare system. Community participants will also consult on the novel ACS instrument. Then 20 volunteer senior medical students will take a pre-test single-case Objective Structured Clinical Examination (OSCE). Next, students will participate in a 4-hour standardized patient-based mastery learning workshop with deliberate practice elements featuring four similar cases, and finally, take a post-test OSCE. To enrich the workshop with varied perspectives, minority community participants will help teach the workshop and provide feedback to students.

Evaluation Plan: Community partners and standardized patients will help provide feedback on students' ability to establish trust. Pre- and post-test OSCE results will be compared to assess for student mastery on the trust-building ACS instrument. Students will complete self-efficacy and program assessment questionnaires.

Potential Impact: Specific training of future physicians focused on advanced affective communication skills has the potential to teach critical trust-building communication skills and improve health outcomes in populations historically marginalized in the healthcare system.

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Instituting an “Explore The 419” Public Health Pre-Matriculation Curriculum for M1 Medical Students

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Idea: Instituting an “Explore the 419” pre-matriculation curriculum for M1s to generate capstone grant proposals targeting public health needs in Toledo.

Need: Toledo-Lucas County in Ohio has many public health challenges to its citizenry that are unique to urban settings with high rates of poverty, obesity, and diabetes. The 2021 University of Toledo College of Medicine M1 cohort of 177 students come from a variety of socioeconomic and geographical backgrounds, with very few Toledo-Lucas County natives. To introduce public health concepts/challenges endemic to the local community our students would serve during their time in clinic, we instituted an ungraded “Explore the 419” pre-matriculation curriculum. The cornerstone of the pre-matriculation curriculum was a week’s long Team-based learning (TBL) module featuring submission of public health proposals addressing identified areas-of-need in the Toledo including: 1, access to care for undocumented and migrant workers; 2, healthy food access; 3, health status of Toledo-Lucas County community; 4, Great Lakes harmful algal blooms; and 5, access to transportation and outdoor spaces. A gallery walk Topic vote was performed to introduce consensus building skills for the TBL groups. Topic finalists presented live, in person, short presentations for a final class wide vote.

Methods: We designed the week-long “Explore the 419” TBL for matriculating M1s at the University of Toledo College of Medicine. (1) For prework, students reviewed the Healthy Lucas County Health Assessment. The assessment is a snapshot of Lucas County children, youth, and adults. It provides data on general physical and mental health, nutrition, exercise, substance abuse, living conditions etc. from anonymous surveys. (2) On Day 1 and for 90m in class, we performed an individual readiness assurance test (IRAT) and group RAT (GRAT), assessing public health trends from the Healthy Lucas County Health Assessment such as race and ethnicity, poverty levels, disease prevalence, and educational status. This was followed by a short lecture. (3) We assigned groups 1 of 5 case packs on a topic relevant to the Toledo-Lucas County public. Two-page case packs included overviews of topic importance to public health, descriptions of local organizations (i.e., mission statements, outreach, leadership contacts), and a faculty liaison. Groups were given a framework for a hypothetical grant proposal to submit 3 days later, and a rubric for proposal scoring. (4) We printed all proposals and a gallery walk vote was performed later that day. Teams scored proposals in their assigned topic according to a rubric. Scores were tallied and finalists announced. (5) On Day 5, the class gathered for final presentations of the 5 topic winners, followed by a vote for the TBL winner.

Evaluation Plan: 1) Accountability- We performed the “Explore the 419” TBL for 177 matriculating medical students divided into 36 TBL teams. We had 36 public health grant proposals submitted, with 5 topics winners. 2) Reaction- Up to 40 of 177 students were surveyed regarding the weeklong “Explore the 419” series, including the TBL. The reaction from our students was overwhelmingly positive, with the major report outs being satisfaction with the ungraded and lower pressure aspect of the TBL, and the team building aspect, after a year out of the classroom due to COVID. Fewer than 5-10% of students surveyed preferred to jump into coursework immediately. 3) Learning- Comments from surveys suggested students gained an increased awareness of public health challenges in Toledo-Lucas County and with the structured framework of the TBL teaching modality used in the curriculum.

Potential Impact: The pre-matriculation “Explore the 419” series gave our incoming M1 medical students an opportunity to explore public health trends in their newly adopted community, and to practice teamwork and consensus-building in a low-pressure, ungraded environment. We plan to expand this curriculum in the coming years for incoming cohorts.

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Exploring Power, Privilege, and Identity in Residency Education

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AltaMed

Idea: Developing a curriculum that seeks to help residents grow by bringing attention to issues of power, privilege, and identity in clinical practice.

Need: Patients have greater health outcomes when they have strong communication with their physicians. Communication has various layers that include acknowledgement of one's own identity, power, and privilege. It is essential to be aware of these dynamics to promote good communication between patient and physician. However, resident education is primarily focused on the management of various medical conditions, but little is emphasized regarding identity, power, and privilege. One way to help Residents grow in their capacity to serve the underserved is by bringing specific attention to issues of power, privilege, and identity in the context of clinical practice. This pedagogical approach is a response to the particular context of racial inequities and health disparities that have been exacerbated through the Covid-19 pandemic and the societal unrest of recent years.

Methods: We have developed a 10 hour series that our Residents participate in throughout the year. Through this dialogue-based series residents grow in their self-awareness around areas of identity, power, privilege and oppression. Additionally, residents experience deeper community with one another as they participate in dialogues oriented around the most important issues of our time, but from the perspective of lived-experience rather than only academic observations. Residents develop a justice-lens for their interactions with patients of similar and different social identities.

Orientation: Session 1: Exploring Power and Identity (2 hour session)
Structural Racism Workshop (1 hour session) - Dr. Ryan Huerta, MD, MPH, MA
Session 2: Exploring Difference and Common Ground
Session 3: Our Stories
Session 4: Identifying connections between positionality and patient care
1/month Book Club: How to Be an Anti-Racist – Monthly discussion delving into topics of racism's legacy and what is involved in adopting an “anti-racist” framework in our approach

Summer/Fall Session 1: Introduction to Dialogue & Social Identities (2 hour session)
Session 2: Social Identities & Power (2 hour session)
Session 3: Mapping Social Identities (2 hour session)
Session 4: Our Stories
Session 5: Application in Clinical Practice

Evaluation Plan: Residents participate in a pre- and post- survey in order to determine the effects of the coursework on their personal awareness of power, privilege, and identity. We've consistently heard back from Residents that this type of training and content is missing in medical school and medical education more broadly, so we are wanting to bring this new curriculum to a broader group of educators who can both learn from what we are doing as well as provide feedback and suggestions. Also could consider ACGME annual survey questions on diversity, equity, and inclusion as an evaluation tool.

Potential Impact: Cultivating an awareness of identity, power, and privilege in the exam room so they may recognize those dynamics in their patient interactions. Our hope is to cultivate practices in medical education that prepare residents to be cognizant of their privileged identities and use them to advocate and support those who do not share those identities.

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Developing a Health Equity Navigator Program at a Federally Qualified Health Center (FQHC)

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Idea: Health Equity Navigators (HEN) are pre-medical students who gain skills in addressing patient clinical and nonclinical needs in an FQHC.

Need: Disparities in chronic illness amongst people of color can be influenced by the social determinants of health (SDoH), which can prevent individuals from managing their health [1-2]. To address this matter, there is a need to build a generation of healthcare professionals that account for the SDoH in how they provide care, particularly amongst patients who are from disinvested communities. Medical schools across the nation have implemented a patient navigator model into their clinical curriculum in an effort to teach medical students about the SDoH and how to help patients overcome barriers to their care [3]. Similarly, AltaMed has implemented and is developing a HEN program. Uniquely, AltaMed has actively recruited pre-medical students who are underrepresented in medicine and/or driven to serve the underserved. Through the HEN program, these students are developing their clinical and patient advocate skills through patient interactions and case management. The goal is that students build on these skills and experiences during medical school, and ultimately, become the next generation of leaders in medicine committed to health equity.

Methods: The HEN program is a pipeline program that allows pre-medical students to gain experience in a clinical setting working with communities they hope to serve in the future. These rising health professionals are chosen based on their connection and commitment to medically underserved populations. Navigators become an essential part of patients' healthcare teams, supporting the FQHC clinics, providers, and patients. Clinical providers work directly with the HEN team via the electronic health records or in-person during patient appointments. A HEN follows an in-clinic workflow for patient engagement. They are trained in motivational interviewing and brief action planning to screen and identify patient barriers. Once barriers to care are identified, Navigators connect patients with clinic resources and/or social services to address patient needs. HENs document each patient interaction and record the SDoH addressed in each encounter into a case management tracker. HENs collaborate with patients to set up follow-up calls on a weekly or biweekly basis to provide additional support. A case is complete once the patient is linked to resources and no additional assistance is needed.

Evaluation Plan: A report will be provided to showcase the total number of patients consulted by the HEN and their SDoH-specific encounters since January 2020. In addition, the report will include the total number of patients that received SDoH navigation on one or more of the following: housing, food, transportation, financial, insurance status, employment and/or domestic violence. A case study will be presented to highlight lessons learned throughout the HEN experience: (1) HENs are an integral part of the health care team because they provide an extension of clinic providers to identify and address any patient barriers to health during the patient visit. (2) HEN programs help bridge the gap between medical providers and any available resources in the community or within the clinic, to provide a more holistic approach to patient care. HEN programs improve patient outcomes by addressing SDoH through patient linkage to resources. (3) The HEN pipeline program develops the next generation of healthcare leaders creating a workforce of culturally concordant health professionals. The program enriches students' professional development, gives them meaningful patient interactions, and allows them to work as part of the healthcare team.

Potential Impact: The HEN program gives pre-medical students opportunities to engage in meaningful patient interactions. Unique from other clinical programs, it empowers future healthcare professionals by allowing them to directly work with the healthcare team. This gives students tools that they will take with them to medical school and beyond.

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A 3-Steps Practical Method for Educators to Teach Social Accountability in Medical Education.

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Idea: Our idea is to train social accountability to medical learners at the UME and residency levels in three steps: identifying, initiating, and advocating.

Need: There have been reports over the last decade indicating an association with excellence should be reserved for educational institutions that verify that their curricular design makes a difference to people's well-being (Boelen & Woollard, 2009). Along with this, the WHO aims to the type of health care to which people have a right, from both an individual and a collective standpoint: Quality, Equity, Relevance, and Effectiveness (Preston et al., 2016). Their indicators are social, economic, cultural, and environmental determinants of health, which must guide the strategic development of an educational institution.

The root cause of Systemic Racism within medical education is possibly due to the graduates of these medical education systems may have difficulty in seeing or acknowledging the need for social reforms when communicating with patients.

Although Boelen & Woolard (2011) introduced a model for social accountability of the institutes that is based on responsibility, responsiveness, and accountability, there has been a gap in how to teach the skills to medical students. Hence, the need for practical steps of incorporating these skills into the medical curriculum.

Methods: An overarching model was adopted by Preston et al. (2016) and addressed "social accountability at 3 levels: Environmental [Macro], School [Meso], and People [Micro] levels. We are here focusing on the Meso-level and we will target multi-level learners at the inter-disciplinary course in undergraduate medical schools and the foundation level at the residency stage. We will teach the "social accountability" competency in 3 milestones for each learner level:

Identifying the micro, or macro-aggression or health inequity in a written problem or patient's scenario based on differences in age, religion, socio-economic level, or ethnic background.

Initiating a respectful yet explicit conversation with the aggressor on behalf of the victim.

Advocating at the health setting process level for the victimized.

We will develop written scenarios that include the thematic/keywords for each milestone. For learner evaluation, we will also develop a rubric (for UME cases) and a checklist for the residency level evaluations. Keywords for micro-aggression: you are too old, have many health problems, it is your background/accent. For initiating a respectful conversation, the advocate may use: I am concerned that this is not the expected practice guidelines, I think this may cause psychological impact on our patients. Being an advocate would include saying: Can we agree on an internal strategy in these cases? Can we come to an alternative information resource if you cannot help your patients?

Evaluation Plan: Before we discuss the evaluation, it is important to keep in mind the balancing factors. In other words, factors that may surface up and bias the results of the teaching course on the long run: For example, the terms accountability and responsibility have been used interchangeably in the literature, although they are different as shown in the continuum in Fig 2. McKenna (2012) and Waitzkin (1991) argue that the wider profession of medicine discourages activism of any sort and that the "hidden curriculum" will soon remove the idealistic motivations of young medical learners.

The process of taking and giving feedback at the learners' level is still in the make. We see numerous challenges with the learners overreacting in their feedback or alternatively under-react when it is important to advocate. We see this additional Competency as another method of training towards developing a proper response in advocacy situations.

Other than these concerns, the evaluation process should be straightforward. Graph 4 shows the grid that can be used by different assessors/ evaluators. Changes in complexity or differences in theme expectations can be controlled during the scenario design.

Potential Impact: It is very important to make sure that there are no barriers in the way of patients' accessibility to health care. Having clear social competency is supercritical in making sure that the new medical graduates are prepared to employ strategies that grant health accessibility and equity to everyone in society.

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Stories and Art Translate the Concept of Social Accountability – Experiences at One Medical School

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Problem Statement: Does art impact medical student appreciation and shape conceptualization of social accountability.

Rationale: Social accountability is gaining in importance as an educational concept; thus, it is essential to put into practice, but often it's difficult to understand and interpret as an abstract concept. Integration of arts-based activities in medical education have been used to develop medical students' "observational, interpretive skills and empathic abilities."¹ In one study, "most students considered art to be a valuable tool to learn medicine" as all medical fields require recognition and interpretation of visual cues to form diagnoses.² This project interprets stories of social accountability during the coronavirus pandemic on a multi-dimensional level at one medical school using an arts-integrated approach. This research is part of a broader international study across different medical schools and health systems.

Methods: Community members, medical students, physicians, and Deans created art representations of social accountability within small groups. Then, using an arts-integrated methodology called parallel praxis, participants gave verbal explanations of their art's meaning, interpreted each other's visual representations, then artists from the broader study created an artistic rendering based on submissions from each individual site. In addition, participants completed a structured interview and survey. The interview transcripts were transcribed verbatim and coded using NVivo software.

Results: Social accountability is poorly understood and quite often interpreted by individuals as personal responsibility or a set of values.³ From the created art, we used an interpretivist paradigm whereby we sought to understand what people know and how they interpret it. From the medical student perspective, social accountability is a responsibility to the greater good, but individual actions are influential. One medical student stated, we "have to do our part in our home to do our part in the larger world." Another student mentioned, "what you do as an individual affects those around you and your community. We need to take care of society not just individuals." Community members perceive social accountability to fall on the individual such as the patient or the provider. One community member explained that there "needs to be person centered care. Don't judge someone on their sex or ethnicity – look at me for who I am." Another community member described social accountability as "becoming a society of it's all about me." Understandings of these different perspectives of social accountability provide opportunities for change. Strategies can be implemented to enhance patient care. For instance, a community member suggested that providers "need to actively listen. Not to respond – but to understand. Disparities from internal biases – ask more probing questions. Get to know the patient more to show you care so I want to share my information."

Potential Impact: Learning with and from community members can add clarity to social accountability expectations, create new appreciations for social accountability, and can help provide the foundation for changes to improve patient care and health outcomes.

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A Framework for Anti-Racism Pledge Writing in Medicine

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Problem Statement: Despite calls for equity, U.S. medical schools lack actionable commitments to antiracism and support for underrepresented minority (URM) trainees.

Rationale: At the start of their careers, medical trainees take an oath and commit to values intrinsic to the medical profession. However, racist and discriminatory learning environments pose a barrier to this commitment¹. The AAMC has suggested that “non-inclusive learning environments...have profound implications for the well-being and academic success of students” and are implicated in higher attrition rates among minority physicians². Using stakeholder interviews and a new student orientation pilot program to develop individual action statements, we created guidelines for trainees to write achievable anti-racism pledges. These guidelines may be considered in U.S. medical education programs to increase feelings of inclusivity among URM medical trainees.

Methods: At a U.S. allopathic medical school we conducted 28 one-on-one stakeholder interviews with student leaders, teaching faculty, administrative faculty, and medical school leadership to evaluate equity in their work environment, challenges and/or benefits to writing antiracism pledges, and navigating administrative leadership. We conducted fifteen-minute interviews with at least two key personnel at each interview for notetaking and leading discussions. We compiled interview notes and selected five overarching themes to inform the development of our pilot project. We launched the pilot during orientation for M1 medical student trainees. The program asked students to 1) discuss local health equity issues and disparities in Milwaukee and 2) write personal action statements to complete by the end of their M1 year, based on the following prompt: “Please write an action statement that you can accomplish by the end of M1 to show up for yourself, your future patients, and/or Milwaukee. (To “show up” for someone means that you are uplifting their voice, advocating for them, defending their point-of-view, celebrating their successes, and supporting their efforts)”. We will send trainees their personal action statements after 6 months and 12 months from the pilot for reflection, along with follow-up surveys (adapted from Shahriar, 2021) to determine trainee engagement with social determinants of health and feelings of inclusivity³.

Results: We identified 5 key themes for suggestions from stakeholder interviews: fluidity, longevity, reflection, symbolism, and community. Fluidity includes distinctive pledges per cohort and intentional changes based on feedback. Longevity incorporates pledge archives, community awareness, and yearly renewal of student leaders. Furthermore, incorporating measurable outcomes allows for long-term evaluation. Ample opportunities for feedback were encouraged to ensure all voices are accounted for. Open dialogue encourages buy-in across different levels of the institution, which was highlighted as a prerequisite for effective implementation. Stakeholders mentioned the symbolic value of a student-led initiative that seeks to strengthen medical education. Additionally, stakeholders hypothesized that self-generated pledges may incentivize trainees to follow through. Lastly, stakeholders emphasized community in the form of experienced guides, diverse discussion groups, and early opportunities for networking. Based on stakeholder feedback, we adapted and launched our pilot program during orientation for new medical students. 188 out of 220 students (85%) responded to our baseline survey with their action statements. Feedback from the pilot was 100% positive, 0% negative. Almost half (48%) of respondents mentioned supporting a URM group in their action statements. The majority (81%) of students mentioned a culture other than their own in their action statements.

Potential Impact: We introduce a framework for anti-racism pledge-writing that gives medical trainees an opportunity to take stronger action towards anti-racism and support their URM peers. Medical student leaders may consider advocating for these values to support concrete change at their institution.

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Teaching Cultural Humility and Awareness of Privileged and Oppressed Identities

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Problem Statement: Cultural humility training facilitates cultural identity awareness, adoption of cross-cultural care and effective communication with diverse patients.

Rationale: The objective of this study was to determine: 1) if an interactive educational workshop can increase knowledge and perceptions regarding cultural humility; 2) if participants can reflect on their own unique sociocultural identities and recognize which identities are oppressed, privileged, or have power and have changed over time

Methods: This is a retrospective study of educational workshops from July 2020-March 2021 attended by 133 medical students, resident physicians, and faculty. The workshop was developed to meet ACGME requirements of communicating effectively with patients, families, and public, across socioeconomic and sociocultural backgrounds. Kern's six step curriculum development was used. The conceptual framework was "situated learning-guided participation" in which didactic and interactive activities facilitate independent learning. The workshop included interactive presentations on culture, cultural humility equity/disparities, social determinants of health and allostatic load. Participants explored sociocultural identities, reflected on power imbalance in the provider/client relationship, and identified ways to take a culturally humble stand in relationship with others. A pre- and post- perception and knowledge survey was completed to assess short term learning. Statistical analysis was performed.

Results: There were significant increases from pre to post intervention assessments for perception scores (3.89 [SEM= 0.04] versus 4.22 [0.08], $p < 0.001$) and knowledge scores (0.52 [0.02] versus 0.67 [0.02], $p < 0.001$). Commonest identities participants recognized as changing over time were personality = 40%, appearance = 36%, and age = 35%. Commonest identities experienced as oppressed/subjugated were race/ethnicity = 54%, gender = 40% and religion = 28%; whilst commonest identities experienced as privileged were gender = 49%, race/ethnicity = 42% and appearance = 25%. Male participants assigned mean power score of 73% to gender identity compared to mean power score of -8% by female participants ($P < 0.001$). Non-Hispanic Whites had mean power score for race identity of 62% compared to 13% for non-white participants ($p < 0.001$). English as a second language was only acknowledged as an oppressed/subjugated identity by those born outside the United States ($p < 0.001$).

Potential Impact: An interactive educational workshop can increase participants' knowledge and perceptions of cultural humility. Participants can self-reflect to recognize sociocultural identities that are oppressed or privileged. Cultural humility enables clinicians to recognize that culture influences patient's response to health messages and care.

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Longitudinal Service-Learning during COVID-19 to Promote Medical Student Clinical Development

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Problem Statement: A program to help pre-clinical students develop clinical skills during the COVID-19 pandemic and understand the pandemic's impact on families.

Rationale: At the height of the COVID-19 pandemic, New York City Public Schools initiated remote learning to slow the spread of infection. As a result, caregivers took on extensive educational responsibilities to support their children's academic progress. The Tutoring and Early Mentorship (TANDEM) Pilot Program was founded to alleviate caregiver burden, help children remain engaged with school, and provide opportunities for pre-clinical students to participate in pandemic relief efforts. This pilot program allowed medical students to develop longitudinal relationships with families in the community in a non-clinical setting, enhance their clinical skills, and understand of the pandemic's multidimensional impact on families in Central Brooklyn.

Methods: Medical student volunteers were recruited via school-wide emails to participate in this tutoring program. Children in grades 3-5 who receive medical care at a family medicine practice affiliated with SUNY Downstate would receive eight 1-hour tutoring sessions each week. During volunteer orientation, informed consent was obtained for their participation in this research study. The stated goal was to evaluate the program's impact on volunteer confidence in their clinical skills and their perception of its role in medical education. The volunteers also discussed assigned articles and videos about the impact of COVID-19 on families in Central Brooklyn, racial health disparities, and elementary education. Each session was suggested to include rapport-building, homework assistance, and/or supplementary reading or math practice. At the beginning and end of the program, students were asked to rate their confidence in 9 clinical competencies on a scale from 1 to 5 (1=not at all; 5=very much). Students also rated the extent to which the program met its stated outcomes. Paired t-tests were used to assess changes in student confidence ratings.

Results: 20 volunteers participated in TANDEM: 6 male, 14 female, 13 MS1s, 6 MS2s, and 1 MS3, with an average age of 24.45 (SD=2.44). Twelve volunteers completed 7-8 tutoring sessions, and 8 completed 3-5 sessions. From pre-survey to post-survey, 26.1% of volunteer responses across all clinical competencies improved to "Very confident". In addition, 5.6% of volunteer responses in 5 of 9 competencies were "Not very confident" or "Neutral" and had improved to "Somewhat confident" or "Very confident". Statistically significant increases in volunteer confidence ratings were found for 7 of 9 competencies. The following competencies had the greatest improvement: "Communicate with patients and patients' families" (M = +0.4); "Demonstrate ability to adapt to expectations and patient cultures" (M = +0.5); and "Describe and recognize the technique/skills for building rapport" (M = +0.4). Volunteers strongly or somewhat agreed that TANDEM reduced caregiver stress from distance learning (95%), was a good use of their time (90%) and would recommend other medical students for the initiative (90%). Volunteers strongly or somewhat agreed that TANDEM reduced their tutee's distance-learning stress (60%) and that similar programs should be included in medical curricula (60%). 90% qualitatively responded that TANDEM has a role in medical education, explaining that TANDEM developed their "communication skills" and facilitated "understanding the stressors" that patients experience.

Potential Impact: The TANDEM program was well-received by medical students and increased self-reported confidence in various clinical competencies. This longitudinal service-learning program can

therefore be expanded and replicated in other medical schools to increase student engagement within local communities and facilitate professional development.

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Educational Module to Improve Resident Physicians' Knowledge in Caring for Sexual Assault Patients

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Problem Statement: Victims of sexual assault are under-treated when seeking care and emergency providers must be trained in proper management of this presentation.

Rationale: In the United States, 1 in 3 women will have experienced some form of sexual violence during their lifetime. (1) Many of these patients present to the emergency department and it is essential that emergency medicine providers are well equipped to care for these patients. Unfortunately, the prescription of post-exposure prophylaxis and emergency contraception after a sexual assault case is low among providers. One study showed that emergency contraception was only provided in 8.9% of visits to females experiencing sexual assault. (2). It is unclear why emergency providers are not adhering to national guidelines in terms of treatment of these patients. A knowledge deficit cannot be overlooked, and a recent analysis demonstrated that a significant knowledge deficit exists among emergency medical residents caring for these patients, with a knowledge assessment among residents with scores of only 56%. (3). We sought to improve resident physicians' knowledge at our institution.

Methods: An educational module reviewing proper medications and vaccinations for sexual assault patients. Knowledge acquisition was measured using a pre-intervention and post-intervention survey. We had 27 residents participate, which was over ¼ of the residency program.

Results: Resident physicians' knowledge base improved after an educational module in all categories. Selecting appropriate emergency contraception for obese women improved from 74% to 82%. Understanding of appropriate time course for emergency contraception and PEP improved from 59% to 62% and from 65% to 75%. Knowledge of proper evaluation of patients in terms of maintenance of the integrity of a forensic exam improved from 11% to 24%. Overall comfort of caring for patients with sexual assault increased by 12%.

Potential Impact: Knowledge gaps continue to exist in resident physician's knowledge in caring for sexually assaulted patients. Continued efforts should be made to improve provider's knowledge and subsequent comfort in caring for these patients, such as by encouraging educational sessions during training.

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Backfeed Your Feedback: A Longitudinal Workshop Series for Pediatric Oncology Fellows

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Idea: A feedback workshop series for pediatric oncology fellows to improve feedback reception and utilization for personal and professional growth.

Need: The ACGME program requirements mandate that faculty provide frequent, formative feedback and that fellows take an active role in the feedback process. Feedback has been shown to be essential for professional growth (1). Unfortunately, per the ACGME 2020 survey only 20% of the pediatric oncology fellows at CHLA report satisfaction with their feedback, compared to 72% of pediatric oncology fellows nationwide. In a local survey of the pediatric oncology fellows at CHLA, 100% expressed interest in learning how to receive effective feedback with a growth mindset to promote personal and professional development. Newer definitions of feedback emphasize learner self-assessment, and it has been shown that individuals that actively seek out feedback report increased job satisfaction and team functioning (2). Research has demonstrated that the use of a multimodal workshop to coach medical students on receiving feedback improved confidence and skills in seeking and modifying feedback (3). Teaching pediatric fellows how to receive and use feedback effectively through a longitudinal workshop series will promote professional development, increase job satisfaction, and enhance team functioning.

Methods: Sixteen pediatric oncology fellows (PGY 4-7) will attend a year-long longitudinal workshop series on feedback. This series will include four one hour sessions occurring quarterly during the fellow noon lecture series. The first session will provide education on self-assessment, growth mindset, communication and connection techniques, The next two sessions will focus on milestone targeted feedback strategies, development of a learning plan, and how to seek effective feedback and correct feedback when needed. The final session will explore how to incorporate feedback into an action plan to maximize personal growth. At the beginning of each workshop, fellows will reflect on their feedback received in the preceding months. They will receive coaching from the facilitator with the goal of developing confidence and competence at using feedback for personal growth. The workshops will include a combination of didactics covering basic feedback and "backfeed" strategies, videos with examples of different forms of "good" and "bad" feedback, large facilitated group discussions and written and verbal reflections regarding experiences with feedback. Trainees will have dedicated time to develop milestone specific SMART goals and feedback directed improvement plans. Role playing will be used to teach different feedback and "backfeed" techniques.

Evaluation Plan: Attendance will be tracked by the educational coordinator. The evaluation of the intervention will incorporate multiple methods as follows: 1. A survey following each workshop will be sent to the trainees to evaluate changes in attitudes regarding received feedback, individual growth, and if the fellows found the workshop components valuable and/or meaningful. 2. A pre and post workshop quiz will assess knowledge of learned techniques for giving, receiving, and modifying feedback. 3. Fellows will maintain a written log of received (and corrected) feedback, milestone directed learning goals and action plans. 4. Behavior change will be tracked by assessing if the fellows' learning goals correlate with their feedback. 5. Self-perceived professional growth will be measured by personal reflection in pre and post surveys. 6. Milestones ratings in problem based learning and improvement (PBLI) and communication will be compared pre and post intervention 7. Lastly, we will monitor the ACGME survey results for improvement following this workshop.

Potential Impact: Improved skills in receiving feedback will empower trainees to use all forms of feedback for professional development and growth. This workshop series can be used by all subspecialty training programs to enhance the knowledge, confidence, and skills of their learners.

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Initiating a Step 1 Tutor Curriculum in Response to a P/F Step 1 and a New Medical School Curriculum

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Idea: Implementing a structured tutor curriculum with review and practice problem sessions to prepare first-year medical students for the Step 1 board exam.

Need: In February 2020, the USMLE program announced that the Step 1 score would change to a P/F outcome. Historically, the Step 1 score was a strong determinant of residency matching, but this change will likely shift the emphasis on Step 2 CK scores (1). Study habits of medical students will likely parallel this shift, as they devote more time to Step 2 CK preparation (2). It is uncertain how students will adjust their study habits due to the P/F outcome, and both faculty and senior students are concerned about student preparedness. The ambiguity is compounded at David Geffen School of Medicine at UCLA, which implemented a new curriculum this year. The curriculum shortens the preclinical period from two to one year, leaving a one-week break before clerkships begin; previously, there was a six-week dedicated study period for the Step 1 exam prior to the start of clerkships. Currently, Step 1 peer tutors are available to students requesting assistance on an individual basis; however, the possibility of decreased motivation to study for a P/F exam, combined with a shortened preclinical and dedicated study period, creates a need for a structured Step 1 curriculum to prepare students who hope to take their exam prior to starting clerkships.

Methods: The tutor curriculum will target first-year medical students interested in taking the Step 1 exam prior to clerkships but will be open to students who have not yet taken the exam. Our preclinical year is divided into "Pit Stops" that are focused on specific organ systems. To give students time to adjust to medical school, the Step 1 peer tutor curriculum will begin after the first Pit Stop exam in early October. Afterwards, biweekly two-hour tutoring sessions will be held until their preclinical curriculum ends in August. The longitudinal aspect of the curriculum will allow for spaced repetition learning, which is correlated with improved exam scores (3). Students will be encouraged to attend in-person to keep sessions interactive; however, livestreaming and recordings will be offered for students to participate remotely or asynchronously. Each session will consist of content review and multiple-choice questions (MCQs). Content review will parallel the preclinical curriculum with an emphasis on board-relevant materials. Tutors will incorporate tools like Poll Everywhere to increase participation and promote active retrieval, which is associated with higher scores (3). In the second half of the session, students will individually work on a few board-style MCQs, followed by a discussion of answer choices and test-taking strategies. We hope to increase familiarity with board-style questions and decrease test anxiety, which are both correlated with better test performance (3).

Evaluation Plan: 1) Accountability: Students will submit their answers to practice questions administered during each session. A unique identifier will be used to track answers for a given user throughout the curriculum, but it will not provide information with the student's actual name, to ensure anonymity. At the end of the curriculum, overall class and individual student performance will be evaluated for possible trends as the year progresses. An anonymous survey will also be distributed to all attendees to assess their actual Step 1 performance and their perception on the contribution of the curriculum to their performance and preparedness. 2) Reaction: Learner satisfaction will be measured by attendees returning for additional sessions and anonymous session evaluation forms distributed at the end of each session. 3) Learning: Results from Poll Everywhere and answers to practice questions will be used to assess learning knowledge and application of test-taking strategies. 4) Behavior: Anonymous surveys will be distributed at the end of each session and will ask students how they have used skills from each session in their own preparation for the Step 1 exam.

Potential Impact: This novel approach can identify best practices in instituting peer-led, longitudinal support for the Step 1 exam. Feedback gleaned from tutors and students will yield helpful insights about the concerns and challenges students face in taking the Step 1 exam P/F as well as strategies to support students with a compressed timeline for preparation.

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Board-Style Question Review as an Inter-Module Approach to Improving Medical Student Test Scores

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Idea: Comprehensive board style question review via longitudinal tutoring while supplementing inter-module learning to facilitate test score improvement.

Need: Currently, many medical students focus on "segmentation" or "chunking" of material to make it more easily digestible. Although these methods may prove apt in the short-term they inhibit the ability of students to grasp the big-picture of medicine and the interconnectedness of all physiological processes. For this we propose a method of tutoring to improve student scores by highlighting these limitations and assisting students in filling in this "big-picture." Using standardized board-style review question and answer sessions, with in-depth review of concepts simultaneously student tutors will assist their peers to identify errors in their thinking and bridge their knowledge gaps by applying this knowledge through question and answer format. Medical board question writers emphasize the ability of students to grasp the understanding of how basic science knowledge is integrated together and translated to clinical practice. By weaving together methods of active learning with in-depth concept integration, students will be better positioned to grasp the complex relationships between anatomical, physiological, and pharmacological principles and in-turn more prepared to apply these concepts in their core medical school curriculum.

Methods: Second year medical students were recruited for peer-based tutoring over the course of three organ-system based modules. The modules were Pulmonary, Renal and GI. Selection criteria was students who underperformed academically, defined as any student who scored less than a 75% on three or more exams throughout the course of their first year and first module (Cardiovascular) of second year. Tutoring sessions are offered in group-based standardized board question format with in-depth review. Students will follow a routine and standardized weekly or biweekly tutoring schedule based on tutor availability. Two tutor groups will be formed and consist of approximately 3-5 students each. Tutor groups will be fluid and students will be able to participate in either group pending their availability. No more than 5 students will be allowed per session. Using standardized board-style review question and answer sessions, student tutors will work through answer choices to allow students to understand and evaluate medical knowledge that fits in with the "big-picture" of the organ system they are trying to learn and how this knowledge is relevant to all other anatomical, physiological, and pharmacological concepts needed for successful inter-module exam improvement. M4 tutors will crossover between groups during every other session so as to avoid confounding bias as student-tutor preference, and any discrepancies tutor teaching ability.

Evaluation Plan: For data collection and analysis, student performance metrics will be assessed as a function of peer tutoring on a regular schedule to better reinforce concepts. Student performance will be evaluated by both subjective quality improvement metrics through pre/post survey questionnaires involving student's perception of self-performance and satisfaction with tutoring sessions, as well as quantitative assessment of academic performance through trending exam scores over time. Survey questionnaires related to academic performance, test taking strategies, student knowledge pre/post sessions, and satisfaction with tutoring on many different standards will be developed and provided to students both pre and post tutoring sessions, and pre and post course completion. During tutoring sessions, student performance will also be recorded as a percent correct metric. This data will be analyzed to assess if performance within tutoring sessions correlates to academic test scores. Student academic course performance will also be assessed as compared to a cohort of their peers. Median second year class performance will be obtained by reaching out to the course directors of pulmonary, renal, and gastrointestinal/nutrition for each subjective course.

Potential Impact: This study will add to the expanding knowledge base of how active learning is useful in assisting students with in-depth understanding and long term retention of concepts. The novelty of this study is the concurrent use of in-depth review to better provide students a more wholesome approach to knowledge retention and concept integration.

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Comparing the Perceived Efficacy of Reciprocal-Peer and Near-Peer OSCEs.

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Problem Statement: This study aims to assess if reciprocal-peer OSCEs provide comparable learning opportunities to the near-peer OSCEs.

Rationale: The Observed Structured Clinical Evaluation (OSCE) is an examination used to assess clinical skill performance and competence by various healthcare professional schools. Previous research suggests that senior students could enrich educational experiences, such as Observed Structured Clinical Evaluation (OSCE) preparation.

Participants in near-peer practice OSCEs have been shown to report feelings of self-perceived improvement in preparation for and performance in summative OSCEs. However, there is a lack of research regarding the effectiveness of pairing first-year students with one another (MS1-MS1) for reciprocal-peer practice OSCEs.

Methods: Virtual practice OSCEs were conducted over a two-week period. Six clinical cases were divided among two student groups, with one group performing the reciprocal-peer OSCE protocol (MS1-MS1) and the other performing the near-peer OSCE protocol (MS1-MS4), switching the following week. There were 23 MS4 students recruited from the Students as Educators (SaE) Pathway, a longitudinal clinical teaching elective.

One student in each reciprocal-peer pair was assigned to act as a standardized patient (SP), then given instructions and the clinical case. Their partner was assigned twenty minutes to take a history and interpret verbalized physical exam findings. Twenty additional minutes were allocated to prepare a note and a five-minute oral presentation, followed by fifteen minutes of peer feedback. The pair then switched roles using a second case. The near-peer group followed the same procedure, except the MS4s only acted as the SP and provided feedback.

Students completed anonymous surveys to provide feedback comparing the two experiences. Descriptive statistics were generated and valid percentages calculated. The study was determined exempt by the IRB.

Results: A total of 140 MS1 students participated. Rates of survey completion for the reciprocal-peer (N=68), near-peer (N=72), and overall experience (N=140) were 97.1%, 95.8%, and 90%, respectively. When asked if the virtual OSCE was a good learning experience, 94.2% of students (N=65) with near-peer partners agreed, compared to 74.2% of students (N=49) with reciprocal-peer partners. Students preferred their near-peer partner over their reciprocal-peer partner for improving their history taking (N=101, 80.2% vs N=5, 4.0%), physical examination (N=102, 81.0% vs N=1, 0.8%), and note writing (N=109, 87.2% vs N=3, 2.4%) skills. Some found both equally valuable for each skill: 15.9% (N=20), 18.2% (N=23), and 10.4% (N=13), respectively. Similarly, peer feedback from near-peer partners was rated to be more valuable (N=113, 89.7% vs N=1, 0.8%), and 9.5% (N=12) equally valued feedback. When asked to select a preferred partner, 52.7% (N=58) selected a near-peer, 43.6% (N=48) selected a Standardized Patient, and 3.6% (N=4) selected a reciprocal-peer. In regards to a virtual platform, students largely agreed that the virtual OSCE raised their confidence in their history taking (83.8%, N=109), physical exam (67.6%, N=88), and note writing (81.5%, N=106) skills.

Potential Impact: Our findings suggest that while MS1 students prefer working with MS4s, both near-peer and reciprocal-peer protocols are valuable learning experiences. Further qualitative studies of MS1-MS1 reciprocal peer OSCEs are needed to better understand and improve the parity of these experiences.

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A Comparison of Examination Modality: In Person Versus Remote NBME Subject Examinations

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Problem Statement: How did the transition to remote NBME Subject exams during COVID-19 impact student scores and administrative workload?

Rationale: NBME Subject Exams are high stakes examinations given to medical students to ensure comparable clinical learning. This is one type of examination that moved remotely but many institutions had to work nimbly to adapt to online examinations. This session shares lessons learned, technological resources, proctoring guides, and institutional resources needed. Prior to the 2020, COVID-19 pandemic high stakes exams such as the NBME Subject Exams were administered in person. When the pandemic hit, institutions had to quickly shift exam administration modality to remote proctoring. This session describes lessons learned and shares some comparison data from prior years. We needed to ensure comparability from in person to remote testing, and data was compared year to year. We will share some aggregate data showing that the examination experience wasn't compromised.

Methods: A detailed exploration of NBME subject exam procedures before and during COVID-19 identified key differences between administering exams remotely versus in-person. To determine potential effects from moving to remote exams, NBME subject exam scores were analyzed from clinical rotations before and during the remote administration. Rotations included Internal Medicine, Family Medicine, Clinical Neurology, OBGYN, Pediatrics, Psychiatry, and Surgery. Data from the beginning of two academic years, 2019-2020 (in-person) and 2020-2021 (remote), were used to examine potential differences in exam scores by exam modality. Students taking in-person exams were in a controlled, standardized environment on the university's campus. Students testing remotely were able to test in their own home, proctored via Zoom. Data from previous academic years are included to contextualize normal increases and decreases of average exam scores over time. Exam score differences between remote and in-person modalities were examined using independent samples t-tests. A chi-square analysis of failure rates by exam modality is also included. In addition, we recorded a first person account from administrators of this exam and documented their lessons learned.

Results: Moving to a remote exam administration requires more detailed processes, additional staff and resources. Institutions need to be flexible with changes to mandated policies and focus on communication between all stakeholders. Overall, the process to administer remote exams requires more time and effort, and significantly impacts the institution's resources.

While remote examinations may impact the workload of the institution, there was no consistent significant impact on student exam scores found at our institution and through NBME investigations. At DUCOM, a few significant differences were found. Specifically, Pediatrics exam scores decreased when the exams went remote. While for Psychiatry, scores increased during the remote exam period. No consistent trend was found that indicated moving to remote exams positively or negatively impacted overall exam scores. By examining previous years of data, it is evident that there is natural fluctuation across years. In addition, a chi-square analysis was conducted to examine the relationship between subject exam performance (pass/fail) and exam modality (in-person/remote). There was no significant relationship.

Potential Impact: Active communication between staff, students, and proctors is paramount as remote exams require more communication, both in frequency and in detail. Further, equal access to adequate technology is necessary. Finally, our biggest lesson learned was that we need to be flexible during times of crisis and make sure that we are meeting students' needs.

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Objective Analysis of the Influence of Instructor Level on Resident Surgical Performance

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Problem Statement: The impact of instructor level of expertise on objective measures of resident surgical skills is unknown.

Rationale: Many factors are expected to influence a surgical resident's intraoperative performance including level of training, case complexity, and influence of their instructor (1). The influence of these factors on objective measures of surgical skills, such as instrument movement metrics, are important to understand if objective measures are to be used to provide residents summative and formative feedback in the future (2). Surgical residents receive skills training primarily through intraoperative experiences under the supervision of senior surgeons with varying levels of expertise. Therefore, the aim of this project is to characterize objective measures of resident surgical instrument usage under the supervision of two levels of instructors: fellows and attendings. We hypothesize that resident instrument metrics will be greater with attendings than with fellows.

Methods: 42 one-minute video clips of mastoidectomies performed by otolaryngology residents under the supervision of a neurotology fellow or attending were obtained. Participants included four PGY2s, four PGY3s, three PGY4s, and eleven PGY5s instructed by a neurotology fellow and five PGY2s, two PGY3s, four PGY4s, and eight PGY5s instructed by a neurotology attending. Movement of the drill and suction-irrigator were analyzed using Kinovea, a sports motion tracking software, and objective metrics including distance travelled, speed, acceleration, angle, and angular velocity, were determined. Residents were designated as junior level (PGY2 and PGY3) or senior level (PGY4 and PGY5) for analysis. Mann-Whitney U tests were used to compare resident instrument movement metrics between those instructed by a fellow or attending.

Results: Mean drill and suction-irrigator distance, speed, and acceleration for all residents combined did not differ between fellow or attending supervision. Mean drill distance travelled, speed, and acceleration for junior level residents was less when supervised by a fellow than by an attending (103.51 cm, 1.59 cm/s, and 12.62 cm/s² versus 137.61 cm, 2.19 cm/s, and 19.41 cm/s²; $p = 0.27, 0.27, 0.22$, respectively). Mean drill distance travelled, speed, and acceleration for senior residents was greater when supervised by a fellow than by an attending (173.11 cm, 2.73 cm/s, and 27.54 cm/s² versus 150.68, 2.41 cm/s, and 21.37 cm/s²; $p = 0.09, 0.12, 0.07$, respectively). Instructor level did not impact suction-irrigator metrics for junior residents. However, mean suction-irrigator distance, speed, and acceleration of senior residents was less when supervised by a fellow than by an attending (79.83 cm, 1.29 cm/s, and 10.37 cm/s² versus 89.88 cm, 1.41 cm/s, and 11.17 cm/s²; $p = 0.34, 0.43, 0.46$, respectively).

Potential Impact: This pilot data suggests that instructor level might influence objective measures of resident surgical performance during mastoidectomies. Therefore, the influence of instructor level must be accounted for when using objective metrics of resident surgical skills to track progress and influence advancement decisions.

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Evaluating the Use of the Role Portrayal Assessment Tool for Standardized Patients in Clinical Exam

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Problem Statement: Standardized patients play a critical role in medical education, but currently lack sufficient methods to validate their performance.

Rationale: Standardized patients (SPs) play an integral role in medical education by simulating realistic medical encounters with learners. These highly trained individuals portray a patient by accurately and consistently delivering content in a standardized way. It is important for the SPs to provide a standardized and accurate dialogue and performance for a learner to be graded appropriately. Despite their growing role in medical education there are few tools to evaluate SP performances. Two popular tools are the Maastricht Assessment of Simulated Patients (MaSP) and Nijmegen Evaluation of the Simulated Patient (NESP). They address the performance of the SP but are not very specific and focus on SP feedback to the learner.¹ To date, we are aware of only two tools that focus solely on the performance of the SP in their role, and these tools have not been widely dispersed and lacked adequate assessment of SP role portrayal. Therefore, we developed a Role Portrayal Assessment Tool (RPAT).

Methods: The RPAT was developed to assess a SP's verbal, nonverbal, assessment, and suitability for a high-stakes exam. After its development this tool was deployed in a pilot study to assess both its validity and reliability in analyzing a SP's performance.

Validity was analyzed by utilizing experienced SP trainers at 5 different medical school campuses. The SP observed 1-3 clinical encounters of a medical trainee interacting with a SP either by video or in person. During and/or subsequently, the SP trainer rated the performance of the SP using the RPAT. They then completed a survey with questions aimed at determining the content validity of the RPAT questions.

For the reliability arm, we examined rater reliability-psychometric distribution of scores. This was assessed by 4 expert raters at University of Illinois at Urbana-Champaign (UIUC), who each viewed 30 pre-recorded videos of clinical encounters of medical students and SPs from UIUC only. These encounters encompassed different SPs and cases. They were scored independently using the RPAT. There was no communication between the raters. After completing these reviews agreement between raters was assessed to determine if the RPAT allows for interrater reliability.

Results: Validity assessed using survey results from SP encounters from 5 different medical schools demonstrated robust validity. Of the 10 questions asked from the survey potential answers included "Not useful at all" "Not useful" "Neutral" "Useful" and "Very useful", with 3 free response questions. From the 11 surveys returned, answers ranged from neutral to very useful, with no negative responses recorded. Notably, users of RPAT described the tools as either "very useful" (n=8) or "useful" (n=3) in assessing the verbal portrayal, "very useful" (n=5) or "useful" (n=6) in assessing non-verbal portrayal, and "very useful" (n=7) "useful" (n=3) and neutral (n=1) in capturing the overall quality of SP role portrayal.

The inter-rater reliability was assessed and demonstrated 8 of 10 questions achieved significance of $p < .001$. These questions demonstrated a % agreement between 0.90 and 0.97. The two questions not achieving significant agreement were in relation to whether the SP portrayal was suitable for high stakes examination and whether the SP delivered their opening statement verbatim.

Potential Impact: The ability of SPs to accurately portray a role reliably, consistently, and without unnecessary improvisation is essential for a learner to fully benefit from the SP encounter. The RPAT developed in this pilot study, with minor changes and further testing, is promising as a robust method for verifying accurate SP role portrayal.

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The Impact of a Nervous System Anatomy Mock Practical on the Study Habits of Medical Student

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Problem Statement: We identified the problem as an increased amount of anxiety and lack of confidence with the gross anatomy and neuroanatomy content amongst our peers.

Rationale: At Western Michigan University Homer Stryker M.D. SOM (WMed), the nervous system course is only the second course with an anatomy practical. Knowing how to study is key to academic success, and studies have shown that taking formative exams helps students to better direct their studying.¹ Given the novelty of an anatomy practical for many medical students, learning how to properly study for this new exam format is vital for academic success. Additionally, it has been well-documented that while a moderate amount of stress may be beneficial for memory, high levels of stress can be detrimental for memory.² Given the prevalence of neurophobia among medical students and the ever-present test anxiety, managing and reducing stress is important for ideal retention of studied course material.³ Therefore, a mock practical at the middle of the course could potentially help guide study habits to reduce anxiety and increase confidence in medical students for the practical at the end of the course.

Methods: At WMed, a 25-question nervous system anatomy mock practical was administered to first-year medical students 2 weeks prior to the actual practical. The mock practical tested similar objectives to the real exam, used the same modalities, and replicated normal testing conditions. To collect data on the effects of the mock practical, an anonymous survey was distributed to the entire class following the completion of the actual anatomy practical. To prevent potential bias, the survey closed before the class received their anatomy practical score.

Results: Out of 83 students, 56 students participated in the mock practical, 38 of those students responded to our survey, and 25 students who completed our survey provided additional written feedback. Based on the survey responses, 54.1% of students changed their study methods and 68.4% of students increased their level of studying following the mock practical. Overall, 78.9% of students thought the mock practical prepared them for their actual practical and improved their performance. From the additional written feedback, in terms of its use as an innovative tool of instruction, 68% of students stated that the mock practical served as a good opportunity to review material and 48% stated that it was helpful for familiarizing oneself with the test format. In terms of building good study habits, 64% of students felt like the mock practical helped focus studying and 56% felt like it helped identify weaknesses. Most notably, one student stated, "Stopped relying on Anki so much and started physically coming into lab." Finally, the mock practical helped increase confidence in 40% of students and decrease anxiety in 44% of students.

Potential Impact: Combining the survey results and written feedback together, the nervous system anatomy mock practical helped students to refine their studying strategies for this new exam format and helped reduce stress from test taking and neurophobia. Thus, mock practicals show potential as a strategy for helping students to study more efficiently.

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The Tortoise or the Hare – Starting a Longitudinal ECG Curriculum for a Community-Based Clerkship

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Idea: Implementing a longitudinal ECG curriculum at a community-based clerkship site for medical students will improve interpretation accuracy.

Need: The ability to read the electrocardiogram (ECG) is an important skill for medical students. It has been around since the turn of the 20th century (1). Despite advanced cardiac imaging, the bedside ECG remains a valuable diagnostic tool (2). A simple recording of the electrical activity of the heart puts the heartbeat on paper. It can be one of the earliest skills a medical student learns (1). Yet, ECG training has no standard accepted training method. Interpretation accuracy is lacking, and retention can fade in a few weeks (3). Instruction can vary from formal classroom didactics to informal self-directed learning modules (2). Most courses coincide with the internal medicine clerkship lasting 4-6 weeks. We plan to implement an ECG curriculum for students at a remote community-based clerkship site. It will use a variety of learning principles and will take place over one year. Delivering the curriculum over a longer time will help strengthen the accuracy of learners' skills. Improved skills will boost confidence going into residency. Enhanced ECG knowledge benefits the learner and the patients.

Methods: The intervention will involve sixteen 3rd and 4th year medical students on various rotations based out of Anchorage, Alaska. The course will be delivered in six one-hour sessions every other month during scheduled didactic time over one year. Zoom sessions will have multiple formats within the session. Formal presentations from the instructor (max 15 min), case reviews, structured practice, learner presentations and teach-pair-share are some of the techniques that will be utilized. The fifteen essential ECG tracings as defined by AAIM will be reviewed and learning points discussed. Students will have ECGs to prepare before class. ECGs will be distributed in advance via a cloud service. Other case examples of ECGs to be reviewed in class. The six sessions planned are: 1) ECG basics, 2) Atrial rhythms, 3) Blocks, 4) Ventricular rhythms, 5) Myocardial ischemia/infarction, 6) Misc. special cases (electrolyte imbalance, pericarditis, hypothermia). Practical tips reinforcing these skills during their clerkship rotations will be reviewed. Session feedback in a debrief format will help focus learning principles to the needs of the group.

Evaluation Plan: A pretest of 10 unknown ECGs and pre-course questionnaire using a 5-point Likert scale will assess baseline accuracy and goals. Informal feedback at the conclusion of each session will allow for course adjustments. Following the course, the same post-test ECGs will be given to assess achievement. Additionally, a questionnaire will be given to assess confidence in skill level and program satisfaction. The post test is planned one month after course completion.

Potential Impact: If successful, this curriculum intervention may become a staple program and become adopted by other regional clerkship sites within the school. Broader applicability to schools with community-based clerkships is considered.

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The SHE Program: Promoting Female Leadership in Medicine through an Experiential Mentorship Program

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Idea: A formal experiential mentorship program for female-identifying medical students to enrich professional development and build leadership skills.

Need: Mentorship is important for career advancement, especially in the field of medicine where women continue to be underrepresented in leadership roles at academic institutions (1). The lack of female leadership tends to have profound impacts on the care afforded to patients and educational outcomes for trainees (2). A recent study found that 59% of medical students do not receive enough mentorship in medical school (3). Moreover, female medical students are less likely to report having mentors in the field compared to their male counterparts (3). This demonstrates the need for formal mentorship programs in medical education. The Summer Healthcare Experience (SHE) Program is a unique experiential pipeline program designed to guide and support aspiring female students by providing them with invaluable mentorship, as well as practical tools to continue developing their own leadership styles and achieve their career goals.

Methods: Summer Healthcare Experience, SHE, is an annual one-week program designed for female-identifying high school students interested in pursuing a career in healthcare. Starting in 2018, four to six second year female-identifying medical students served as SHE ambassadors each year. Their roles included the following: 1) to assist in program development, 2) to lead the selection process, 3) to facilitate networking, career mentoring and communication workshops, 4) to serve as a mentor for the digestive health awareness project. A senior gastroenterologist and two fellows served as advisors for the ambassadors. Frequent meetings allowed for consistent communication between ambassadors and faculty as well as development of the mentor-mentee relationship. The experiential nature of the program allowed for ambassadors to have “hands on experience” to lead workshops including Life Hacks presentations on succeeding in college, a mock interview session, personal statement review, and ultrasound workshop. Ambassadors also promoted networking amongst participants by leading group reflection sessions. At the conclusion of the program, SHE ambassadors continued to maintain a longitudinal relationship with mentors through biannual meetings, which involved discussions centered around leadership, the medical student experience, and career goals. With the addition of new ambassadors each year, the program continues to build a network of future female physician leaders.

Evaluation Plan: An electronic survey will be sent to all past SHE ambassadors to evaluate the impact of the mentorship program on their medical school experience and the unique experiential aspect on their development of professionalism, leadership, and communication skills. Comments and recommendations for improvement will also be gathered through this survey. Efficacy of mentoring sessions, the longitudinal mentorship experience with faculty member and peer SHE ambassadors, as well as the 1-week summer program will be assessed by questions regarding their mentee-mentor relationship with the faculty mentor, gastroenterology fellows, attendees, and other individuals present at the event workshops. Further information regarding the backgrounds of each ambassador will also be gathered, specifically regarding demographics, undergraduate schooling, gap year activities, additional degrees, and other leadership roles held in medical school and undergraduate school. Lastly, information will be gathered to assess the career trajectories and field of medicine each ambassador applied and/or will apply for.

Potential Impact: Our formal mentorship program allows female-identifying medical students to collaborate with other female leaders in medicine. The longitudinal and hands-on experiential nature of

SHE allows students to build their leadership skills, empowers them to better navigate the healthcare system, and creates the next generation of women medical leaders.

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Creation of a Needs-Focused Supplemental Teaching Didactic for the Pediatric Clerkship

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Idea: Develop a subject-targeted teaching didactic based on the needs of medical students preparing for their pediatric NBME subject exam.

Need: Undergraduate medical education (UME) is an ever-evolving field and changes in clerkship curriculum and learning resource utilization occur frequently over time. As technology advances, so too does accessibility to newer online study materials. In the advent of the coronavirus pandemic of 2019, curriculum has also had to adapt, resulting in fewer in-person activities and more virtual learning. The number of resources and new curricular changes can be overwhelming to students, and it can be difficult from a clerkship perspective to know how to best tailor clerkship curriculum to meet individual student needs. Previous studies demonstrate the positive effects curricular changes can have on student wellness. However, while previous research evaluating the study habits of medical student does exist, it is minimal, and current studies reviewing students on their core pediatric clerkship are virtually non-existent.

By performing a needs assessment of medical students' study habits and preferences while on their pediatric clerkship and using that knowledge to create learner-focused didactics, we can optimize UME and clerkship resource utilization to better adapt for the current learning environment and improve overall student wellness.

Methods: Third-year medical students on their core pediatric clerkship at the Medical College of Wisconsin were recruited via email by the research coordinator or via a recruitment video played during orientation to participate in individual semi-structured interviews designed to discuss study habits, preferences, and resource usage regarding preparation for their pediatric clerkship and corresponding NBME subject exam. Questions were semi-structured in nature and sessions lasted 10-20 minutes each. Interviews were performed virtually using Zoom and were recorded. Once collected, this data was transcribed, deidentified, and analyzed qualitatively via thematic analysis by two readers. A total of 7 students were interviewed and thematic saturation was achieved.

Themes identified from the structured interview analysis were presented to a focus group of third-year medical students to generate solutions to identified problems. Students for the focus group were recruited via email for voluntary participation. A total of 9 students participated in the focus group.

A teaching didactic was created based on the results of the semi-structured interviews and the focus group. Didactic topic focus for the sessions was determined by Content Area Analysis of NBME pediatric subject exam data from 2018-2019. Once created, 3 weekly 1-hour sessions were then offered to third-year medical students on their 8-week core Pediatric clerkship during their 4-week inpatient block.

Evaluation Plan: Initial evaluation of didactic sessions will follow a Plan-Do-Study-Act (PDSA) cycle in which students will be provided with a survey at the end of their core Pediatric Clerkship regarding their attendance, perspectives, behavioral changes, wellness, and suggested improvements for the sessions. Each cycle will occur every 8 weeks and will include two full sets of 3 weekly 1-hour sessions. Adjustments to the 3 weekly sessions will then be made based on student survey responses and a new cycle will occur. Successful measures of the PDSA cycle will be the improvement of consistent session attendance, perceived satisfaction of session usefulness, decreased time spent independently studying session-focused topics, decreased time independently studying overall, increased time available for enjoyable activities outside of clinical duties, and improved NBME scores of session-focused topics as seen via Content Area Analysis.

Potential Impact: The potential impact of this project is to develop an effective subject-targeted teaching didactic in our current learning environment that improves student satisfaction, wellness, and NBME subject exam scores. If effective in Pediatrics, the universal development method of the didactic could be successfully applied to other clerkships as well.

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Search the Script: Improving Clerkship Student Hypothesis-Driven Data Collection

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Idea: Students receive an initial problem representation and ask 20 questions to receive additional aliquots of information to solve the case.

Need: The aim is to help students build a diagnostic and management approach for several core chief concerns on the wards. The limited question structure will encourage students to focus on the most important questions, exam maneuvers, and diagnostics which serve as pivot points for specific illness scripts. Facilitators are encouraged to review schematics for specific illness scripts to help students build a framework for diagnosis and management of common conditions. The goal is to help students build their own approaches to common conditions and hone in on pertinent information for the illness scripts.

Methods: Students will work in small groups including 2 facilitators and 6-7 students. Facilitators will then guide the students through 2-3 cases (~20 minutes each) and provide them with aliquots of history, physical, and diagnostic information. After each aliquot of information, students can ask for additional pieces of data. Over the course of the exercise, students are allowed to ask for a total of 20 questions with at least 10 being history questions and 5 being physical exam questions, which have to be asked before any questions about diagnostics. Students will then be asked to provide the top 5 diagnoses in their differential. Facilitators and students will then discuss the case and facilitators will review common schematics and frameworks used for the illness scripts. Facilitators are encouraged to discuss pivot points in the case and why specific questions were especially helpful for getting to the diagnosis.

Evaluation Plan: The evaluation of the workshops will be through an anonymous student online feedback form. This is a standard form sent to the students for all educational sessions and is required for students to view clinical evaluations to improve response rate. The form includes a free text section as well as a 5-point Likert scale from 1-poor to 5-excellent; students can also select N/A if they do not wish to provide a response or they were not able to attend the session.¹ The feedback is monitored and reported to the clinical reasoning team by the Office of Medical Education.

Potential Impact: This activity could be employed at any learner level to aid learners in the development of diagnostic and management frameworks specific to their field. For clerkship level students, take their broad data gathering skills and focus on pertinent hypothesis-driven questions improving efficiency and completeness of the diagnostic process.

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**FASTS Precepting: Engaging Medical Learners in Virtual Patient Encounters
with a Mnemonic Based Tool**

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Idea: Utilize a standardized mnemonic based tool when precepting learners in virtual encounters to increase learning satisfaction and outcomes.

Need: The importance of social distancing during the COVID-19 pandemic has led to limitations in traditional patient encounters for learners, resulting in a shift to virtual platforms. Of medical schools with a preclinical telemedicine curriculum, only 53% utilize patient encounters to develop competencies. (1) Additionally, graduating medical students as a whole feel significantly unprepared to utilize the medium for patient care. (2) In 2021, the AAMC addressed the need for skill in virtual encounters by releasing a list of 6 domains of virtual care with various competencies in each. As a result of the infancy of widespread virtual care in the educational setting, many of the guidelines related to virtual care implementation and trainee instruction in this setting rely mainly on expert opinion. (3) While traditional precepting models such as SNAPPS, the One-Minute preceptor, and others remain valuable tools in the virtual setting; we identified that there was still a need for a standardized tool that could support learner-centric growth in the AAMC's competencies, while accounting for the unique challenges of telemedicine workflows.

Methods: The intervention will focus on important goals for medical student education in the outpatient setting; those being learner engagement, ownership of patient care, identifying opportunity for medical knowledge supplementation/reinforcement, as well as opportunity for feedback with goal of retention. In addition we hope to inspire, empower and enable knowledge transfer and retention. We will implement this intervention for 6 months across multiple outpatient clinic sites.

The mnemonic FASTS was created with this breakdown:

Formulate a clinical question-This question can stem from the patient's chief complaint. The question can be related to physical examination, pathology, diagnosis or treatment.

Ask the resident/attending the question-There is no need to seek the answer to the question at this point. Asking the question at this point will allow the teacher (resident/attending) the opportunity to provide some guidance about physical examination/clinical questions which should be posed to the patient to produce the maximum amount of learning from the case.

See patient-Present the case to the attending/resident.

Talk with resident/attending-At this time the initial question should be answered using either online resources or information from resident/attending.

Save the information for later use – The learner should prioritize retention of the learned material by writing the information down, creating a note card or using which ever method would provide the best opportunity for retention.

Evaluation Plan: A self-reflection form was created with the goal of allowing learners and physician teachers to identify whether implementation of the mnemonic based standardized model was successful in achieving the above goals. Users respond to statements written to reflect above goals using a 1-5 scale to indicate level of satisfaction. The forms would be distributed first before implementation of the mnemonic based standardized model to identify the baseline success of achieving above goals. After baseline data is collected, the goal is to educate and train physician teachers in the FASTS mnemonic based standardized model, with repeat distribution of forms afterwards to assess effect on satisfaction of above goals.

Potential Impact: Our hope is that this standardized model of engagement will improve satisfaction in learning experiences and outcomes for learners, as well as educators, during virtual patient encounters. If effective, this tool would then serve as a model for other institutions to adopt, with potential value as a precepting model across the UME-GME continuum.

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Innovations in Critical Thinking and Digital Content Delivery

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Idea: How can we leverage technology and innovative teaching methods to significantly impact students' healthcare education and board exam preparation?

Need: Our students and faculty are faced with a new, remote, dynamic and technology driven educational landscape. As these students graduate and enter their chosen medical field, they will experience the need to collaborate and communicate in new and exciting ways. How do we enhance, our teaching and their learning to better prepare them for the world they will be entering?

As we explored these challenges three key areas continually came to the forefront.

Helping students adapt to paperless, digital communication and collaboration, work and learning environments.

Preparing students for new board exam models that are more focused on critical thinking and the process rather than simply answering multiple choice questions. Our current focus is the NCLEX but we expect more board exams to follow this example. Addressing the needs of our students to be engaged and challenged while working in a remote learning environment.

What technologies, tools and innovative pedagogical approaches could be leveraged to address these needs?

Methods: To engage our students and prepare them for a digital world requiring powerful critical thinking skills, NMC has focused on three key initiatives: a digital clinical manual, Next Gen NCLEX preparation, and remote active learning.

The interactive clinical manual with six cardiovascular sonography students in clinical rotations was the pilot for many other manuals now being developed. In the past, students completed clinical requirements with paper submissions. Not only was this time consuming it was an ineffective workflow in the clinical setting. By moving clinical documents into an interactive clinical manual, students are better prepared for their clinical rotation and are working more efficiently with the clinical preceptor.

Preparing for the Next Generation NCLEX exam with 15 question types and a focus on critical thinking is a significant challenge for students as well as faculty. One example addresses the highlighting question type. Students now create screen and audio recordings of their critical thinking process as they highlight material on the screen. This allows our faculty to "see" the underlying thinking behind the students' answers.

Remote learning has been difficult for students. NMC is using LMS based digital escape rooms to create fun and engaging remote learning environments. The Escape Challenge taught many skills such as digital note taking, remote quiz fundamentals, LMS navigation as well as iPad basics as students were being moved off campus.

Evaluation Plan: These programs are now being implemented in several areas of the college. Throughout the next year learners will have the opportunity to complete activities in the following areas: utilizing digital books in the clinical setting, testing critical thinking skills with virtual case-based learning, and/or participating in a virtual escape room related to their field of study. Students will participate in a post assessment survey related to the activity. The post survey will be based on a Likert scale to determine if the activity provided value to the student's educational experience. We believe learners who actively participate in these programs will find technological innovation as a helpful addition to the current learning platform, while better preparing them for professional board exams and future professional work.

The college will also compare prior NCLEX performance attributes with future performance information .

Potential Impact: These methods may ease workflow in a clinical education setting, better prepare students for Board examinations through more case-based learning and improve critical thinking via game-based learning and innovations such as virtual escape rooms. These modifications can be incorporated into many K-20 educational programs and beyond.

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Implementation of a Newborn Nursery Handbook and its Effects on Learner Confidence and Satisfaction

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Problem Statement: The Newborn Nursery has been seen as an intimidating rotation, especially for new interns and students who are not supervised by senior residents.

Rationale: The Newborn Nursery requires systems-based knowledge, as well as medical knowledge to treat patients and provide anticipatory guidance to parents. As this rotation is frequently run by 1 to 2 interns at Riverside University Health System (RUHS), it forces the intern to assume responsibility for the entire unit. It can be an intimidating rotation—especially at the beginning of residency. Internal medicine and surgical settings have documented that adding a formal curriculum can improve both knowledge and confidence (Geoffrion et al, 2011; Lin et al, 2020). Furthermore, self-efficacy is associated with job satisfaction (Yalalova and Li, 2017; Klaussen and Chiu, 2010). A Newborn Nursery Handbook was created to answer this: How does having a handbook affect learner experience of the rotation?

Methods: Surveys were given to Family Medicine, Pediatric residents and medical students from RUHS starting Fall 2020. Participants were asked to complete a pre-rotation and post-rotation quiz on Newborn Nursery topics, as well as answer a survey on their experience. The quiz results were used to determine if there were objective improvements in participant performance, whereas the survey provided subjective data. The post-rotation survey used the Likert scale to gauge participant confidence in the material learned, as well as their satisfaction with the rotation.

Results: Out of 12 questions, the pre-rotation quiz had an overall average score of 7.6 (n=26). The post-rotation quiz average score was 9.1 (n=20). This showed a general improvement in score at the end of the rotation (p=0.01).

Overall satisfaction with the rotation exhibited a positive correlation with average confidence in material ($r^2 = 0.88$). In participants who answered survey questions, the handbook was considered useful on the rotation. Overall satisfaction of the rotation averaged 4.23 out of 5.

Potential Impact: There were improvements in the quiz scores at the end of the rotation. Satisfaction was found to correlate with confidence in individual components of newborn nursery care. This revealed the importance of creating a strong educational environment to promote good patient outcomes and improve workplace satisfaction.

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Medical Student Attitudes Toward Multilingualism in Communication with Spanish-Speaking Patients

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Problem Statement: Current medical Spanish courses may not be attuning medical students to the dynamic patient-centered communication needs of US Spanish speakers.

Rationale: When speaking about their health, multilingual patients may flexibly draw from all facets of their linguistic repertoires, a process called “translanguaging” (1). For example, US Spanish speakers may say some words in Spanish with varied regional influences, some terms in English, and others in Spanglish (2). Language concordance between physicians and patients is known to improve clinical outcomes, and medical Spanish educational programs are emerging and expanding in US medical schools to improve health communication for the growing Spanish-speaking population (3). However, it is not clear to what extent current medical Spanish programs address patient-centered communication with Spanish speakers by focusing on real-world use of language. Our study explored whether a medical Spanish course as an educational intervention affects medical student attitudes toward translanguaging in communication with patients.

Methods: Three-hundred fifty-five medical students from 18 US medical schools enrolled in a standardized medical Spanish curriculum and were asked to complete pre- and post-course surveys. Three survey items asked learners to report to what extent they agreed or disagreed with statements that expressed attitudes related to translanguaging in medical settings. Two statements portrayed flexible attitudes around medical translanguaging, including: “Use of Spanglish and Anglicisms is appropriate when speaking with patients” and “Medical Spanish should involve regional words/phrases;” and one statement expressed attitudes in favor of a more monolingual approach to healthcare communication: “Standard Spanish is needed to develop relationships with Spanish-speaking patients.” Response choices included 4 Likert-scale options to indicate extent of agreement. Additionally, students were asked to provide a free-text explanation for their response to each of the three items. We analyzed quantitative data using a Chi-square test to determine statistical significance for pre and post-course responses. We also used linear regression to analyze the data for the effect of potential confounding factors including Spanish level, prior Spanish advanced education, heritage Spanish, and skills in other languages besides English or Spanish. Finally, we analyzed free-text response data using Qualitative Content Analysis.

Results: Overall, 318 of 355 enrolled students (90%) completed the pre-survey and 170 of 355 (48%) participated in the post-survey. Overall, the medical Spanish educational intervention had variable effects on translanguaging attitudes. After the course, learner responses showed a small but statistically significant positive change in favor of learning regionalisms (94% pre vs. 95% post-course; $p = 0.045$), but a decrease in flexibility regarding incorporating Spanglish in patient care (58% pre vs. 55% post-course; $p < 0.001$), and a tendency to favor use of standard Spanish when communicating with patients (93% pre vs. 95% post-course; $p < 0.001$). Analysis of confounding factors showed that learners who had taken a prior medical Spanish course were less likely to agree with use of regionalisms ($p = 0.036$), but no other factors were significant. Qualitative analysis of free-text content yielded principal themes as drivers in learner responses, including desire to: facilitate communication, build patient rapport, and improve quality of clinical care. Other concepts that appeared multiple times were uncertainty in defining “standard” Spanish and personal experiences informing implicit pro-translanguaging attitudes. The qualitative data provided insight into the complex ideologies that students bring into the classroom, and by extension, into clinical practice.

Potential Impact: Current medical Spanish curricula may not consistently equip students with tools to communicate with multilingual patients. Further study of translanguaging in the medical Spanish classroom and subsequent recentering of language skills education on the patient could have far-reaching impact on healthcare for linguistically diverse populations.

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A Medical Education Experimental Design No Curricular Dean would have Approved

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Problem Statement: The ongoing pandemic and evolving toolbox for anatomy education demand student performance and perception data to chart a future curricular path.

Rationale: Cadaver dissection is the gold standard for learning anatomy despite administrative pressures to reduce lab hours and numbers of cadavers used (1). The COVID-19 pandemic required schools to pivot to remote learning without cadaver dissection to teach anatomy. Studies on students' preferences of online vs in-person anatomy education suggest students prefer online lectures due to increased self-study time and enhanced learning satisfaction (2,3). The pandemic provided an opportunity for an experiment on anatomy learning and assessment in schools with multi-year anatomy curricula. We switched early-2020 from a cadaver to digital-based curriculum with the same students. This gave us opportunity to investigate the following in a single class: student performance on digital vs cadaver exams, learning with cadaver dissection vs digital tools, perception of using contrasting resources, and exam performance when teaching and assessment modalities are incongruent (reported in another abstract).

Methods: The pre-pandemic anatomy curriculum consisted of small groups conducting faculty-guided cadaver dissections 1-3 times a week. Five anatomic regions are integrated with a systems-based curriculum from MS1 through MS2. The MS1 regions are split into the following: Block 1 (musculoskeletal), Block 2 (head and neck), Block 3 (gastrointestinal and reproductive). Anatomy practical assessments are in steeplechase format and consist of 50 identifications. The lockdown caused a curricular experiment that could never have been approved during a normal school year creating unique disruptions for the Class of 2023. Block 1 was taught and assessed in-person with cadavers, Block 2 was taught in-person with cadaver dissection but was assessed digitally and remotely, while Blocks 3 and 4 (cardiopulmonary taught in MS2) were taught and assessed digitally and remotely without cadavers. The remote curriculum consisted of 1-3 sessions per week over Zoom with faculty presentations, followed by break-out sessions to review cadaver images using dissection videos and a digital dissection manual. Class of 2023 performance across blocks was compared to two previous classes, which were taught and assessed entirely with cadavers, via independent sample T-tests and a two-way ANOVA. We administered a retrospective survey with multiple choice and open-ended questions to the 208 students affected by the pandemic. We present data on their attitudes toward the virtual learning and assessment environments.

Results: We compared performance in Block 3 between the Classes of 2023, 2022, and 2021, relative to Block 1. Block 1 was used as a baseline because the curriculum was consistent (pre-pandemic cadaver-based) for all classes. The Class of 2023 performed significantly better on Block 3 (digital image-based curriculum) compared to the Classes of 2022 and 2021 ((F(1,819) F=31.320, p<0.001) and (F(1,807) F=91.738, p<0.001), respectively). Strikingly, the Classes of 2021 and 2022 performed better on Block 1 than Block 3 (p<0.001, p<0.001, respectively). However, when the Class of 2023 utilized virtual anatomy, this trend flipped, and they performed significantly better on Block 3 (p<0.001). This suggests grades improved when anatomy education/assessment were digital.

The survey was completed by 56% of 208 students. Responses of strongly agree and agree were joined, and strongly disagree and disagree were joined. Most students (83% and 85%, respectively) agreed that cadaveric dissection was the best approach to learning anatomy and was their primary mode of study pre-pandemic. The greatest switch in studying was using dissection videos to replace cadaver dissection (24-27% to 87%). 69% disagreed that digital teaching could replace cadaver-based learning, and 48% disagreed that digital assessments could replace cadaver-based exams. Though students perceive the

best way to learn anatomy is via a cadaver-based curriculum, their performance is highest with a digital image-based curriculum.

Potential Impact: Improved scores could be due to easier questions on a digital exam with lower exam anxiety, more time to study without time spent in lab, and opportunity to use external resources on remote digital exams. The pandemic pivoting has renewed debate on the value of hands-on experience with cadavers and will help direct future anatomy curricula.

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An Engineering-Business Curriculum for Medical Students in Pediatric Medical Device Development

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Problem Statement: Medical students have few structured opportunities to learn about the development, marketing, and launch of medical devices.

Rationale: Undergraduate medical education has sought to address student-specific career goals through combined degree programs such as the Medical Scientist Training Program (MSTP) and MD/MBA. However, only a small percentage of medical students pursue these additional degrees. There are few opportunities that provide formal training in engineering and scientific innovation. Partnerships between medical schools and Medical Technology (MedTech) accelerators may create unique opportunities for students to gain real world experience with scientific innovation and entrepreneurship.

Methods: A pilot program was developed by the Keck TBA and the West Coast Consortium for Technology & Innovation in Pediatrics (CTIP), an FDA-funded pediatric medical device accelerator. Students and companies applied to participate and were paired based on students' interests and experience, and together developed a project plan. An initial orientation provided an overview of the program structure and expectations. Check-ins with the student-mentor pair happened on a bi-weekly basis to address any questions or concerns surrounding the progress of their project. Student final project presentations were rated by attendees. Students and companies completed program evaluations.

Results: Student program satisfaction measured across five domains ranged from 2.8 to 4.3 out of 5. The highest scoring domain was the influence of the program on pursuing other opportunities in MedTech in the future (4.3 out of 5). The lowest scoring domain was continuing the current project beyond the program (2.8 out of 5). Companies were very likely to recommend the program to other startups and work with medical students in the future. Presentation attendees rated the presentations very highly and provided feedback to the students on their overall presentation skills, as well as technical feedback on their project and future opportunities. Narratively, students provided a number of suggestions to improve the program, including more structure, clear expectations around time commitment and deliverables, and stipends for students.

Potential Impact: The program pilot was well received by student and company participants. Several opportunities for improvement were noted. Results provided input for the next iteration of the program. Partnerships with accelerator programs at medical schools and academic medical centers may provide key real world opportunities for students to learn about MedTech.

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Making the Implicit Explicit: Clinical Reasoning as a Critical, Foundational Pre-Clerkship Clinical

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Problem Statement: Diagnostic errors are an important problem in healthcare, yet most US medical schools do not teach clinical reasoning in the pre-clerkship years.

Rationale: Diagnostic errors are one of the most critical problems facing our healthcare system today. Experts estimate that 75% of diagnostic failures can be attributed to cognitive processing errors. Despite this problem, clinical reasoning is rarely taught in the pre-clerkship years in medical school. A recent national survey of clerkship directors found that most students enter clerkship with a “poor to fair” knowledge of clinical reasoning concepts (1). There is a clear need to introduce clinical reasoning as a foundational skill early in medical school education and make the opaque process of clinical reasoning explicit for early learners. Early curriculum can be developmentally staged appropriate to the learner level, with a focus on utilizing a clinical reasoning framework, garnering language to utilize in didactic patient cases and real-world patient experiences, and greater integration and application, especially with the biomedical sciences.

Methods: We designed and implemented an innovative, integrated clinical reasoning curriculum at the start of medical school. In year 1, students were introduced to foundational theory in clinical reasoning and then provided a structured clinical reasoning framework with clear steps of clinical reasoning. These steps, which include information gathering, information integration and interpretation, hypothesis generation, differential prioritization, and hypothesis evaluation were practiced with weekly in-class clinical cases. The weekly cases were integrated with biomedical content to promote integration and application of knowledge. The clinical reasoning curriculum was also integrated with clinical skills acquisition, so history taking, physical exam, oral presentation, and written documentation, were all learned through the lens of clinical reasoning. As part of the integrated approach, the clinical reasoning curriculum was also applied and reinforced by faculty members in the longitudinal integration clerkship, which allows for experiential learning and enhanced cognitive linkages between the didactic and real-world clinical setting. As students progressed in their reasoning, they were exposed to increasingly complex cases in both the didactic and real-world setting. Clinical reasoning skills were assessed through OSCEs and peri-encounter tasks in year 1. In year 2, students participated in a clinical reasoning exam with open-ended questions.

Results: In Phase 1, students were assessed with an end-of-course OSCE, which included assessment of hypothesis-driven history and physical exam, prioritized differential and working diagnosis within the context of a simulated patient encounter. Overall student cohort performance was excellent, with class overall score 81.2%, std dev 7%. Breakdown of clinical skills was as follows: History-taking domain (8 items): Average score 75.8%, std dev 14%. Physical examination domain (8 items): Average score 83.2%, std dev 9%. Communication and Interpersonal Skills domain (11 items): Average score 84.8%, std dev 12%.

Clinical reasoning was also assessed through a peri-encounter task at the end of the second semester. Students were asked to demonstrate their reasoning based upon documentation of hypothesis-driven history, PE and to provide interpretation of diagnostic imaging before writing a summary statement, assessment, and plan. Class mean= 77.4% (SD 1.38%) and all students passed above the passing threshold

In Phase 2, students participated in a clinical reasoning exam with open-ended questions. The topic included an unfolding case of chest pain. The exam consisted of 12 fill-in questions. The exam was delivered asynchronously, online, over the course of 3 days. The class mean = 87.8% (SD = 6.4%); range was 70.3%-97.3%.

Potential Impact: Early learners can effectively learn clinical reasoning through an integrated, structured, clinical reasoning curriculum in the pre-clerkship years. Clinical reasoning can be taught as an early, foundational clinical skill in medical school curricula to hone the cognitive processes that underlie diagnostic thinking and ideally decrease errors.

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RIME Time: A Novel Framework for Medical Student Pre-Rounding

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Problem Statement: Pre-rounding is an integral part of inpatient medicine but is rarely formally taught or investigated in medical student education.

Rationale: Interpreting overnight events to craft an assessment is considered a benchmark for trainees, given the skills needed in critical judgement during an inpatient experience (1). Medical students are expected to pre-round and present a comprehensive assessment of a patient's clinical status incorporating interval events, but they often struggle to execute this task independently. There is currently a paucity of evidence-based approaches to pre-rounding education. We propose a novel framework to teach third-year medical students how to interpret overnight data collected during pre-rounding with the goal of advancing them on the "RIME" model (reporter, interpreter, manager, educator) from reporter to interpreter (2).

Methods: Two pediatric residents created a one-hour interactive workshop on a new framework for interpreting information collected while pre-rounding. This workshop was incorporated into the standard curriculum for the clerkship orientation. The authors then conducted a study to investigate the effectiveness of and attitudes towards the pre rounding framework. All third-year medical students on their pediatric clerkship from October 2020 through May 2021 were invited to participate in the study. Quantitative data of participating students were collected by means of anonymous surveys at the start of their clerkship just prior to the workshop (n=150), at the end of their clerkship (n=54), and roughly two months after the clerkship (n=17). Supervising resident surveys of student performance in interpretation of pre-rounding data were also collected at the end of the clerkship (n=30). Survey responses were matched to students using a de-identified code so that each student acted as their own control. Outcomes of the study included students' perceived ability to analyze overnight clinical information, level of stress, and position on the "RIME" model. We also compiled senior resident evaluations of student's ability to analyze information from pre-rounding. We controlled for the number of previously completed inpatient clerkships in order to interpret results in the context of the students' progress in the academic year. Statistical analyses were employed utilizing Fisher's exact test.

Results: Students self-reported a significantly increased ability to analyze overnight events ($p=0.000$) after exposure to the pre-rounding framework at the end of their clerkship. They also perceived decreased stress during pre-rounding ($p=0.000$). There was an increased proportion of self-reported "managers" and "educators" of clinical information at the end of the clerkship ($p=0.000$) and months after the clerkship ($p=0.000$) compared to at the start of the clerkship. Students' perceived level on the "RIME" model was not associated with each of their evaluating resident's perception of their ability to identify overnight changes in a patient's clinical status ($p=0.457$) or independently interpret overnight events for morning rounds ($p=0.952$). These resident perceptions of student identification and interpretation were not associated with the number of inpatient rotations completed by the student prior to the pediatric clerkship ($p=0.875$, $p=0.057$). Students' perceived improvement in analyzing overnight events, stress, and identification in the "RIME" model were also not associated with the number of previously completed inpatient clerkships ($p=0.511$, $p=0.660$, $p=0.982$). Seventy three percent of students recommended the continued use of the framework as presented in the workshop in the standard curriculum (n=45).

Potential Impact: We demonstrate that a structured approach to pre-rounding education is a potentially critical step in advancing medical learners across the "RIME" model, with noteworthy benefits in reducing stress and increasing student confidence. Senior resident perceptions differed from students, suggesting students may not have accurate self-assessments.

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Student as Patient: Experiential and Reflective Learning on Medication Adherence

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Problem Statement: Medication nonadherence is common and costly. Medical students need to learn patient-centered approaches to reduce nonadherence.

Rationale: Medication adherence is generally defined as the extent to which patients take their medications as prescribed at least 80% of the time. Data show that only half of adult patients are adherent, increasing the risk of poor health outcomes due to decreased efficiency and efficacy of treatment, medication error by both patient and physician, and improper clinical reasoning due to incorrect assumptions. Nonadherence affects quality and length of life, health outcomes, and overall healthcare costs. It is imperative that physicians mitigate factors that could impede taking medications successfully. Teaching about adherence often focuses on elderly patients, polypharmacy, or are directed to pharmacy students rather than the medical students that will be writing the prescriptions and reassessing the patient's response to treatment. This activity combines a model for assessing nonadherence and provides opportunity for medical students to reflect on their future prescribing practices.

Methods: After six months of weekly clinical experiences in adult primary care, first-year medical students participated in this activity as part of their Doctoring and Clinical Skills curriculum. Students completed the American Medical Association's "Medication Adherence: Improve Patient Outcomes and Reduce Cost" module as prework, reviewing the Eight STEPS model. In facilitated small groups, students alternated role-play as physician and patient asking about adherence in clinical scenarios. At the end of the session, each student picked up a bag containing two bottles of "pills" in the form of TicTacs to take for seven days. The faux medications were kept in their original containers for safety with a prescription label applied to each, representing a medication for a common chronic illness. In each bag, one prescription was written as a simple twice daily dosing and the other was more complex, such as multiple times per day, associated with food, or multiple tablets. At the end of the week, students posted on a Padlet interactive discussion board their level of adherence and explored factors that affected their adherence. Students were also asked to reflect on an insight from the exercise that might inform how they work with patients when prescribing medication in the future. Students read their classmates' postings and replied to at least two of their classmates' posts. The next week, the students shared their experiences with their peers in their small group facilitated sessions.

Results: All 49 students successfully completed the assignment, including prework, peer-to-peer practice, posting and responding to the discussion board, and reflecting on their experiences with their peers during a small group facilitated Doctoring session. Only 14% of students self-reported good adherence (taking at least 80% of TicTacs as prescribed). Most students reported less than 50% adherence by Day 7 although many of these students reported having 100% adherence at the beginning of the week. The discussion board postings and small group session reflected several common issues. Several students were not motivated to take the medication as they felt healthy. They recognized similar comments from patients they'd seen during their adult primary care clinic who stated similar concerns about their medication for conditions with difficult to perceive symptoms or conditions prone to future complications, such as hypertension or diabetes. Other concerns noted were taste, side effects (sugar in TicTac) which also paralleled patient concerns. Poor understanding of the instructions also affected adherence despite trying to take as prescribed, such as not knowing what to do if they missed or doubled a dose, or how to time it with food as one student was fasted for a religious holiday. Another common theme related to how the state of mind can either support or impede the desire to take medication, focusing on vulnerability and shame, as well as loss of power with medication dictating meals

Potential Impact: Reading about adherence, practicing doctoring skills then personalizing the patient experience with a week-long simulated activity and self-reflection solidified the learning objectives. Such reflection increases metacognitive awareness of self and is associated with improved learning outcomes in education contexts and professional practice.

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Integration of Four Key Areas of Pharmacy in an International Summer Program
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Problem Statement: Pharmacy is a multifaceted profession, with scientific, clinical, economic, and regulatory components seldom incorporated into a single course.

Rationale: From institutional and community practice to pharmaceutical development and consulting, the practice of pharmacy is continually evolving and encompasses many disciplines. Providing a dynamic curriculum to cover the scope of the profession is important for improving pharmacy education to address real-world problems with sustainable solutions (1). The ability to provide comprehensive education in scientific, clinical, economic, and regulatory principles and practices is a distinctive aspect of the USC School of Pharmacy. With facilitation by the school's international office, an online International Student Summer Program (ISSP) was offered to undergraduate students at 24 institutions across 9 countries, with the objective of providing an introductory, cross-functional course on the field of pharmacy (2). Examining effective methods of integration through project-driven learning may contribute to more rich and relational healthcare education (3).

Methods: The 2021 ISSP enrolled 176 students for a 2-week course in which students were assigned to their preferred focus area (clinical pharmacy, pharmaceutical sciences, regulatory sciences, or health economics). The students received formal lectures within their topic for about 2 hours each day and were asked to work on a presentation of a recently approved drug therapy in a multifunctional team composed of the various focus areas. Before the course began, course assistants (advanced Pharm.D. students) created a sample presentation on semaglutide (an anti-diabetes drug) for the international students to refer to. The process of creation of the sample presentation allowed the project to be refined and the course content to be adjusted for optimal discussion and presentation. During the first week of the course, students attended sessions on their assigned focus area and then worked as a group on guiding prompts to start work on their presentation. Course assistants facilitated discussion and advised international students on the best ways to proceed with the project. During the second week, students were brought together to explore issues related to the new drug therapy from the point of view of their specific focus area. Survey data were collected before and at the end of the course to examine if the integrated educational approach produced changes in interest in each focus area.

Results: Out of 176 students enrolled in the course, 154 answered the pre-course survey (88%) and 131 answered the end-of-course survey (74%). Based on the survey data, aggregated interest increased in all focus areas. The survey used a range of 1 (not interested) to 10 (very interested). In the pre-class survey, the students indicated most interest in the clinical focus area (average score of 8.0/10), followed by pharmaceutical sciences (6.8/10), and regulatory science and health economics (both 6.2/10). These results probably reflect the common subjects that are taught in a typical undergraduate pharmacy curriculum. At the end of the course, there was an increase in appreciation of the clinical area to 8.2/10 and of the pharmaceutical sciences to 7.2/10. Most importantly, there was a large jump in interest in health economics from 6.2 to 7.2 and in regulatory science from 6.2 to 6.9. These findings support the need to continue exploration of integration of these subjects in the pharmacy curriculum.

Potential Impact: The response to the ISSP demonstrated that students perceived the value of integration of the four fields of pharmacy into a stand-alone course. The implementation of multifunctional group activities successfully increased student interest across the various areas of focus.

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Development of a Supplemental Consulting Curriculum for Pre-Clinical Medical Education

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Idea: Prepare medical students to be thoughtful compassionate healthcare leaders by designing a consulting curriculum supplement to pre-clinical education.

Need: As medicine becomes more interdisciplinary and complex, it is becoming even more important for physicians to collaborate with other healthcare team members to help treat patients (Smye and Frangi, 2021). Integrating a consulting curriculum to supplement the pre-clinical education will aid in the development of non-medical skills that are crucial to serving as both a healthcare leader and team member. Integrating this consulting curriculum will not only teach medical students complex problem-solving skills but will introduce the importance of teamwork in the healthcare setting. To complement these skills, students will be actively engaged with their community and many non-for-profit organizations, where they can practice these skills in real-time for the betterment of the community and the organizations involved.

Methods: The implementation of a consulting curriculum would benefit the most from a multi-faceted approach utilizing brief sessions interspersed throughout the normal coursework. Specifically, students would work with existing local non-profit partners to identify real world community health problems. Students will develop learning objectives grounded in project management concepts. These will include: project charter development, skill-based team building, establishing clear goals and feasibility studies. Students will then organize workshops and lecture series hosted by accredited business-oriented guest speakers, business-administrative medical professionals, and local community non-profit organization leaders. These sessions will help ensure students are learning, understand the benefit of this type of work, and have the right resources to be successful. These advisors or other faculty can also be present during some of the meetings to ensure the skills taught are properly implemented. After students have collaborated, refined their ideas and agreed on their proposed solution the final proposal can be presented to the non-profit and hopefully be implemented.

Evaluation Plan: To ensure best practices, students of Hoosier Health Hub will complete evaluations before implementation of the curriculum to gauge student interests and potential skill sets in order to properly develop teams and curriculum. Following implementation of the curriculum, both initially and several months after the curriculum has been in place, student satisfaction, community organization satisfaction, and faculty satisfaction will all be assessed using evaluations. Tracking community organization satisfaction with the work of the students will be paramount, with community organizations given frequent opportunities for evaluation, if desired. To measure student engagement and learning, short reflective writings will be required at the end of each curriculum interval to assess student perceptions of self-improvement in interdisciplinary soft skills. Community organizations will also be encouraged to comment on student behavior during evaluations to help further assess student skill development. Annual follow-ups with both students and organizations after the implementation of the curriculum will be conducted to track progress and long term effects of the curriculum on both students and the organizations.

Potential Impact: Integrating student consulting into medical school curriculum can foster leadership, community engagement, and compassion among pre-clinical learners while also directly improving their local community. This would allow for further student development and lead to physicians that are more competent and community conscious.

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Residents as Teachers: Virtual Professional Development to Improve Teaching in Clinical Settings

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Idea: Increasing residents' knowledge and skills for equity-minded teaching utilizing ongoing, accessible, succinct, asynchronous professional development.

Need: We have an urgent need to better prepare residents to be effective teachers and support the learning of all students. Residents are the first-line teachers for the vast majority of medical students in clinical settings (1). While residents receive extensive training in clinical practice, they receive little, if any, training as teachers. To facilitate the learning of all students, we need residents to understand and be able to enact equity-minded teaching. Equity-minded teaching aims to create an environment where every student "has the opportunity to attain their full potential and no one is disadvantaged because of their social position or group identity" (2).

We recognize that residents have little time to spend learning how to teach effectively. Their priority is learning a significant body of knowledge to provide high-quality medical care. Yet the effectiveness of their teaching has far-reaching implications for preparing students to be high-quality physicians who attend to the complex dimensions of patient care. Our project seeks to increase residents' competence and confidence in enacting equity-minded teaching and to prepare residents as teachers in a way that makes this professional development feasible for residents.

Methods: Our project aims to provide professional development for the approximately 200 first-year residents in our seven community medical campuses. Over the course of six months, these residents will individually complete eight online modules on the following topics:

- Why Teach? The Benefits of Being a Learner, Clinician & Teacher Creating a Productive Learning Environment Promoting Students' Professional Growth During Difficult Conversations
- Addressing Implicit Bias to Teach All Learners
- Teaching Clinical Reasoning through Transparent Thinking Formative Feedback: Guiding the Learner towards the Learning Goal
- Effective Questioning
- Proactive Precepting & the One-minute Preceptor.

An avatar narrator guides learners through each module, highlighting key concepts and providing teaching tips. Content is organized by learning objectives and includes related concepts and concrete examples. Learners scroll through content by section, progressing through the module once all activities in a section have been completed. Each module utilizes several interactive elements, including prompts that ask learners to reflect and/or self-assess. Learners complete an assessment at the end of each module. Including the assessment, each module takes approximately 30 minutes to complete for a total of four hours. At some of the community campuses, module completion is followed by a discussion of the concepts presented in the module in a group setting.

Evaluation Plan: The main goals of the program include:

- Residents will learn effective teaching skills.
- Medical students will receive an improved educational experience in clinical settings.
- Fulfill and exceed Liaison Committee on Medical Education (LCME) requirements & Accreditation Council for Graduate Medical Education (ACGME) accreditation standards.

To assess progress on these goals, we will: 1) Accountability: Track completion of the modules by individual resident through the end-of-module assessment; 2) Reaction: Evaluate resident feedback on the content and quality of each module through the end-of-module assessment; 3) Learning: Evaluate

resident learning through the end-of-module assessment; 4) Behavior: Analyze survey feedback from medical students.

Throughout module development, our team has sought, and utilized, feedback from various stakeholders, including students, residents, clinicians, community assistant deans, and curriculum leaders. We will continue to seek and utilize this feedback as well as the end-of-module assessment results to assess effectiveness and to make improvements to the modules.

Potential Impact: If we want to improve the learning of all medical students, then we must equip residents with the knowledge and skills to enact equity-minded teaching. If successful, our program can serve as a model for other institutions to provide accessible, effective professional development that fosters effective teaching and the success of all learners.

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A Phone Triage Module for the Role of Medical Control Officer (MCO)

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Idea: A module on MCO phone triage skills for interfacility transfers utilizing a flipped classroom, case simulations, and accompanying didactics.

Need: Pediatric patients undergoing inter-hospital transfer tend to be more acutely ill and have worse outcomes independent of their illness severity. The Medical Control Officer (MCO), often a pediatric hospitalist, must clearly communicate with referring providers and appropriately triage these patients to ensure a safe transfer. However, most hospitalists receive little formal training in phone triage. As Pediatric Hospital Medicine fellowships move toward accreditation, it is crucial that they ensure trainees are competent in the core skills necessary to evaluate and stabilize critically ill pediatric patients - including in the prehospital and inpatient settings (i.e., interfacility transfers). A review of the literature, including MedEd Portal, reveals no such program has been proposed to date. Thus, we aim to create and develop a module on phone triage skills training for interfacility transfers using simulation strategies to study changes in attitudes, skill acquisition and behavioral intention. We hope that this training will not only provide educational enrichment but also offer professional development that will be essential for trainees in their future career as hospitalists.

Methods: Our course will consist of:

Pre-course work: Slides will introduce the MCO role, a TRIAGES mnemonic, the goals and objectives of the curriculum, as well as the PHM core competencies addressed. A case simulation (containing audio of a phone intake) will also be included, along with a standardized MCO Intake Form and prompts for analysis mirroring the format of the module. This flipped classroom aspect of the course will aim to promote understanding of the relevance of our course content to the trainees – as well as prepare them to engage in more active role playing and discussion within the Module (having been familiarized with the format during this pre-course work).

Module: A 1.5-hour session containing didactics regarding MCO phone triage, and three case simulations. In each simulation, a fellow will act as the MCO, listening to audio of a pre-recorded phone triage and completing a standardized MCO Intake Form. All participants will then engage in analysis of the case. Thus, role play and active discussion will be encouraged. Learning points and pearls from each case will be presented by the session facilitator.

This course will be implemented as a multi-site study and will include PHM fellowship trainees at multiple institutions across the country (including the main site) who have not had prior exposure to a formalized phone triage course using simulation strategies.

Evaluation Plan: The pre-course work materials will be housed in a shared cloud storage (Google Drive), thereby allowing us to monitor the number of times each component is accessed. Prior to the Module, participants will be asked to fill out an anonymous, electronic survey (Qualtrics) which includes Likert scale questions. There will also be a post-session survey after the course. The survey has undergone validation by three PHM fellows and three pediatric hospitalists at the main site.

The primary outcome will be to assess a change in participants' self-efficacy. A secondary outcome will be to assess whether participation in this curriculum will increase skill acquisition and changes in behavior through behavioral intention.

We will also assess if this course is feasible to implement by asking two post-course questions related to the content of the session. By inviting other sites to participate, we hope to get a diversity of responses from course participants to ensure generalizability for future dissemination.

Potential Impact: There is a paucity of formal coursework related to phone triage for pediatric interfacility transfers. We seek to introduce a structured, innovative, and feasible course that will ultimately help pediatric hospitalists achieve competency in the MCO role, thus improving safety for a high-risk pediatric patient population.

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Designing a Self-Directed, Online Module to Promote Student Leadership and Intentional Involvement

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Idea: A resource for medical students to intentionally select future involvements based on their passions and strengths.

Need: As the role of leadership within healthcare shifts to a team-based mindset with shared goals and responsibilities(1;2), medical students need to develop leadership skills that prepare them to be both excellent residents and leaders of teams that provide high-quality care(1;2;3). While specific leadership skills can be learned(3), leadership is also a personal journey that focuses on first developing one's own values(2;3). Our self-paced, online module emphasizes introspection, helping students to reflect on individual goals for their future selves, and provides the flexibility needed to fit leadership training into a busy medical school curriculum. As they work through this module, we hope that students recognize their ability to influence change and realize how that makes them a leader. Additionally, as the USMLE Step 1 exam shifts to pass/fail grading, students will be looking for ways to distinguish themselves as they apply for competitive residencies. This could lead to over-committing (e.g., to extracurricular activities) and burnout, so our module focuses on promoting quality, intentional involvement that allows students to influence change in the areas they are passionate about.

Methods: We created a 40-minute online module focused on developing an influencer mindset, perceiving oneself as a leader of change. The self-reflective activity has resources that help students plan out tangible action items to meet their goals. It walks students through reflections aimed at choosing an intention statement, determining action items to work towards that intention, utilizing resources and support to ensure their action items fit their goals, and how to pivot if new information arises. There are also students' examples throughout demonstrating different ways to make an impact and get involved at the level of a medical student. It works to redefine leadership as the ability to influence change while demonstrating how to do so. Over time, we hope to accumulate more resources, work to ensure various, diverse examples are included, and demonstrate the benefit of this being incorporated into curriculum.

Our initial design was presented to faculty and student stakeholders and received positive feedback towards the content as well as constructive suggestions for the workflow and design. The updated module was then presented to programs for implementation this fall. It is currently offered as a strongly recommended resource in one course for M1 and M2 students to help with developing their individualized learning plans through the Scholarly Pathways Program. It is also going to be shared with students in the Master's in Medical Physiology program as an optional activity.

Evaluation Plan: A post-module survey will determine satisfaction and ask for feedback. It consists of 24 items and utilizes both Likert-like scale and open-ended questions to obtain feedback regarding content, design, the influence of the module on the student's goals, the potential for the student to reach out to a mentor to work on developing their goals, and the student's perspective on their leadership ability after completing the module. We plan to analyze the feedback with the help of a statistical analyst to determine the impact of the module and assess if it should be incorporated into mandatory curriculum.

Potential Impact: We hope to help students prioritize their time during medical schools towards their goals. This may help prevent burnout and over-commitment, especially with Step 1 switching to pass/fail grading. Moreover, reflection on their values and their own ability to influence change may encourage more students to see themselves as leaders.

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Making an Educator: Pilot Evaluation of a PA Student-Led Academic Medicine Elective Rotation

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Problem Statement: Most PA students express interest in a future role in PA education but receive no formal training on how to teach.

Rationale: There is a growing need to ensure adequate PA educator workforce, but limited preceptor availability and recruitment and retention of qualified faculty remain a challenge. Although the majority of PA students express interest in a future preceptor or faculty role, most receive no formal training on how to teach, and no published guidelines currently exist to help PA students develop educational skills. This study sought to evaluate the efficacy and feasibility of a PA student-led academic medicine elective rotation regarding the development of core teaching competencies in the absence of formal educational training.

Methods: A 4-week academic medicine elective rotation was piloted in a PA program by a clinical-year PA student (PA-S3) and a faculty mentor. The overall goal was to help the student develop core teaching competencies through learning about educational theories and teaching methods with opportunities to practice skills. The core components of the rotation included (1) library of learning (LoL) for building the foundational knowledge and exploring the current trends and best practice in education, (2) adjunctive teaching in 2-hour Clinical Skills lab classes for first-year PA students, (3) independent teaching in a 2-hour Clinical Medicine class for first-year PA students, and (4) supervised clinical practice experience (SCPE) with the faculty mentor as clinical preceptor. The rotation was evaluated via several methods including weekly verbal debrief sessions with the faculty mentor, verbal debriefing with a faculty member following each teaching session, and verbal feedback from first-year PA students.

Results: Both clinic-based SCPE (50 hours) and self-paced LoL activities (n=12) were embedded in all 4 weeks of the curriculum. Adjunctive teaching was scheduled in weeks 1-3 with a Clinical Skills lab group of 14 first-year students, and independent teaching for Clinical Medicine took place in week 3 with a cohort of 41 first-year students (total in-person teaching time 8 hours). The PA-S3 fully utilized creative freedom throughout the curriculum including a Jeopardy-style game for knowledge check, brief ad hoc learning sessions called MaM10 (make a mistake in 10 minutes), and lecture-free didactic learning. The curricular activities provided opportunities to learn and practice core teaching competencies, such as curriculum development, assessment, coaching, and leadership. First-year students appreciated the PA-S3 instructor's insights and relatability and felt encouraged and reassured by learning from them, and many cited missing out on hands-on clinical training as a likely barrier to choosing an academic medicine rotation.

Potential Impact: A PA student-led academic medicine elective rotation presents an effective strategy for clinical-year PA students to develop core teaching competencies in the absence of formal educational training. Moreover, inclusion of SCPE in an academic medicine rotation may allay student concerns regarding missing out on hands-on clinical training.

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**Student Leadership Development Initiative:
A Model for Training Medical Students Around the World**

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Problem Statement: A combination of self-directed modules and virtual, group discussions are an effective and feasible model for medical student leadership training.

Rationale: Student Leadership development Initiative (SLDI) was founded in 2016 at the Medical College of Wisconsin. The initiative brings together a small group of students (<20 per meeting) with physician leaders in a monthly, open discussion-based setting to promote organic conversations and personalized learning. Prior program evaluation showed that 93% of survey respondents felt that they learned specific ways to improve leadership skills(1). However, due to COVID-19, the team had to shift towards virtual discussions(2) and given the high prevalence of zoom-fatigue(3), the team incorporated optional monthly, freely available, self-directed modules. Virtual curricula have the potential to benefit students globally, so we chose to design the curriculum and assess its feasibility/benefits with the goal of creating an effective model for low-cost, easy to implement, and effective (inter)national medical student leadership training.

Methods: The combination curriculum was implemented between September 2020 – February 2021. 3 events were held, and 6 modules were distributed during this time. An anonymous, one-time retrospective survey with 13-items was distributed during March 2021 to the 192 students on the SLDI email list serve. The survey was intended to assess participant characteristics, the feasibility of and student participation in the self-directed modules and virtual small-group discussions, and potential leadership-trait benefits from participation in SLDI. To test whether the number of modules completed was associated with the perceived leadership importance, a Fisher's exact test was conducted. Additionally, a 6-question survey was sent out following each virtual group-discussion to assess student motivation to apply/share their learnings from the speaker, any networking benefits from the events, and general feedback.

Results: 27/192 (14%) of the students responded to the one-time feedback survey. All respondents completed at least 1 module, 19% completed >4 modules, and 63% attended 2-3 events. 85% of the respondents had a leadership role and 52% were past SLDI participants. 74% were M1s or M2s. 85% of the respondents strongly agreed or agreed that SLDI helped them develop their professional goals and career path. 74% reported benefits in becoming a more compassionate physician leader and valuing wellness. 63% reported benefits in identifying specific ways to improve leadership skills, and 56% reported benefits in building their confidence to lead a team. 82% of the respondents felt that leadership skills were of similar importance to clinical knowledge and skills for being an exceptional physician, and 7% felt leadership skills were more important. However, their perceived importance of leadership skills did not influence the number of modules completed. 12/21 (57%), 7/20 (35%), and 4/8 (50%) of the participants from each event responded to the event follow up surveys. Most students responded that they probably or definitely intended on applying what they learned to their work (22/23; 97%) and sharing their learnings with others (21/23; 91%). However only 10/22 (46%) respondents reported meeting someone new at the event and 7/22 (32%) reported that they intended on connecting with those they met at the event. The written feedback was overwhelmingly positive.

Potential Impact: Virtual leadership training, involving small-group discussions and freely available self-directed modules, is feasible and beneficial for medical students. This has a low cost for implementation

and can be accessed by students around the world, making SLDI a promising leadership training model for medical students around the world.

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A Call for Resident (Learner) Driven Didactics

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Idea: Moving from faculty (teacher) led to resident (learner) driven didactics to enhance medical education in a family medicine program.

Need: Postgraduate medical education occurs in various settings from rotations to formal education in the form of noon conferences or half day didactics. The ACGME requires that residencies include a structured didactics program that incorporates a broad range of activities in their medical education program. The question then is who should choose the topics covered during didactics. There is growing support for a shift from a teacher lead to learner driven education model. One primary concern is the engagement level of learners with the teacher driven model (Norman et al.). If learners are not stimulated by the material and method of delivery, then effective education cannot be delivered (Norman et al.) Instead, a learner driven approach provides more opportunity for engagement and retention of knowledge (Norman et al.). Learner driven models give rise to an emphasis on topics learners wish to know more about (Norman et al.). GME programs are starting to implement learner driven programs based upon career and educational interests as opposed to purely teacher driven topics (Nagler et al.). There is also evidence to suggest that learners who are struggling benefit from a learner driven approach to improve performance (Bierer et al.).

Methods: The intervention will be a resident (learner) feedback led approach to creating and implementing the didactic structure. This structure will be implemented in a University-based family medicine residency program with 27 total residents and take place over 1 year. The intervention consists of the following:

- 1) Resident survey: An opinion survey on potential changes to the didactics curriculum was sent to all active and incoming residents. Residents commented on the number of family medicine versus specialist lectures, use of simulation, wellness, and game style learning, and involvement in Areas of Concentration (AOC) in sports medicine, academics, women's health, and underserved. They were also allowed to suggest topics to be covered.
- 2) Didactic schedule and content that encompasses all six ACGME milestones: Changes were made based on resident responses for increased wellness time, active learning, simulation and medical and non-medical topics (e.g. financial, business) for inclusion into didactics. The didactic framework now includes scheduled meetings to discuss AOC, peer teaching by residents, a wellness lecture series, resident led board review, and biannual simulation center days.
- 3) Continuous improvement: Resident and faculty feedback will be used to guide continued changes to improve resident education. Modifications to the didactics framework will be made, if necessary, after review of a midyear survey.

Evaluation Plan: The primary end point will be resident reaction to the implemented didactic changes.

- 1) Accountability: We will track the content of the didactics program through the use of a cloud-based calendar. Attendance will be tracked using the residency management system.
- 2) Reaction: Weekly conference surveys will be sent out for faculty and resident feedback. Additionally, halfway through the year and at the end of the year, surveys will be sent to the residents again for evaluation of the changes made to the curriculum. Surveys sent out each week will be reviewed to determine effectiveness of either a teaching method, topic, or instructor. Additionally, these surveys will be crucial to evaluate the overall changes to the curriculum.
- 3) Learning: Completion of requirements for AOC certificates and performance on skills simulation labs.
- 4) Behavior: Faculty will be surveyed to determine if learning topics are being incorporated into patient care in the continuity clinic and hospital service.

Potential Impact: There is tremendous potential for resident led didactics to stimulate increased learning and retention of knowledge. Residency programs in all specialties can use a similar learner driven curriculum for enhanced residency education.

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Development of a Free Clinic Research Consortium: Reaching the Underserved
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Idea: The Free Clinic Research Consortium (FCRC) aims to create a patient data repository composed of data from five student-run free clinics in Detroit.

Need: In the United States, approximately 29 million (9.1%) Americans were uninsured as of 2017 (1). The cause is multifactorial, partly due to incomplete participation in the expansion of Medicaid and patient ineligibility for Medicaid leading to a health gap. Free clinics help close this gap by providing care to many of these patients. However, financial support for free clinics has been declining, reported in 2016 by the National Association of Free and Charitable Clinics to be as much as 20% (2). Declining funding highlights the acute need for targeted care approaches. In addition, free clinic populations remain poorly studied. Additional research is needed to determine the specific and unique health concerns of the Detroit free clinic population, as is needed in other locations. Often there exist numerous free clinics in one region, and data from a single clinic does not always provide a true representation of the entire population due to travel boundaries, patient population size, and organizational differences in terms of structure and scope (3). FCRC aims to overcome this issue by using a de-identified data repository to conduct more comprehensive research and identify the unique patient health concerns and needs.

Methods: The FCRC will focus on five student-run free clinics in Detroit, Michigan. The institutional review board (IRB) was contacted regarding the feasibility of creating a free clinic patient database. It was determined that a data repository can be created through the IRB, and all subsequent research studies will require individual IRB support. The first step in developing the FCRC has already been completed with the creation of organizational bylaws, in addition to receiving local free clinic and physician mentor support. The second step involves recruitment to the organization and the creation of an executive board consisting of 3 research co-chairs, 5 research coordinators, 3 database coordinators, and 4 faculty supervisors. Once the organization has been established, we plan to conduct an initial large-scale research study seeking to identify the top 10 health concerns of the Detroit free clinic population. We will use this information to inform local free clinics and guide patient care. Further research will be conducted to answer more specific questions, particularly related to specialty specific research and investigating the variations in organization structure and function. Bi-weekly organization meetings will be planned to discuss current research projects, generate new research ideas, and discuss results. Meaningful research conducted by the FCRC will be presented at conferences and used to help guide health policy decisions.

Evaluation Plan: 1) Accountability: Bi-weekly meetings will be conducted to discuss the progress of the FCRC, next best steps in terms of the organization, and current and future research projects 2) Reaction: A series of several surveys will be administered, primarily focusing on new interventions implemented by individual free clinics in response to the research that is conducted. Internal, anonymous surveys will also be always available for FCRC members to submit feedback. 3) Learning: As the goal of the FCRC will be to perform highly impactful research studies that guide changes in care for free-clinic populations, we will primarily determine the success of our organization through the completion of research studies and our measure for quality will be determined by journal/conference feedback. We will assess changes in the local free clinics based on our findings. 4) Behavior: We will examine the new changes that are implemented into the local free clinics every 3 months.

Potential Impact: As funding for free clinics is declining and they remain under-researched, the FCRC hopes to conduct comprehensive research projects to expand population health research in Detroit's free clinic population in order to better understand the unique patient health concerns. We hope this idea inspires other locations to implement their own FCRC.

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**Medical Social Justice: Overcoming Barriers to the COVID-19 Vaccine
in the Hispanic/Latinx Community**

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Problem Statement: Addressing equitable COVID-19 vaccine distribution among the Hispanic/Latinx community utilizing a student-led medical social justice project.

Rationale: Medical Social Justice is a student-led scholarly concentration whose mission is to identify and address local health disparities. In Washoe County, Nevada, Hispanic-identifying individuals comprise 25% of the population but accounted for 38% of COVID-19 cases between April and December, 2020 (1). However, in December, 2020 a Nevada report revealed that vaccine hesitancy was greater among Hispanic-identifying compared to non-Hispanic identifying individuals (2). In order to address COVID-19 disparities and vaccine hesitancy in the local Hispanic/Latinx community, a social justice project was implemented to promote equitable vaccine access and education through outreach events and coalition building between medical and public health efforts.

Methods: Vaccine hesitancy can be explained by the 3 C's model, which highlights confidence, convenience, and complacency as major contributing factors (3) This served to guide the intervention strategies. To reach the Hispanic/Latinx community, community partnerships were formed with two organizations: a local clinic that provides care to underserved populations and a public health organization called #COVIDCrew whose mission is to provide culturally-competent COVID-19 information to the Hispanic/ Latinx community. In addition, a task force comprised of bilingual medical and public health students was formed to help educate and vaccinate at outreach events. These outreach events included building a relationship with a local Latinx church to host recurring outreach events to answer vaccine-related questions and 2-day vaccine clinic. Further, the Medical Social Justice team attended a joint identification renewing event and vaccine clinic hosted by the Mexican Consulate to address vaccine hesitancy. Lastly, the team helped translate at a vaccine clinic at a separate Hispanic/Latinx church in Sun Valley, NV.

Results: Throughout our outreach efforts, we helped vaccinate 1,456 and had approximately 170 meaningful conversations addressing vaccine hesitancy. Data of the percentage initially and completely vaccinated in the zip code where the local Latinx church is located revealed an increase of 2.9 and 4.2 percentage points, respectively, in the month following the vaccine clinic compared to the month prior. The rate of COVID-19 cases in Washoe County among Hispanic-identifying individuals slowed to a greater extent compared to Caucasian-identifying individuals in the 3 months during and following our intervention efforts compared to 3 months before.

Potential Impact: Leadership skills and coalition building can serve to connect resource-limited organizations with the necessary volunteer-force to proactively address healthcare disparities. This is applicable to clinicians and organizations looking to improve health outcomes on a community-level but are limited by time, cost, or resources.

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Use of Sepsis Calculator to Enhance Care of Infants ≥ 35 Weeks with Maternal Intraamniotic Infection

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Problem Statement: Our QI project goal is to decrease antibiotic exposure and blood draw of infants ≥ 35 weeks gestational age exposed to maternal intraamniotic infection.

Rationale: Maternal intraamniotic infection is a common cause of early onset sepsis (EOS) in neonates, which is a suspected or proven bacterial infection of the blood and/or CSF that occurs within the first 72 hours of life. The CDC, ACOG, and AAP have provided guidelines for the prevention, evaluation, and management of EOS, which are currently used to guide care at our institution. Prior to this QI project, all infants born to mothers with intraamniotic infections were admitted to the Neonatal Intensive Care Unit (NICU) for continuous monitoring, blood cultures at birth, antibiotics and blood work. Antibiotic use not only contributes to the rise in bacterial resistance to antibiotics, but evidence shows that early antibiotic exposure in newborns with an evolving microbiota and immune system is associated with later adverse outcomes. The Kaiser sepsis calculator is a model to estimate risk of EOS and thus identify infants that require close monitoring, antibiotics and additional blood work.

Methods: We used the sepsis calculator recommendations to determine whether infants ≥ 35 weeks exposed to maternal intraamniotic infection needed to be admitted to the NICU and started on antibiotics or could be safely monitored in the postpartum area with vital signs every 4 hours, blood culture and blood work. Retrospective data was collected on all neonates admitted to our NICU from January 2020 to June 2020 with maternal diagnosis of intraamniotic infection, and an EOS risk score was calculated for each neonate using the sepsis calculator to determine how many infants would have avoided receiving antibiotics. During our first PDSA cycle (November 2020 to May 2021), infants ≥ 35 weeks exposed to maternal intraamniotic infection were calculated an EOS risk score to guide management of NICU admission and antibiotic exposure. Currently, we are collecting data for our second PDSA cycle (September 2021 to February 2022) in using the sepsis calculator to guide blood work draws in our population of infants.

Results: During the six-month baseline period, 27 infants born to mothers with intraamniotic infection were admitted to the NICU and all received antibiotic therapy. Based on EOS risk score, fourteen of 27 infants (52%) would have likely remained in postpartum without antibiotic exposure. During our first PDSA cycle, 23 infants were born to mothers with intraamniotic infection. Five of the twenty-three infants were admitted to the NICU soon after birth and started on antibiotics (22%) due to clinical illness. Three additional infants were admitted to the NICU due to abnormal labs and/or abnormal exam. At the end of our first PDSA cycle, fifteen infants of the twenty-three exposed to intraamniotic infection (65%) were admitted to the postpartum unit and did not receive antibiotic therapy.

Potential Impact: Our project demonstrated that use of the sepsis calculator to stratify risk of infants (≥ 35 weeks gestational age) exposed to intraamniotic infection decreased antibiotic exposure by 65%. Our current PDSA cycle will focus on implementing Kaiser's sepsis calculator recommendations for obtaining blood culture and blood work.

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Improving a Free Clinic's Hemoglobin A1c Adherence Rate through a Student Led Consulting Initiative

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Problem Statement: Cass Clinic offers hemoglobin A1c (HbA1c) testing to their diabetic patients, however, they report low adherence to testing guidelines.

Rationale: The aim of this project is to pilot a student-led consulting group, in collaboration with a free clinic at Wayne State University School of Medicine (WSUSOM), to provide recommended solution and to guide implementation with a healthcare quality improvement project.

Methods: Cass Clinic, a student-run free clinic, collaborated with Institute of Healthcare Improvement Chapter at WSUSOM, to increase adherence rate of HbA1c point of care (POC) tests to its diabetic patient population. Using the Define, Measure, Analyze, Improve, and Control (DMAIC) method, a project charter and key stakeholders were formulated and identified, respectively. The following key project events, along with timeline, were identified and delivered: current state analysis, gap analysis, workflow strategy workshop, future state validation, and testing. For implementation, materials and new workflow were disseminated to the clinic staff. A small placard detailing the HbA1c guidelines set forth by the American Diabetic Association (ADA) was placed in each desktop. To track adherence with new workflow and to evaluate success of project, retrospective chart review was performed tabulating the numbers of HbA1c POC tests resulted. A PowerPoint slide deck was the final deliverable establishing new workflow, educational materials, and future strategy.

Results: The project went live on 05/27/2021. Desktops were re-designed to add the ADA's HbA1c guidelines allowing 'face-up' visibility to follow protocol by clinic staff. Post implementation, a standardized workflow was established to order HbA1c POC tests. We demonstrated adherence to new workflow. Most noticeably, the percentage of diabetic patients who were not able to receive their duly HbA1c POC tests decreased from 29% to 8%.

Potential Impact: Our data suggests that the DMAIC method and the key project events/timeline streamlined the execution of the project engagement. This demonstrated the effectiveness of a student-led consulting group in leveraging a market-tested project management and consulting tools to launch similar quality improvement projects to scale.

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Presenters' Bios

Abdelwahab, Rewan, BA

Rewan is a second-year medical student, whose research focuses on diversity, equity, and inclusion in academia and medicine, social determinants of health, and oncology. Rewan's academic background is in Biology, Spanish, and African American Studies. Rewan's early publications in breast cancer research focused on models of acquired resistance to hormone positive breast cancer. The most aggressive forms of cancer tend to disproportionately afflict minority communities.

Rewan's current projects focus on the impact that student faculty collaborative clinics have on the underserved communities in which they operate, health inequities in treatment outcomes, and community education initiatives that seek to improve health literacy within underserved communities.

Rewan's most recent research focuses on academia and emphasizes the need for diversity, equity and inclusion initiatives for effective recruitment of diverse medical professionals in a variety of fields. Rewan's first publication on this topic focuses on major gaps in medical education and training that prevent certain groups from knowing how to operate in surgical and intensive care settings. In response to the publication, the Association of Peri-operative Nurses updated national surgical guidelines to include a section on religious head coverings.

Abrolat, Marla Law, MD

Dr. Abrolat is the Phase 3 Doctoring and Clinical Skills Director and a Phase 2 Doctoring/Simulation Facilitator at Kaiser Permanente Bernard J. Tyson School of Medicine (KPSOM). She is a partner with Southern California Permanente Medical Group (SCPMG) where she practices general pediatrics and serves as an Instructor for the KPSOM Longitudinal Integrated Pediatric Clerkship and as an Assistant Clinical Professor for UC Riverside Longitudinal Ambulatory Care Experience. Dr. Abrolat obtained her BS from UCLA with a major in Psychobiology and completed her medical training at UCLA School of Medicine with a pediatric residency at Cedars-Sinai Medical Center before joining SCPMG where she currently serves as Assistant Chief of Pediatrics for San Bernardino County. Dr. Abrolat is a key faculty member writing curricula consistent with KPSOM's commitment to equity, inclusion, and diversity and an advocate in her medical group.

Acosta, Alisa, MD, MPH

Alisa Acosta, MD, MPH, interest, experience, and leadership skills in resident education started early when serving as chief resident for a year following pediatric residency. Dr. Acosta continued to cultivate her love for teaching and transformed this into more formal medical education when she became faculty. After fellowship, Dr. Acosta joined a small academic institution with a primary focus on graduate medical education (GME). Dr. Acosta's educational efforts quickly progressed to serving as the Director of the Pediatric Residency Program (2011 – 2014), and she has continued to hold a leadership position for her current institution as an Associate Director of the Pediatric Residency Program. This position has not only allowed Dr. Acosta to continue teaching residents, but to be involved in the curriculum design for a large residency program. Dr. Acosta's area of education interest for the residents as whole is their professional development. Dr. Acosta plans and coordinates several presentations, didactics, and workshops for the residents covering topics from career planning and mentorship to emotional intelligence and diversity, equity, and inclusion.

Adib, Hania

Hania is a second-year pediatric resident at Children's Hospital Los Angeles. She graduated from Tulane University School of Medicine, where social determinants of health were at the forefront of medical education. Prior to medical school, she completed a Master of Science in Global Medicine at the USC Keck School of Medicine and a bachelor's degree with honors in Psychology at the University of Southern California. She is deeply rooted in her Middle Eastern origin, being from Syria and Egypt, and is tightly tied to her first-generation immigrant values of hard work and sacrifice. Growing up between Saudi Arabia and the United Arab Emirates, she became aware that the voices of women and children were less heard and as a result, they had less preventative health care and worsened health outcomes. She resolved to advocate for their health and pursued a career in pediatrics. Her background drives her motivation to serve the socially and racially diverse patient

population at CHLA's AltaMed FQHC, and to create initiatives to better meet the needs of children and their families.

Adler, Audrey, BS

Audrey Adler is a second-year medical student at the University of Nevada, Reno Nevada School of Medicine. Originally from Wisconsin, she earned a BS Biology degree from the University of Denver with minors in Spanish and chemistry. Her prior work as an EMT in Yellowstone and Grand Teton National Parks established skills in critical decision making and strategic planning. She continues to pursue positions requiring leadership and logistical planning including the Medical Social Justice scholarly concentration and co-leader of the Sports Medicine and Palliative Care Student Interest Groups. She is planning on pursuing a career in Physical Medicine and Rehabilitation following graduation.

Aguilar, Cesar

California University of Science and Medicine, School of Medicine

Ahuja, Taranjeet

Dr. Taranjeet Kalra Ahuja received her Doctor of Osteopathic Medicine degree from the New York College of Osteopathic Medicine. She completed her pediatric residency at Stony Brook University Hospital located in Stony Brook, NY. While there, she was selected to be chief resident and was recognized for her skills as a clinician and medical educator. Following time in private practice, Dr. Ahuja assumed a position in academics as an Assistant Professor of Science Education & Pediatrics at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell. She completed her Master of Science in Education (MSEd) at Hofstra University. She has been full-time faculty at the Zucker School of Medicine for approximately 9 years. Dr. Ahuja currently holds the title of Co-Leader of the Communication Curricular Thread, which is a four-year longitudinal curriculum. Previous to this role, she was Director of the Ambulatory Clerkships.

In addition to her other responsibilities, Dr. Ahuja teaches physical diagnosis, clinical reasoning and is a bedside clinical coach. She is a Co-Director of the Tell Me More® elective. She also serves as a facilitator for PEARLS, a case-based learning course designed to help students learn the key concepts of biomedical science embedded in real patient cases. Finally, Dr. Ahuja has maintained a pediatric clinical practice and is board certified by the American Board of Pediatrics.

Al-Eyd, Ghaith

Dr. Al-Eyd works at the Dr. Kiran C. Patel College of Allopathic Medicine, Nova Southeastern University as an Associate Professor in the Department of Medical Education, Division of Pathology. Prior to his current position, Dr. Al-Eyd served as Associate Professor of Pathology and Assistant Dean of Assessment at College of Medicine, California Northstate University. He has also served as Associate Professor of Pathology & Medical Education, Associate Dean of the Pre-clerkship Curriculum, and Director of Curriculum Mapping at School of Medicine, California University of Science and Medicine. Overseas, Dr. Al-Eyd served as Associate Dean of the School of Medicine, Associate Professor of Pathology, and Specialist Pathologist at Gulf Medical University and GMC Hospital in the United Arab Emirates. Dr. Al-Eyd has chaired many courses and has taught different topics of Basic and Clinical Sciences using various pedagogies. Dr. Al-Eyd has extensive experience in curriculum development and management including curriculum mapping, assessment and evaluation, and institutional and programmatic accreditation. He has delivered numerous faculty development sessions and invited speeches addressing his areas of expertise.

Allard, Derin

Dr. Derin Allard (he/him) received his undergraduate degree in Political Science from the University of California, Irvine, and his medical degree from Western University of Health Sciences in Pomona, California. He is currently a third-year Family Medicine resident at Marian Regional Medical Center in Santa Maria, California, where he serves as co-chief resident. His clinical interests include public health, communicable diseases, and improving health equity. After residency, he plans to practice office-based primary care while continuing to give voice to marginalized populations.

Allenbaugh, Jill

Jill Allenbaugh, MD, MS, is an Associate Professor of Medicine at the Lewis Katz School of Medicine (LKSOM) at Temple University. She graduated from Drexel University with a BS in Chemistry in 2007. She got her MD from New York Medical College in 2016 and went on to complete her residency and fellowship in internal medicine and general internal medicine at the University of Pittsburgh Medical Center. In 2018, at the conclusion of her fellowship, she earned a Master's degree in Medical Education from the University of Pittsburgh. Dr. Allenbaugh is board certified in Internal Medicine and also practices addiction medicine. She has been elected as a fellow of the American College of Physicians. Dr. Allenbaugh's academic career has been dedicated to medical education where she holds multiple leadership roles. At LKSOM she is a College Director as well as a Core Clinical Educator—both roles allow her to create, and evaluate curricula, while teaching students weekly. Additionally, she co-directs the medical education track for the internal medicine residents. Dr. Allenbaugh has published multiple times in the area of medical education and has won awards including the LKSOM Education Excellence Award in Education Scholarship and the Russell and Pearl Moses award for Clinical Teaching.

Alois, Corinne

Corinne I. Alois is an Assistant Professor in the College of Pharmacy and Health Sciences Physician Assistant Education Program at St. John's University. She received her Bachelor of Science in Physician Assistant Studies from St. John's University, a Physician Assistant certificate from Bayley Seton Hospital. She earned a Master of Science in Physician Assistant Studies from Pace University. Professor Alois is a certified PA who has practiced clinically in family practice, pediatrics, and women's health but has spent much of her career in academia. In addition, she is an avid researcher. She has conducted academic research relating to Academic Service-Learning, interprofessional service opportunities, student perspectives on learning, and pediatric health outcomes. Corinne is a member of various regional and national professional PA and healthcare educator organizations.

Amorelli, Delores, EdD

Delores Amorelli, EdD is the Director of Faculty Educator Development at the Kaiser Permanent Bernard J. Tyson School of Medicine (KPSOM), where she oversees the school's program to support faculty in their continual professional growth as educators, including efforts to advance skills in teaching, assessment, curriculum development, leadership, and mentoring and to foster vibrant communities of practice. She has 15 years of experience in higher education as an administrator and a teacher. Prior to her role at KPSOM, Dr. Amorelli worked at Columbia University, where she helped launch new academic programs and new courses from vision to implementation and implemented a faculty development program centered on inclusive teaching and assessment.

An, Ju Hyung

Ju Hyung An is a third-year medical student at SUNY Downstate Health Sciences University in Brooklyn, NY 11203. She received a bachelor's degree in Biology at Amherst College. Her current research interests include understanding the longer-term impact of the pandemic on medical education and clinical preparedness, as well as improving the transition from medical student to resident. Presenting author's email: Juhyung.An@downstate.edu

Anderson, Katherine, MD

Dr. Anderson graduated from Gonzaga University in 1999 and the University of Washington School of Medicine in 2005. She completed her residency at University of Utah in Internal Medicine. After completing her fellowship in Geriatrics, she went on to complete a fellowship in Education and Faculty Development. She began her career with a focus on geriatric education as the Associate Fellowship Director for Geriatrics and the geriatrics rotation director for residents and students. She is currently the program director for the University of Utah Clinical Skills and Medical Decision-Making Curriculum (CMC) and co-Faculty Director of the Real MD program. CMC is a longitudinal 4-year curriculum within the School of Medicine that partners small groups of medical students with core clinical faculty for longitudinal development of clinical skills in a mentored learning community environment. RealMD is a Student Affairs based program focusing on coaching students in the areas of professional identity formation, leadership, and specialty choice. In addition to coaching medical students she also

participated in the development and implementation of the Early Career Coaching program. As a coach in this program she hopes to help faculty in the areas of professional direction and fulfillment, self-efficacy, academic productivity, promotion, and develop a sense of professional community within the University of Utah.

Andrusaitis, Jessica

Dr. Andrusaitis is faculty in emergency medicine at the University of California, Irvine and currently doing a fellowship in Multimedia Design and Education Technology. She went to medical school at UC Irvine followed by emergency medicine residency at Kaiser San Diego. While serving as academic Chief Resident, she developed a passion for simulation and innovation. She is interested in using emerging technologies to improve medical education.

Arcaz, Arthur, BS

Arthur is an MD/MBA dual degree student at Georgetown University.

Atunah-Jay, Sarah, MD, MPH

Dr. Atunah-Jay is an Assistant Professor of Pediatrics and Adolescent Medicine. She has mentored Mayo Clinic Alix School of Medicine student reviews of preclinical curriculum related to DEI/Antiracism content over the past four years. Dr. Atunah-Jay also leads and partners in research on mechanisms and outcomes of peer victimization, the impact of discrimination on child health, and cultural pride reinforcement as a strategy to promote child wellbeing.

Awadallah, Nida, MD

Dr. Nida Awadallah is an associate professor in the department of Family Medicine at the University of Colorado School of Medicine. She works with the University of Colorado College of Nursing healthcare centers as a physician consultant and primary care physician; her medical practice centers on integrated health care and treating underserved populations. At the CUSOM she works as a faculty specialist for clinical remediation of medical students, residents and fellows, where she helps learners from all backgrounds maximize their potential in their medical careers. Previously, she was the Associate Program Director and Director of Education at the CU Rose Family Medicine Residency Program where she was awarded the CU Department of Family Medicine Teacher of the Year Award in 2017. She is a graduate of the CU Rose Family Medicine Residency Program and Northeast Ohio Medical University.

Babson, Stephen, MD

Stephen completed his undergraduate education at Stanford University and his MD at OHSU Medical School in 2019. He is currently at the Kaiser Santa Rosa Family Medicine Residency.

Baker, Matthew, MD

Matthew Baker, MD, is a pediatric chief resident at Children's Hospital Los Angeles. He grew up in Anchorage, Alaska, and graduated from Liberty University with a Bachelor of Science degree in Biology and from George Washington University with a Doctor of Medicine degree. His interests include medical education, business administration, medical finance, and resource utilization. His future plans include pursuing a fellowship in Pediatric Critical Care after that time.

Basrai, Zahir

Zahir Basrai is an Emergency Medicine Physician and the creator of the online medical search engine nuMose (<https://numose.com>). He currently works in the Emergency Department at the VA Greater Los Angeles Healthcare System. He is also a Health Sciences Assistant Clinical Professor in the Department of Emergency Medicine at the David Geffen School of Medicine at UCLA.

Bate, Eleanor

Dr. Eleanor Enegeh Bate received her medical education from the Universidad Autónoma de Guadalajara. She attended residency at the Creighton University Family Medicine program from 2018 to 2021 and served as a chief resident in her last year of residency. While in residency, Dr. Bate was a member of the Housestaff Leadership Council which allowed her to provide an active representation

of resident and fellow educational needs. In 2020, she was awarded second place in the 24th annual Michael Grossman Academic Excellence Day for a project entitled “Don’t Wreck the Med Rec”. This QI project focused on patient safety by the improvement of documentation of medications in the medical record. She also authored a case report entitled “The Unforeseen Storm” which highlighted the importance of clinical suspicion, the use of diagnostic tools, and the early initiation of treatment to prevent poor outcomes in patients with Thyroid Storm. She also had the honor of being nominated for the prestigious Walter Brazie, M.D. Fellowship Award which is endowed to an outstanding second-year resident in Arizona. During her last year of residency training, Dr. Bate completed a Faculty Development Fellowship with an emphasis in Mentoring and Coaching through the University of Arizona COM. She is currently completing a fellowship in Hospital Medicine at Duke University.

Baumeister, Rebecca

Nursing, Nebraska Methodist College

Ben-Ari, Ron, MD

Ron Ben-Ari, MD, FACP, completed his medical school and training in internal medicine at the Keck School of Medicine (KSOM) of the University of Southern California (USC) and joined the USC Department of Medicine faculty in 1992. He is an Associate Professor of Clinical Medicine (Educational Scholar), KSOM Associate Dean for Curriculum and Associate Dean for Continuing Medical Education. Dr. Ben-Ari is active in undergraduate, graduate, and continuing medical education at the Keck School of Medicine and is a practicing general internist at the Keck Medical Center of USC.

Berardi-Demo, Linda

Executive Vice President, Student Success, R3 Education

Besinque, Kathleen, PhamD, MSED

Kathleen (Kathy) Besinque is a Professor of Pharmacy at the Chapman University School of Pharmacy in Orange County California as the Director of Experiential Education. She is also an adjunct faculty member for the Keck School of Medicine where she teaches in the Master of Academic Medicine program in the area of faculty development for the health professions. Dr. Besinque’s research interests include women’s health care issues, educational strategies to improve learning for pharmacy students and faculty/preceptors in the clinical setting.

Bhalla, Rumeena, BSc, MBChB, MA, ACC

Rumeena Bhalla MB, ChB, MA, ACC, is a UK qualified physician, based in Seattle, USA, with 10 years' experience in executive leadership and personal coaching. Rumeena is also an artist and has an MA in Film and TV Production and set up her first business in 2004, making Bollywood style health education comedies. Over the past 15 years Ru has developed a portfolio career as a doctor, teacher, health educator, small business owner, filmmaker, parent, CEO of a non-profit, mentor and coach. Rumeena holds the International Coaching Federation Associate Certified Coach (ACC) qualification. She uses her coaching skills working with academic faculty, residents, and private clients. For the last 3 years she has been on the faculty of a program providing executive leadership coaching for physicians participating in a mid-career leadership program.

Billington, Mark, NMC

Mark Billington is the Director of CREATE! (Center for Research, Education And Teaching Excellence) at Nebraska Methodist College in Omaha, Nebraska. Prior to his work at Nebraska Methodist College, Mark worked in the Apple Education Division helping both K-12 and higher education institutions throughout the country to integrate technology into their curriculum using models such as TPACK and SAMR. His primary area of focus has been critical thinking and active learning strategies. Over the last 20 years, Mark has been directly involved in over 75 1:1 learning initiatives involving a few hundred individuals to over 30,000 students all equipped with iPads. Email: mark.billington@methodistcollege.edu

Bird, Emily

Emily Bird, MD, MA, FAAP, Assistant Professor of Pediatrics, is a case-based learning facilitator and leads the facilitator program at the Vanderbilt University Medical Center. She has developed peer feedback strategies to enhance student development and authored: E.C. Bird, N. Osheroff, C.C. Pettepher, W.B. Cutrer, and R.H. Carnahan (2017) *Med. Sci. Educ.* 27, 759-765. Using Small Case-Based Learning Groups as a Setting for Teaching Medical Students How to Provide and Receive Peer Feedback. As a physician, she works in the Neonatal Intensive Care Unit and serves as an educator for Medical Students, Residents, Neonatology Fellows, and Nurse Practitioner colleagues. She has been educating medical students for the past 10 years and brings a wealth of experience working with students in multiple learning environments, as well as the perspective of having been a medical student herself. She has a master's degree in Education and has used this training to ground curricular innovations both for students and faculty development courses. She has been an individual invited speaker to multiple faculty groups on the topic of providing effective feedback to students. Together with colleagues, she has presented at the International Association for Medical Science Educators Annual Meetings in 2018, 2019, 2021 and the Association for Medical Education in Europe Annual Meeting in 2020. She has been awarded membership into the Vanderbilt University Academy for Excellence in Education.

Bleiweiss, Kaitlyn, BS

Kaitlyn Bleiweiss is the Assessment Analyst in the Office of Educational Affairs at Drexel University College of Medicine. She has previously worked in both research and academic settings as a data analyst, specifically in educational program review, social psychology, and medical education. Throughout these positions, she has published in peer-review journals and has presented at numerous regional, national, and international conferences. Ms. Bleiweiss received her Bachelor of Science in Psychological Science from Rowan University, where she was named the medallion award winner for Excellence in Psychology. She is currently in a Master of Science in Business Analytics program through Drexel University's Lebow College of Business, where she is studying techniques in data analysis and programming.

Bletzacker, Megan

Megan Bletzacker is an inpatient Pediatric Nurse Practitioner for the Cancer and Blood Disease Institute at Children's Hospital of Los Angeles (CHLA). She completed her Bachelor of Science in Nursing and Master of Science in Nursing degrees at Columbia University. She holds a Certified Pediatric Hematology/Oncology Nurse (CPHON) certification. Megan's clinical areas of interest include leukemia and lymphoma and pediatric oncology survivorship.

Blodgett, Maxwell

Maxwell Blodgett is a Medical Education Fellow in the Department of Emergency Medicine at Temple University.

Bohn, Camden

Camden Bohn is a first-year medical student at the Indiana University School of Medicine. Before matriculating to medical school, he spent his undergraduate years at Harvard University, majoring in biomedical engineering. He served as quarterback on the varsity football team integrating leadership and responsibility. He also integrated into the Boston Community through the Best Buddies Program. Every year the football team would host events that invited the Best Buddies Program to the stadium. He was able to teach and play football with individuals who had intellectual and developmental disabilities. While in Boston he also conducted research at Massachusetts General Hospital, where his group focused on deep vein thrombosis (DVT), and its prevention in lower limb surgeries when using anticoagulants. In his gap year between undergrad and medical school, he worked at Kuchnir Dermatology as a medical assistant. He felt completely immersed in the medical field and was made aware of its amazing feats. Now, as a medical student, he aspires to master medical content and become a competent doctor who heals both individuals as well as the community.

Boland, Riley

Riley S Boland is a Pediatric Hospital Medicine Fellow at the Medical College of Wisconsin. Dr. Boland received his undergraduate degree from the University of Iowa and medical degree from the University of Iowa Carver College of Medicine. He completed his pediatric residency at the University of Wisconsin-Madison. Dr. Boland began his pediatric hospital medicine fellowship at Children's Wisconsin in 2020.

Boschee, Erin

Erin Boschee, BSc (Hons), MD, FRCPC, is a pediatrician and assistant clinical professor within the Department of Pediatrics at the University of Alberta in Edmonton, Alberta, Canada. Her clinical practice is in pediatric hospital medicine and child maltreatment pediatrics. Her academic interests are in qualitative medical education research, quality improvement, and patient safety.

Bouckaert, Becca

Becca Bouckaert is an associate professor and program director for the cardiovascular sonography program at Nebraska Methodist College in Omaha, Nebraska. Becca earned her Master's in public health administration from the University of Nebraska at Lincoln and is currently completing her doctoral degree at Nebraska Methodist College. In addition to instructing the cardiovascular sonography courses at Nebraska Methodist College, Becca focuses her instruction methods on improving critical thinking abilities in the healthcare education sector. Email: rebecca.bouckaert@methodistcollege.edu

Bujouves, Jessie

Jessica Bujouves is currently attending the University of Limerick School of Medicine (Candidate for Doctor of Medicine '22). She received her BSc in Human Biology, Social Sciences and Medicine from Indiana University, where she also played NCAA Division I Women's Soccer from 2012 – 2016. She previously worked as a Medical Device Sales Representative for Stryker Endoscopy and Sports Medicine on Vancouver Island, BC. Jessica has now combined her passion for technology and medicine by investigating new modalities that may enhance medical education and surgical training.

Burns, Audrea, PhD

Audrea Burns, PhD, completed her graduate studies in Immunology in the Department of Biological Sciences at The University of Chicago, and her postdoctoral fellowship at Baylor College of Medicine (BCM) in science education pedagogy. She completed the Master Teachers Fellows Program for Medical Educators at BCM. Dr. Burns has created a tool for facilitating debriefs for learners struggling with continual lapses in professional behavior. This tool has been shared in highly successful workshops locally, regionally, nationally, and internationally. Moreover, Dr. Burns co-developed a curriculum for physician-scientist training framed in fostering dual professional identities and serves as the Associate Program Director for the Pediatrician-Scientist Program residency track where she has been faculty since 2013.

Her research focuses in Social Justice and Professionalism with a focus in using Social Justice as a framework for fostering Professional Identity Formation in medical education. Furthermore, she serves as Co-Director of Faculty College, a Scholar in the Center for Research, Innovation, and Scholarship in Medical Education. Dr. Burns has a Co-Primary appointment in the Department of Education, Innovation, and Technology and serves as the Department Ambassador to the College of Diversity, Equity, and Inclusion.

Audrea Burns, PhD, is a medical educator who seeks to understand how to use social justice as a framework for developing personal professional identity in trainees. Dr. Burns' research focuses on determining programmatic initiatives to foster resiliency and mitigate burnout in physician-scientist and underrepresented in medicine trainees. Dr. Burns' focus is on mixed methods research which integrates quantitative and qualitative approaches. The purpose of the workshop is to understand how to provide comprehensive and innovative curriculum in the domain of social justice to trainees. Dr. Burns recently delivered an international workshop at the Annual Association for Medical Educators in Europe (AMEE) to address how to identify systemic racism in health professions education curriculum. Dr. Burns has given workshops using social justice as a framework for developing professional identity. Dr. Burns has a Co-Primary appointment in the Department of Education,

Innovation, and Technology and serves as an Ambassador for Diversity, Equity, and Inclusion for the College. Dr. Burns is a collaborative partner in taking a multifaceted approach to understanding how to improve trainee experiences and promote career development success, including qualitative methods, multi-institutional collaborations, and curriculum development. Currently, their research focuses on how to identify threshold concepts in professional identity formation and creating institutional initiatives to promote a sense of inclusivity and belonging.

Butani, Lavjay, MD, MACM

Dr. Butani is a professor of pediatrics and a former pediatric clerkship director. He is the Vice Chair for Academic Affairs in the Department of Pediatrics and the Director of the Student Development in the Office of Medical Education, working with the Dean of Students to help students who are experiencing academic and professionalism challenges.

Calisi, Olivia

Olivia Calisi is a third-year medical student at Penn State College of Medicine.

Camero, Karen, MD

Karen Camero is a pediatrician, currently completing a General Academic Pediatric fellowship in Health Equity, at Children's Hospital of Los Angeles. Karen completed her undergraduate studies and medical school in Venezuela. After completing medical school, and a two-year post-graduate rotational internship, Karen returned to the US to pursue a career in pediatrics. Before residency, she took part in a scholar's program at the University of California Los Angeles, that aims to expand the number of Spanish speaking primary care doctors in California. She completed her residency training at CHLA, where she served as Co-chair of the residency program's Diversity and Inclusion Committee. Her work in this committee helped expand the residency program's efforts to recruit students from diverse backgrounds. She has a strong interest in topics like health literacy, caring for families with limited English proficiency, positive parenting, and anticipatory guidance. She is currently working on a project to evaluate the effects on a positive parenting program on infant development and parental wellbeing. Her educational goals also include creating an anticipatory guidance curriculum for pediatric residents, to help emphasize family-centered health promotion counseling and discussion of social determinants of health during clinic visits.

Cerza, Dante

Physician, Nemours Children's Hospital Delaware

Chai, Audrey

Audrey Chai is a second-year resident physician in the University of Southern California (USC) Internal Medicine Residency Program. She completed her undergraduate degree at USC as well as her medical degree at the Keck School of Medicine of USC. During her clinical rotations as a medical student, she developed a strong passion for medical education which has continued to grow throughout residency, especially after completing her intern year during the COVID-19 pandemic and witnessing the vital role of resident physicians in caring for the unprecedented number of critically ill patients and need for all trainees to step up to heightened demands. She currently serves on her residency's Program Evaluation Committee and is working in collaboration with the USC Department of Pulmonary and Critical Care Medicine (PCCM) to improve inpatient emergency response training for residents. She plans to pursue fellowship training in PCCM and a career in academic medicine.

Chan, Teresa

Dr. Teresa Chan is an associate professor in the Division of Emergency Medicine, Department of Medicine at McMaster University. She is the associate dean for Continuing Professional Development within the McMaster Faculty of Health Sciences. She is an avid scholar in health professions education and works with the MERIT group and conducts research and scholarship within this area. Dr. Chan is one of the designers of GridlockED.

Chen, David

David Chen, MD is an attending physician within the Division of Hospital Medicine at Children's Hospital Los Angeles - and a Clinical Assistant Professor of Pediatrics at the Keck School of Medicine.

Following his training at CHLA, he worked as a critical care transport physician on the CHLA Emergency Transport Team. He then moved to the Bay Area, where he worked as a pediatric hospitalist within the Kaiser healthcare system. There, he practiced a combination of pediatric hospital medicine, critical care transport, and neonatal intensive care. He then returned to CHLA in 2019 where he currently serves as an attending pediatric hospitalist and clinician educator.

Dr. Chen's primary interest outside of his clinical practice is in medical education. He enjoys teaching and caring for patients alongside the pediatric residents and hospital medicine fellows and developing didactics & curricular content. He currently serves as the rotation director for the hospital medicine fellows' Community Medicine & Newborn rotations.

Cheng, Susan

Dr. Susan Cheng is the Senior Associate Dean for Diversity and Inclusion at Georgetown University School of Medicine. She was formerly involved in founding Beyond Z, an early-stage college to career start-up focused on accelerating diverse talent, where she directed college curriculum and program design for low-income, first-generation college students. Before this, Susan was an Associate Partner at NewSchools Venture Fund where she focused on human capital investment and management assistance. She also worked with the District of Columbia Public Schools, where she focused on human capital recruitment and development, organizational culture building, and designing a performance-management system for the central office. Susan also created the Urban Education Leaders Internship Program and launched the Teachers Central to Leadership central office fellowship. Susan graduated summa cum laude from UCLA with a Bachelor of Arts in communications and minor in education. She has a Master's in Public Policy from the Harvard Kennedy School and a Doctor in Education Leadership from the Harvard Graduate School of Education. While at the Kennedy School, Susan co-designed the Community Building workshop to promote campus diversity and helped to form the African, Latino(a), Asian and Native American Group Chapter. During her doctoral studies, Susan was a Freshman Proctor for Massachusetts Hall at Harvard College, supporting the academic and social development of 28 first year students.

Chin, Justin, DO

Justin Chin is a second-year resident at Lifelong Medical Care's Family Medicine residency in Richmond, California. He completed his undergraduate degree at the University of California, Berkeley, and medical school training at Touro College of Osteopathic Medicine in New York. He is currently obtaining a master's in medical education from Lake Erie College of Osteopathic Medicine. As part of the inaugural class at Lifelong Medical Care, Dr. Chin looks forward to creating a space in medicine dedicated to giving the community a voice, by nurturing and providing care to the next generation of immigrants, wherever they come from. His research interests include medical education, social determinants of health, and the role that culture plays in healthcare.

Christman, Grant, MD, MAcM, FAAP

Grant Christman, MD, MAcM, FAAP is a pediatric hospitalist at Children's Hospital Los Angeles and Director of Education of the Division of Hospital Medicine and Assistant Professor of Clinical Pediatrics in the USC Keck School of Medicine. His areas of educational research interest include e-learning (specifically, constructing interactive cases to teach competencies in pediatric hospital medicine) and faculty development with a focus on educational performance during family centered rounds. He has presented several workshops at prior IME conferences on such topics as interactive teaching methods for Zoom and using e-learning systems in medical education.

Chung, Waihong

Waihong Chung received his medical school education and his PhD in Pathobiology from Brown University in Providence, RI. He completed an internal medicine residency at The Mount Sinai Hospital in New York City before returning to Brown to complete a fellowship in gastroenterology. Dr.

Chung has published in the field of gastroenterology and hepatology, including articles on the management of chronic liver diseases and gastrointestinal bleeding.

Clithero-Eridon, Amy, PhD

Amy Clithero-Eridon is a faculty member in the Department of Family & Community Medicine at the University of New Mexico School of Medicine. Dr. Clithero-Eridon has a PhD in Family Medicine from the University of Kwazulu-Natal in Durban, South Africa as well as a Master of Business Administration with a health systems concentration and a master's level certification in Medical Education from the University of New Mexico. In addition to teaching medical students about social determinants of health, health policy, and health services research, Dr. Clithero-Eridon participates in numerous educational research initiatives focusing on educational best practices, health services research, and social accountability within medical education. Dr. Clithero-Eridon is the North American Regional Representative for the Network Towards Unity for Health (www.thenetworktufh.org), the Co-Director of the UNMHSC WHO Collaborating Center, the Director of health policy and health systems education for medical students, Director of scholarship initiatives for her department, a member of the Training for Health Equity Network (<https://thenetcommunity.org/>), and the AMEE Aspire Academy as well as the Society of Teachers of Family Medicine.

Cole, Kelli E.

Kelli has always been passionate about teaching and plans to continue her involvement in education as she moves forward in her career. While in medical school, she has found opportunities and roles where she can influence curricular design. For instance, in the fall of 2020, serving as a Student Representative for the medical college's Curriculum Exploration Committee she helped brainstorm ways to best integrate foundational sciences and clinical experiences as continuous longitudinal threads into the new curriculum. Kelli was then invited to contribute to the design of the final session of an interprofessional education thread in the spring of 2021, work that she recently presented at the 2021 Nexus Summit. Recognizing the need for leadership skill development in medical students, she participated in an innovative design program, the Kern Institute's Transformational Ideas Initiative (TI2) program, developing modules for a leadership curriculum, which they presented at a local and a national conference and are advocating for their inclusion in the new curriculum. Continuing work towards promoting leadership, she was Co-President for the Student Leadership Development Initiative from 2020-2021 and currently serves as the Co-Chair for the Kern Institute Student Leadership Committee. Lastly, with her aim to one day teach medical education, she continues to seek out opportunities to develop her teaching skills, including acting as a peer tutor and facilitating case-based discussions as a teaching assistant.

Collado, Kenneth

California University of Science and Medicine | MD Class of 2023
California Baptist University | MPH Class of 2019

Collins, Jolene

Dr. Jolene Collins is an Assistant Professor of Pediatrics at Children's Hospital Los Angeles. She has a Master in Academic Medicine degree and is currently the Director of Education for the Division of General Pediatrics. Her primary area of research is medical education of general pediatrics for all learners. She has developed and presented a card based game to "Access to Barriers" to teach continuity clinic best practices.

Collins, Sarah, PhD

Instructor, Undergraduate Medical Education Program Department of Internal Medicine, UT Southwestern Medical Center

Cosimini, Michael

Michael Cosimini's work focuses on educational scholarship in the areas of podcasting and serious games for medical education. He is the designer of Empiric Game which is a card game that teaches

guideline-based management of common and important infections and fundamentals of antimicrobials through trading card game inspired design techniques.

Crapanzano, Kathleen, MD, MACM

Program Director, LSU Psychiatry Residency Program-Baton Rouge, LSU Health New Orleans School of Medicine

Crisp, Zharia

Zharia joined the National Anti-Racism in Medicine Curriculum Coalition in November 2020 and has supported the organization with curriculum planning, research efforts, and content development. She earned a B.S. in Biological Sciences (Physiology and Neurobiology) and a B.S. in Psychology from the University of Maryland - College Park. As a student, she received the Banneker/Key Scholar award and participated in the Integrated Life Sciences Honors Program, where she completed a service learning project focused on food insecurity in College Park. She also participated in research on goal motivation, unethical behavior, and memory recall with the Motivated Cognition Lab, which she presented at the University of Maryland's Undergraduate Research Day in 2019. Zharia plans on pursuing a future in medicine and is currently interested in pediatrics, psychiatry, and the importance of structural competency to achieving high quality medical care.

Dafinone, Mirabel

Medical Student, University of Nevada Reno School of Medicine

Dahlman, Kimberly

Kimberly Dahlman, PhD, (Associate Professor of Medicine, Hematology/Oncology) is an educator and cancer biologist who has demonstrated educational leadership in curriculum and faculty development, foundational science integration, student assessment, and program evaluation. Dr. Dahlman oversees the development and execution of the Integrated Science Course (ISC) program and co-directs the "Clinical Cancer Medicine" ISC at VUSM. The ISCs leverage competency-based assessment in the post-clerkship curriculum. She is co-Investigator on a T32 supplement for program evaluation training for faculty and is launching competency-based assessment for PhD students. Furthermore, Dr. Dahlman serves on the Cancer Education Advisory Committee, is co-leader of education for the Division of Hematology/Oncology, is a member of the Standing Assessment Team, and a Master Science Teacher at Vanderbilt. She has been recognized for her outstanding educational contributions by election to the Vanderbilt Academy for Excellence in Education, Member-at-Large position on the Academy Board, and President-Elect to the Association of Biochemistry Educators. Recently she was awarded the Denis M. O'Day award for Team Implemented Curriculum from VUSM and the Early Career Award for Excellence in Teaching and Innovation from the International Association of Medical Science Educators.

Darnell, Julie

Dr. Julie Darnell is currently an Academic Fellow at USC (USC) School of Pharmacy. Her fellowship has a strong focus on digital health and how to best integrate digital health into the pharmacy curriculum. She obtained her PharmD from the University of Colorado and moved back to her home city of San Diego for a PGY1 at UCSD focused on ambulatory care. She began her journey with USC as an Ambulatory Care PGY2 at the VA Greater Los Angeles, where she completed the USC residency teaching certificate program. She loved teaching and USC so much she decided to stay on another year to learn all about academia, so she will feel prepared to start a faculty position upon completion of her training. Dr. Darnell's clinical interests include care of older adults, polypharmacy and deprescribing, and health needs of the LGBTQ+ community.

Day, Leslie

Leslie Day, PhD is an Instructional Associate Professor in the Engineering Medicine Program at Texas A&M University College of Medicine. She obtained her Master's Degree in Applied Anatomy from Boston University and PhD in Biology with focus on Neuroscience from Northeastern University. She has been an educator of human anatomy to a diverse population of healthcare professionals for over 20 years. During that time, she has received recognition for her innovative and effective teaching

methods through several University and national awards. Since 2013, she has been a digital author on two internationally recognized Human Anatomy & Physiology textbooks published through McGraw-Hill and recently co-authored a Laboratory Manual for Anatomy & Physiology, also published through McGraw-Hill. She currently serves on the board of the Human Anatomy & Physiology Society. Her educational research is focused on effective instruction in the anatomical sciences, with several local and national presentations and peer-reviewed publications.

Di Prospero Lisa

Lisa DiProspero is the Director, Practice-Based Research and Innovation & the Education Research Unit at Sunnybrook Health Sciences Centre (SHSC). She leads both portfolios to implement strategic priorities to build research and innovation across clinical practice and education. Lisa is an established researcher with her primary focus in the area of education research. She co-leads the Patient Engagement in Research (PER) working group that is working to build capacity in PER. Lisa brings expertise in clinical education from her role within the radiation sciences. She also brings expertise with methodologies on engaging patients within research.

Dickhoner, James, MD

James' career has been spent developing innovative solutions in the digital health space that combine the intellectual rigor of an academic approach with the best practices of modern software development to benefit underserved people both here in the US and abroad. He is particularly passionate about catalyzing change in the domains of care coordination and personal health records through contributing to open-source projects. He currently serves as the Director of International Digital Health at Children's Hospital Los Angeles. James joined CHLA in 2019 after Dr. Tom Lee recruited him to take on the primary leadership role for his ongoing work in Armenia. He was particularly interested in my ability to continue the development of Avetis, a personal health record system that he and Dr. Juan Espinoza had launched earlier. Additionally, he leads the team that is developing Learn With Open (www.learnwithopen.org), an open-source, free access learning platform for physicians in LMICs. He is also involved in the development of a mobile vision clinic and serve as the Clinician Advisor for KidsX, a pediatric digital health accelerator.

Diep, Anna

Anna Diep is a fourth-year medical student at the University of California, Irvine School of Medicine. Anna grew up in Southern California and received a BS in Molecular Biology from UCLA. Throughout undergraduate and medical school, she has focused on providing mentorship to her community with a focus on those aspiring to pursue higher education.

DiGiacobbe, Gia, PMP

Gia DiGiacobbe, PMP, is the Director of Curriculum Design and Implementation for the Kaiser Permanente Bernard J. Tyson School of Medicine. In this role, she oversees the curriculum development and redesign process in partnership with faculty from all departments. She has participated in founding two new health professions programs and the curriculum redesign of another. Ms. DiGiacobbe earned a certification in Advanced Human Centered Design in 2019 for which her capstone project was applying those principles to the design of new curriculum materials.

Dimitrion, Peter, MS

Peter is an aspiring physician-scientist studying cutaneous immunology. As a first-year graduate student in Wayne State University's MD/PhD program, is working to unravel novel features of immune dysregulation in hidradenitis suppurative (HS) and working to reclassify HS based on molecular and immunological signatures. Among other leadership positions he has held, Peter passionately advocates for the importance of physician-scientists. He started his medical school's American Physician Scientist Association Chapter and serves on the Research Development Committee as an elected student member both of which serve to stimulate biomedical research opportunities for medical students and tackle barriers to further the school-wide research initiatives. Peter is also a founding board member of the free clinic research consortium at Wayne State University School of Medicine, whose mission is to further our understanding of underserved and understudied patient populations to improve care quality and efficiency. Peter hopes, throughout his career, to make

transformational discoveries at the bench and bedside that further our ability to study disease and treat patients.

Ding, Davina

Dr. Davina Ding is a Clinical Teaching Fellow at the Great Western Hospital NHS Foundation Trust working in the Emergency Department and with the Undergraduate Academy.

Dunn, Vicky

Victoria Dunn, MBBS, MRCP, DRCOG, is a British trained Family Physician. She graduated from Newcastle University Medical School in the UK and practiced in the North East of England for 15 years before moving to the USA. After hurdling all of the USMLE exams, she became faculty in Keck Department of Family Medicine in 2015. She enjoyed teaching medical students and residents in the UK and has continued to enjoy that through USC. She is currently participating in the Master of Academic Medicine Program at USC. Her clinical practice is in college health, where she sees her clinical role in as an extension of her teaching as she seeks to educate her student patients about their own health, especially with regard to healthy living, stress management, and disease prevention.

Edwards, Sarah

Dr. Sarah Edwards is a senior resident in Emergency and Paediatric Emergency Medicine in Leicester, in the UK. She is the social media editor for the Emergency Medicine Journal. She is involved in several education organizations including EM3 and RCEM Learning. These provide EM #FOAMed based resources. She has an interest in game development and gamification of medical education. This includes Cards Against Paediatric Orthopaedics, Cards Against Paediatric Dermatology, and Bed Block.

Efejuku, Tsola

Tsola Efejuku is a second-year medical student at the University of Texas Medical Branch in Galveston. He is interested in general, burns, trauma, and orthopedic surgery research and is currently conducting studies in these fields. He also has an interest in medical education and ethics research. He is passionate about health policy and advocacy, and justice, equity, diversity, and inclusion (JEDI). He is involved with both the Texas Medical Association and the American Medical Association on the regional and national levels. He has experience working in the technology industry at Oracle and is also passionate about technological innovation in medicine in order to make quality care more easily accessible and equitable.

Egan, Anna, MD

Anna Egan, MD, FAAP is a first-year pediatric hospital medicine fellow at Children's Hospital Los Angeles. She received her bachelor's degree from Harvard and medical degree from University of California, Irvine and completed her residency and a chief resident year in pediatrics at New York Presbyterian-Cornell. Her academic interests include quality improvement, POCUS and informatics.

Eisenmann, Kathryn, PhD

Kathryn M. Eisenmann, PhD completed her education and training with a BS in Biology from Rider University and in 2000, her PhD in Cancer Biology, from the University of Minnesota Twin Cities. She is currently an Associate Professor at the University of Toledo College of Medicine and Life Sciences, in the Department of Medical Education. Since 2019 she has acted as the Co-Director of the Human Blueprint System and also as the Thread 1 Co-Director.

Elagandhala, Akshay

Associate Professor, Department of Emergency Medicine, UT Health Houston McGovern Medical School

Elegbede, Audrey, PhD, PCC

Audrey Elegbede, PhD, MA, PCC is a passionate and energetic equity, inclusion, diversity (EID) and anti-racism (AR) professional with over 20 years of experience in higher education, research implementation, institutional administration, and leadership development. Dr. Elegbede has theoretical

grounding in demographic, medical and applied anthropology, and is SME in Critical Race Theory, systemic racism and white privilege, intersectionality, gender equity and disability inclusion, health and wellness disparities, educational disparities, and social justice and anti-oppression pedagogy. Dr. Elegbede has developed and delivered training programs and institutional curriculum for healthcare, business, education, government, and non-profit organizations and is also a Professional Certified Coach (PCC) with the International Coaching Federation. Dr. Elegbede serves as Curriculum and Assessment Manager with the Mayo Clinic Alix School of Medicine where she provides expertise with curricular management, course development, instructional coaching, faculty development, and EID prioritization. Prior to that, Dr. Elegbede served as Assistant Professor of Ethnic Studies at Winona State University and as Senior Lecturer of Ethnic and Racial Studies at the University of Wisconsin-La Crosse where she curated and created her own content and offered courses on social justice research, white privilege, critical race feminism, and media representation. Dr. Elegbede's course on white privilege was the first catalogued course on the subject within the University of Wisconsin System.

Elkhamisy, Fatma Alzahraa, MD, PhD, MHPE

Fatma A Elkhamisy, MD, Ph.D., MHPE, is an assistant professor of Pathology at the Faculty of Medicine, Helwan University, Cairo, Egypt since 2018 and a medical education specialist. She occupied many positions related to the educational processes including an Exam Committee member, Assistant head of the International Students' office at the faculty and occupied the position of academic coordinator. She is also a member of the Community Service committee.

In addition, she is an assistant professor and a member of the Exam Internal Moderation Committee at the Basic Medical Sciences Department, Faculty of Medicine, King Salman International University, South Sinai, Egypt.

She obtained her master's degree in Health Professions Education from a joint program between the School of Health Professions Education, Maastricht University, the Netherlands, and Faculty of Medicine, Suez Canal University, Egypt.

She is an associate fellow of the Association for Medical Education in Europe (AMEE), and a member of the Association for the Study of Medical Education (ASME).

She has 11 years of experience in medical teaching. Since promoting to a lecturer, she implemented many innovative instructional and formative assessment methods. She has internationally published articles in medical education and participated in international medical education conferences like the AMEE and APMEC conferences. She was awarded a short communication Merit Award at the APMEC 2022 Conference.

She is also a reviewer for medical education manuscripts in international journals. And, she attended many medical education conferences and workshops.

Her interest is in educational innovation, instructional design, enhancing students' interaction, and motivation to learn.

Elliott, Donna D., MD, EdD

Donna D. Elliott, M.D., Ed.D., is a Professor of Pediatrics and Medical Education, Vice Dean for Medical Education and Chair of the Department of Medical Education at the Keck School of Medicine of the University of Southern California. Dr. Elliott oversees all academic areas related to medical student education, pipeline programs, and the Master of Academic Medicine and Master of Narrative Medicine programs at Keck. Dr. Elliott has received numerous teaching and mentoring awards including the Mellon Award for Excellence in Mentoring and the Excellence in Teaching Award both from the University of Southern California. She was also named a Master Teacher at the Keck School of Medicine and elected a faculty fellow in the USC Center for Excellence in Teaching. Dr. Elliott received the Women Leaders in Medicine Award from the American Medical Student Association and was named a Remarkable Woman of USC. Dr. Elliott received the Edythe J. Levit Distinguished Service Award from the NBME and the national Exemplary Service Award from the AAMC Group on Student Affairs in 2021. She recently completed terms as a member of AAMC Group on Student Affairs National Steering Committee and as a member of the Executive Board of the National Board of Medical Examiners. Dr. Elliott is currently the chair of the National Resident Matching Program Board of Directors and a member of the Liaison Committee on Medical Education.

Engelbrecht, Alana

Alana Engelbrecht is a third-year medical student at SUNY Downstate Health Sciences University in Brooklyn, NY. She completed a BS in Biology at Haverford College in 2016. During her undergraduate career, Alana led quality improvement research at Project HOME, a Federally Qualified Health Center in North Philadelphia. She also facilitated opioid overdose research and needs assessment projects at Cooper University Hospital's Emergency Department. Before attending medical school, she facilitated clinical and pharmaceutical research projects in the Pediatric Allergy and Immunology Department at Mount Sinai Hospital and Rheumatology Department at NYU Langone Hospital. Throughout her second and third years at SUNY Downstate, she has been researching pediatric cases of SARS-CoV-2 with the Pediatric Infectious Disease Department funded by an alumni research committee. With an interest in bridging health equity with patient care, she has also investigated the relationship between law enforcement and emergency medicine through an ongoing systematic review. Alana plans to pursue a career in Pediatrics with a continued focus on medical education and community health.

Equihua, Yesica

Yesica was born in Michoacán, Mexico, and migrated to the United States at the age of six alongside her parents. She was raised in a small agricultural town, Orange Cove, in the heart of California's Central Valley, which is heavily populated by immigrant farmworkers. Growing up, Yesica was well aware of her and her family's immigration status but could not begin to understand the impact that citizenship had on individuals' health outcomes. It was not until she arrived at UCLA and was enrolled with university health insurance that she realized the disparity between the care that was so easily accessible to her and the care that was sparsely available to her immigrant community back home. Currently, Yesica works at AltaMed Health Services, as a Health Equity Navigator working with historically disinvested communities in South Los Angeles. She aims to provide patients with the tools and knowledge they need to navigate the complexities of the healthcare system by addressing social determinants of health that create barriers to healthcare access. Yesica plans on applying to medical school in 2022 with an aspiration to expand on her mission in advancing health equity. After medical school, she wishes to practice medicine in communities like her hometown.

Etter, Emily

Emily Etter is currently a second-year medical student at the University of Nevada, Reno School of Medicine.

Evans, Anna

Anna Z. Evans, BSc, MBBCh, MRCPCH, PGCert, PGdip, is a Welsh paediatric trainee currently undertaking a teaching fellowship at Swansea Bay University Health Board. Her undergraduate medical training at Cardiff University included a BSc in Cognitive Neuroscience from Bangor University. After foundation training in East Lancashire she returned to South Wales for Paediatric Training. She is due to gain a Certificate of Completion of Training in general paediatrics in March 2023 and has special interests in medical education and neurology. She holds the qualifications; BSc, MBBCh, MRCPCH, and PGdiploma in Medical Education.

Fabian, Sam

Medical Student, Wake Forest School of Medicine

Facemyer, Kevin

Director of educational Excellence, University of Nevada Reno, School of Medicine

Fadial, Tom

Tom Fadial, MD, is an Assistant Professor and the Educational Technology and Innovation Officer in the Department of Emergency Medicine at McGovern Medical School part of the University of Texas Health Science Center at Houston. Dr. Fadial's background in interface and interaction design has supported the transition to their current role where they are responsible for creating educational tools for undergraduate- and graduate-medical education in addition to patient-care and on-shift medical education at our hospital sites. Dr. Fadial's other interests are centered around meta-cognitive aspects of medical education and exploring the use of cognitive structures or algorithms in medical

student and resident education. ddxof (<https://ddxof.com/>) contains over 100 clinical algorithms for the diagnosis and management of various conditions encountered in the emergency department. These algorithms provide an explicit cognitive structure and facilitate rapid learning and teaching conducive to the fast-paced environment of the emergency department.

Farr, Kiah

Kiah Farr is a fourth-year medical student at the University of Arizona College of Medicine – Tucson (UACOM-T). She received her bachelor's degree in physiology from the University of Arizona. She is the founder and creator of the Grief Teachings curriculum, which was initiated to support medical students in their experiences with patient death and grief. The curriculum is currently in place for all clerkship students at UACOM-T.

Faye, Ethan

Ethan Faye is a second-year medical student at the Keck School of Medicine of USC. He was raised in northern California and graduated from UC Berkeley in 2018 with a bachelor's degree in human biology with a minor in chemistry. After college, he spent two years working as an operations manager for GoodRx, building the telemedicine division of the company before starting medical school. He has a passion for the intersection of biotechnology, medicine, and industry and is currently co-president of the Translational Biotechnology Association. Ethan is actively involved with research in the areas of sports medicine, orthopedics, medical education, and health technology.

Feeley, Aoife, MB, BCh, BAO

Aoife Feeley, MB, BCh, BAO, is a postgraduate resident in Ireland, undertaking a higher degree in virtual reality and its use in surgical training. Aoife has a keen interest in all things surgical and technological

Fix, Megan, MD

Dr. Fix graduated from Stanford University in 1998 and Stanford School of Medicine in 2003. She did residency at the Harvard Affiliated Emergency Medicine Residency and was chief resident in 2007. Her first attending position was at Maine Medical Center in Portland, ME where she was the Medical Student Clerkship Director. She moved to Utah in 2010 as the Associated Residency Director for the EM Residency Program at the University of Utah. She has held multiple leadership positions at the SOM including Transition to Internship Course Director, Faculty Director for Student Mentoring, Real MD Faculty Co-Director, Faculty Coach, and she mentors many student and resident trainees. Her major academic interests are in medical education and airway research and education. She is heavily involved in EM national education through CORD (Council of Residency Directors) and was chair of the Academic Assembly in 2017. She has participated in multiple educational research and scholarship endeavors. Current Educational/Clinical Activities at University of Utah. As Director of Education for the Division of Emergency Medicine, Megan oversees the fellowships, residency, student training programs in EM. She also serves multiple roles in the SOM, including the course director for Clinical Methods Curriculum 1 and the Faculty Co-Director of the Real MD coaching program.

Fornari, Alice, EdD, FAMEEm, H-HEC, RDN

Alice Fornari, EdD, FAMEE, RDN, is Associate Dean of Educational Skills Development and Professor of Science Education at the Zucker School of Medicine at Hofstra/Northwell. She is also Vice President of Faculty Development for the 23 hospitals of Northwell Health. Her faculty development role is designed to align the UME, GME and CPD continuum. Dr. Fornari obtained her EdD, Higher Education, College Teaching and Academic Leadership at Columbia University, Teachers College in 2001. Her interest in ethics education has continued and she obtained a Graduate Certificate in Clinical Bioethics in 2018. In June 2021 she received the IAMSE award Distinguished Career Award for Excellence in Teaching and Educational Scholarship.

Recognizing a need for additional faculty development to align UME and GME education, in 2016 she inaugurated a Master of Health Professions Education degree program. An interest in health humanities and reflective practice as a core competency has supported successful implementation of health humanities curriculum at the ZSOM and Northwell Health. She is currently co-leading a

AAMC/NEGEA Special Interest Group (SIG) on Health Humanities as Teaching and Learning tool. In 2014, Dr. Fornari was awarded a grant, Mentoring and Professionalism in Training (MAP-IT), that focuses on developing mentoring skills in clinicians to achieve humanistic relationships with trainees and colleagues. She has developed, implemented, and evaluated the Just in Time Teaching Tools Infographic program in diverse clinical disciplines for faculty and trainees across multiple hospital training sites. In addition, she is co-editor of the IAMSE Manual “How-To Guide for Active Learning” and soon to be released “Mentoring: Evidence-Based Strategies Across the Continuum of Health Professions Education.”

Alice Fornari, EdD, FAMEE, RDN, is Associate Dean of Educational Skills Development and Professor of Science Education at the Zucker School of Medicine at Hofstra/Northwell. She is also Vice President of Faculty Development for the 23 hospitals of Northwell Health. Her role is designed to align the UME, GME, and CPD continuum. She has developed, implemented, and evaluated the Just in Time Teaching Tools Infographic program in diverse clinical disciplines for faculty and trainees across multiple hospital training sites. In addition, she is co-editor of the IAMSE Manual “How-To Guide for Active Learning” and soon to be released “Mentoring: Evidence-Based Strategies Across the Continuum of Health Professions Education”

Francis, Erika

Associate Professor, Shenandoah University

Fung, Cha-Chi, PhD

Cha-Chi Fung received her PhD in Educational Psychology from the USC Rossier School of Education in 2003. She is the Vice-Chair for the Department of Medical Education and the Assistant Dean for Research and Scholarship at Keck School of Medicine of USC. Her career in medical education started while working as a research assistant in the Department of Medical Education at the Keck School of Medicine of USC from 1999-2003. After graduation, Dr. Fung worked as an assistant professor in the Department of Family Medicine at the David Geffen School of Medicine at UCLA for 7 years before returning to USC to be the Director of Research in Medical Education. Dr. Fung is the course director for Designing Research on Innovations in Academic Medicine and Implementing Research on Innovations in Academic Medicine for the Master of Academic Medicine program at Keck School of Medicine of USC. She is also a faculty member for the AAMC Medical Education Research Certificate (MERC) program. At the national level, Dr. Fung has served as the Western regional representative of the AAMC Medical Education Scholarship Research and Evaluation (MESRE) Section and as the Chair for the Western Group on Educational Affairs (WGEA). She’s currently serving as a member of the Research in Medical Education (RIME) Planning Committee at AAMC. Dr. Fung’s primary research interest is in student performance assessment and evaluation.

Gallant, Rachel

Rachel Gallant, MD, is a clinical pediatric hematology-oncology fellow with a focus on childhood leukemia/lymphoma in clinical practice, and a focus on leukemia etiology in research. In addition to Dr. Gallant's scientific interest in the environmental and immunologic etiologies of pediatric acute lymphoblastic leukemia and dedication to treating children with cancer, they also have a passion for teaching and trainee wellness. Ensuring the psychological and emotional well-being of trainees is crucial to developing competent well-rounded physicians and to reduce the risk of burnout. Being creatively inclined and having a background in music, Dr. Gallant is motivated to improve fellow wellness through the implementation of an art curriculum. Art and medicine are intertwined and Dr. Gallant hopes to help trainees learn how they identify with the arts personally, how art impacts the practice of medicine, and provide a space for creative release with the goal of deepening fellows’ relationship with medicine and improve their overall well-being.

Gao, Thomas

Thomas Z. Gao, BS is a third-year medical student at The Ohio State University College of Medicine. He has authored and co-authored several publications in journals such as Nature Microbiology and Otolaryngology-Head and Neck Surgery and has been cited over 100 times. He has also presented at regional and national conferences, including an oral presentation at the AAO-HNSF Annual Meeting and OTO Experience in the Sleep Medicine category. He was an undergraduate and medical school

research scholarship recipient and is a current Ohio State University College of Medicine Alumni Scholarship recipient. His current research and career interests include otolaryngology and sleep medicine/surgery, as well as medical education and academic medicine.

Garcia, Ariami

Project Intern, AltaMed Institute for Health Equity

Garvick, Sarah

PA Garvick is an Assistant Professor and has been in medical education for eight years. She is the Associate Program Director as well as Director of Preclinical Education. Her academic responsibilities include instruction of the history and physical exam course at her PA Program. PA Garvick was recently awarded an internal scholarship to develop and assess the cardiac auscultation curriculum described in this abstract. Other academic research interests include interprofessional education and faculty development. PA Garvick works clinically in a federally qualified health center that serves as primary care for the local community. Her expertise in this area of medicine drives research interest in the importance of physical exams as well as healthcare in the rural population. Presentations of her research have been disseminated at the local, state, and national levels through presentations and publications.

Gates, Jerry, PhD

Keck School of Medicine of USC

Geigler, Bryan

PA Geigler is an Assistant Professor and has been in medical education for three years. He is the Director of Clinical Education, but also instructs within the Preclinical year. His didactic academic responsibilities include instruction of the history and physical exam course at his PA Program. Academic research interests stem from discovering effective and innovative ways to teach the material of this course, including incorporation of simulation. Clinically, PA Geigler practices medicine in primary care. His experience in this area of medicine has enabled him to better understand how to support and motivate students as well as create competent providers. He has a special research interest in several other specific areas including global health, primary care, preventive health, and pediatric medicine. Presentations of his research have been disseminated at the local, state, and national levels through presentations and publications.

Gillette, Austin

Dr. Gillette is a second-year family medicine resident at the University of Florida. He currently serves as education chief for the residency program, where his primary role is to coordinate the weekly didactic sessions for the program. His medical interests include sports medicine, obesity medicine, preventive medicine, and medical education, both for residents and medical students. In particular, he has a strong interest in improving resident education both while on rotations and during formal education sessions. He attended medical school at the Philadelphia College of Osteopathic Medicine – Georgia Campus where he served as Vice President of the Sports Medicine interest group and as Student Site Leader for his clinical rotations. He grew up in Gainesville, FL before leaving Florida for Baylor University. He is looking forward to presenting his ideas for improving resident education at UF's Family Medicine program.

Giordano, Carolyn, PhD

Dr. Giordano is the Associate Dean for Assessment and Evaluation and Associate Professor in Family, Community, and Preventative Medicine at Drexel College of Medicine. She has been the primary author or co-author on over a dozen articles in peer-reviewed journals, in the area of health and medical education as well as in interprofessional education and is the author and co-author on two book chapters on assessment and data analytics. She is a distinguished Psychology fellow in the National Academy of Practice as well as a fellow in the Association of Schools Advancing Health Professions where she is a member of the interprofessional education subcommittee and has co-edited a special edited of the Journal of Allied Health dedicated to interprofessional education works. She has been invited to give testimony to HRSA on the impact of interprofessional education and has

also been awarded the distinguished paper award from the Association of Schools of Allied Health Professions and the James B. Erdmann, PhD Award for Excellence in Interprofessional Education & Collaborative Practice. Dr. Giordano received a bachelor's degree in psychology, with a minor in women's studies from Rowan University, wherein in 2015 she was named "Outstanding Alumni." She earned her master's degree in experimental psychology at Towson University and her doctorate in educational psychology at Temple University.

Giwa, Lola, BS

Lola Giwa is a second-year medical student who is currently studying at Indiana University School of Medicine. Her initial interest in medicine can be traced to her childhood as her mother, who is a registered nurse, would provide entertainment with stethoscopes and blood pressure monitors. Additionally, as the child of Nigerian immigrants, she has become unfortunately familiar with the occurrence of medical misfortunes resulting from preventable causes in family members overseas. Her natural affinity toward science and vexation with poor health outcomes in marginalized populations were the catalysts to pursuing a Bachelor of Science degree from Marquette University, majoring in Biomedical Science and minoring in Africana Studies. During her undergraduate career, she avidly pursued employment in local hospitals as a medical scribe. She also committed much of her time to build sustainable housing in communities affected by natural and manmade disasters both locally and in the Gulf region. Through those experiences, she encountered many multi-faceted individuals that reinforced the importance of accounting for the whole person in every interaction. As an aspiring physician, she will draw upon her experiences to advocate for and amplify the voices of vulnerable patients and empower their journeys toward health and wellness.

Glasgow, Tiffany

Tiffany Glasgow, MD is a Professor and Chief of the Division of Hospital Medicine in the Department of Pediatrics at the University of Utah. She completed her medical school and residency training at University of California San Francisco in 1997. Her career at the University of Utah began in 2001.

Dr. Glasgow's clinical expertise is in treating hospitalized children at Primary Children's Medical Center where she has served a number of administrative roles such as Medical Staff President, Medical Officer of the Day, and Ethics Committee. She has lead quality improvement initiatives around care for patients with bronchiolitis and neonatal intensive care transitions to the inpatient setting.

Educational missions include prior Course Director of the Clinical Methods and Medical Decision-Making longitudinal curriculum encompassing all 4 years of medical school, and Core Faculty in the Layers of Medicine course in Medical Humanities. She is an advisor for the Education in Pediatrics Across the Continuum (EPAC) multi-center educational innovation project.. Her entire clinical practice involves resident and student learners.

She has expertise in Early Career Coaching and serves as a coach and mentor for junior faculty, residents and medical students. She serves as a co-advisor for the Gold Humanism Honor Society in the School of Medicine.

As a Wellness Champion, she co-founded the "Thriving in Pediatrics" initiative which has generated over 20 projects to improve provider engagement and mitigate burn-out.

Goldenberg, Antony

Antony originally started his undergraduate studies at California State University, Northridge (CSUN) with a goal of working in some sort of healthcare field. CSUN was a very mathematical-oriented school, and it gave him a newfound appreciation for business. Ultimately, he decided to combine his love for healthcare with his interest in marketing and analysis. Antony obtained his Bachelor's in Biology and immediately enrolled for a PharmD Program with an area of concentration in the pharmaceutical industry at the University of Southern California (USC). Currently, he is in his third year at the USC School of Pharmacy and is hoping to secure a position at either a pharmaceutical company or the FDA afterwards. In addition to obtaining his PharmD, Antony is also conducting research with economic and clinical professors at USC regarding therapeutic inertia related to insulin use.

Gomaa, Nahla

An associate clinical professor of Otolaryngology-Head & Neck Surgery at the University of Alberta, Edmonton AB, Canada, the Director of Quality Improvement at the same Division, and the Lead of Surgery on Faculty Development Committee. She has been the principal investigator on multiple clinical and educational grants. She is certified in Patient Safety Quality Management [PSQM], a graduate of the Leadership Gold College at the University of Alberta, and a member of the International Competency-Based Medical Education [CBME] collaborators. Dr. Gomaa has several peer-reviewed articles published in high-impact journals on medical education, and quality improvement. She is currently a member of the CME committee in the Association of Medical Education in Europe [AMEE],

Gray, Lisa, DO, FACC

Dr. Lisa Gray is a cardiologist in Anchorage, Alaska, and has been in practice since 2004. She practices invasive/noninvasive cardiology and is a member of the Alaska Heart and Vascular Institute. In addition to her clinical practice, she is a preceptor for fourth-year medical students who take a cardiology elective. Lisa is an adjunct clinical assistant professor at Pacific Northwest University-College of Osteopathic Medicine. She also serves as program director for Providence Alaska Medical Center's cardiac rehabilitation program. She is in her first year of the Academic Medicine program at the Keck School of Medicine of USC.

Greene, Ericka

Ericka Greene is vice chair of Education in the Stanley H. Appel Department of Neurology at the Houston Methodist. She serves as the neurology residency program director and Course director of the Practice of Medicine pre-clerkship curriculum for the Engineering-Medicine (ENMED) program of the TAMHSC and Houston Methodist Hospital.

Guenther, Amy

Dr. Guenther is an Assistant Professor in the Office of Medical Education Research and Development in the College of Human Medicine at Michigan State University. She earned her PhD in Curriculum, Instruction, and Teacher Education and also holds advanced degrees in educational leadership and curriculum development. Dr. Guenther has a broad background in educator development and over 15 years of experience designing and facilitating professional learning experiences, both locally and nationally. She regularly collaborates with colleagues to create professional development programs. This work includes leading the creation of Residents as Teachers, a series of eight interactive online modules that address effective teaching in clinical settings and incorporate aspects of equity-minded teaching. Dr. Guenther also coaches faculty and medical educators on effective, student-centered teaching practices in post-secondary, field, and online settings. Dr. Guenther's research focuses on examining effective ways to support medical educators in providing ambitious instruction and instructional practices that effectively support the learning of medical students from traditionally marginalized populations.

Hagiwara, Yuya, MD, MACM

Dr. Hagiwara is the Fellowship Program Director for the Hospice & Palliative Medicine Fellowship at the University of Iowa. He is a board-certified geriatrics and palliative care physician with expertise in palliative care education and research in medical education. For his training, he completed a post-doctoral fellowship in Geriatric Palliative Medicine and a clinical fellowship in Geriatric Medicine, both at the University of Texas Health Science Center in San Antonio. He also holds a master's degree in Academic Medicine (MACM) from the University of Southern California. Dr. Hagiwara's academic focus includes integrating geriatric palliative care content into educational programs at the undergraduate and graduate medical education levels. He received the Geriatrics Academic Career Award, a K01 from the Health Resources & Services Administration in the Department of Health and Human Services 2019-2023. His expertise includes developing educational content in advanced communication skills, goals of care, pain management, and management end of life symptoms.

Hallowell, Ronan, EdD

Dr. Hallowell is an assistant professor of Clinical Medical Education at USC's Keck School of Medicine. He is Director of the Health Justice and Systems of Care course in the Keck MD program. Dr. Hallowell serves as an associate director of the USC Center for Mindfulness Science and is a faculty affiliate at the Gehr Family Center for Health Systems Science and Innovation. He is also a founding faculty member of the new M.S. degree program in Narrative Medicine teaching research methods. He conducts research on curriculum design, the medical humanities and cross-cultural perspectives on medicine.

Harlan, Greg, MD, MPH

Associate Professor of Clinical Pediatrics and Medical Education Director, Introduction to Clinical Medicine, Keck School of Medicine of USC

Hartmark-Hill, Jen, MD, FAAFP

Director, UA Faculty Development Fellowship, University of Arizona College of Medicine-Phoenix

Hayer, Rupinder, MPH

Rupinder Hayer's background is in public health and education. In her recent work, her mission has been to educate and increase awareness around chronic disease prevention and management. Her work centers around preventing the two leading risks for cardiovascular health (hypertension and Type 2 diabetes). Physicians and care teams face many barriers to delivering optimal preventive care and Rupi's work focuses on removing the barrier around insufficient training and/or education related to blood pressure (BP) measurement. Physician training inaccurate BP measurement is often very limited in healthcare schools which leads to inaccuracies in practice. In the past, she has focused on retraining practicing providers with a refresher module and more recently her focus has been on standardizing the training from the onset by developing educational modules for all healthcare students also known as the novice learner.

Hengy, Meredith

Meredith is currently a third-year medical student at Wayne State University School of Medicine. Her academic interests include free clinic research, health policy, service learning, hidradenitis suppurativa, and other inflammatory dermatological disorders. During her time in medical school, she has held numerous leadership positions, including as a co-founder of the Detroit Free Clinic Research Consortium, Grants and Research Coordinator for the Robert R. Frank Student-Run Free Clinic, Wayne County Representative for the American Medical Association, and Service Learning Coordinator for the program FitKids. Her career goals include becoming a dermatologist and continuing to find novel ways to impact her patients and the community around her.

Hernandez, Tresne

Tresne Hernandez, BA is passionate about collaborating to create greater health justice, equity, and supportive community. They graduated with a major in Science in Society from Wesleyan University in 2012. Before entering medical school, they were a labor doula (supporting people during childbirth), abortion doula/trainer, Director of Program & Evaluation at a non-profit for caregivers of children ages 0-3, a hospital clown, and a partner dance organizer/teacher. Tresne is currently a medical student at the University of Rochester School of Medicine and Dentistry, completing a research year fellowship between their third and fourth years of medical school. Their research areas include transgender health disparities & solutions, quality improvement for a community OB/GYN clinic, medical education through movement, and contraceptive care at a syringe exchange program. They are a co-facilitator of Theater for Healthcare Equity, a community clinic coordinator, and a singer in their school's a capella group. Tresne's journey along a myriad of pathways to foster greater justice and community in the world will undoubtedly continue, along with their gratitude for their mentors, collaborators, and loved ones.

Horne, Kyle

Kyle is the Program Manager for Literally Healing, Children Hospital Los Angeles' book gifting program that gifts over 65,000 free books to hospitalized families every year. Kyle's work with Literally

Healing has expanded the program's focus beyond gifting a book a day for distraction-based therapy, to include work on reducing the book access gap in low-income areas of Los Angeles. He is also the co-founder of the hospital's Harkback Life a book club focused on Children's Literature for hospital staff.

With over a decade of program creation, development and nonprofit management, Kyle merges his love of reading, theatre, and equity on with work within CHLA's Cultural Humility Council and as a board member of the Children's Literature Council of Southern California.

Hsieh, Eric, MD

Dr. Hsieh is an Associate Professor of Clinical Medicine at the Keck School of Medicine of USC. He serves as the Director of the Internal Medicine Residency Program and the Vice-Chair of Medicine for the Department of Medicine. Dr. Hsieh works in the outpatient primary care clinic and the inpatient medicine wards at the LAC+USC Medical Center. He is board-certified in Internal Medicine by the American Board of Internal Medicine. He has mentored residents, junior faculty, and students at the undergraduate, graduate, and doctoral levels. He has co-authored several publications on graduate medical education, leadership transitions, and healthcare disparities. Current areas of research interest include medical education, healthcare disparities with a concentration on socioeconomic and psychosocial status, and communication skills between healthcare providers.

Hu, Connie

Connie Hu is a 3rd-year medical student at the University of New Mexico School of Medicine. Connie graduated from the University of New Mexico with B.A. in Biology and Chemistry and part of the University of New Mexico BA/MD program. In addition to being a medical student, Connie participates in research related to patient education and social accountability within medical education. Connie is also a member of The Network: Towards Unity for Health (TUFH), Society of Teachers of Family Medicine, American Academy of Family Physicians, American Academy of Pediatrics, and American Medical Association.

Itani, Reem, MD

Reem Itani, MD, is a first year pediatric pulmonary fellow at the Children's Hospital of Los Angeles. She received her pediatric residency training at University of Chicago where she was also chief resident. She worked as a hospitalist at CHLA prior to continuing her training. Her clinical interests include vape/e-cigarette lung injury and advocacy as well as enhancing professionalism amongst pediatric trainees. She hopes to continue a career in academics, as she loves teaching and mentorship.

Jain, Aarti

Aarti Jain is an Assistant Professor of clinical emergency medicine at the University of Southern California Keck School of Medicine and is an Assistant Program Director for the emergency medicine residency program at the LAC+USC Medical Center. She completed her emergency medicine residency training and medical education fellowship at the LAC+USC Medical Center and is currently enrolled in the Master of Academic Medicine program through the Keck School of Medicine. Her current efforts are aimed at integrating simulation-based education into the emergency medicine residency curriculum. Her academic interests include simulation-based education, curricular innovation, and physician wellness.

Jain, Nupur

Nupur Jain completed her undergraduate degree at the University of North Carolina at Chapel Hill in Health Policy & Management with minors in Spanish and Chemistry. She is interested in the intersections between health policy, gender equity, and racial health disparities. She is currently a second-year medical student at the Brody School of Medicine interested in pursuing a career as an OBGYN and a women's health advocate.

Jalali, Cathy, PhD

Cathy Jalali, PhD has greatly enjoyed working with a variety of learners across the medical education continuum in various capacities such as a basic science instructor, learning skills specialist,

evaluator, faculty and curriculum developer. Dr. Jalali's areas of interest include professional identity development and clinical reasoning.

James, Lorraine, MD

Dr. Lorraine James is a third-year pediatrics resident at the Children's Hospital Los Angeles. She was born in India and spent the first few years of her life traveling between the States and India and has spent time living in Southern California, Michigan, and the great state of Texas, where she was a classroom science teacher during the summers. Being an immigrant is a huge part of her identity. She was a double major in Molecular, Cellular, and Developmental Biology and American Studies at Yale University, where she worked extensively with New Haven public schools. From there, she developed an interest in education which carried into medicine, as a teacher of clinical skills, part of the medical education track in her residency, and now, as a medical education researcher. She obtained her medical degree from UT Southwestern before starting her residency at CHLA. She plans to pursue pediatric cardiology as a subspecialty and hopes to become a clinician-educator, ideally obtaining a Master's in Education in the future.

Jayasingh-Ramkumar, Japhia

Director of Simulation Medicine, University of Illinois Champaign-Urbana College of Medicine

Jensen, Jenna, BS

Jenna Jensen is a second-year medical student at the University of Utah School of Medicine. She holds a BS in Biomedical Engineering from the University of Utah. Jenna is interested in improving medical education and mentorship opportunities, especially for those who are historically marginalized in medicine. In addition to WE WILL leadership, Jenna serves as a co-president of the Refugee Health Student Interest Group and is a member of the school's Professionalism and Diversity Committee. Jenna also enjoys serving as a mentor to pre-health students. Aside from medical education initiatives, Jenna is involved in Bench to Bedside, a medical device development competition, and research in pediatric genetic testing.

Johnson, Kendall

Kendal Johnson is a first-year medical student at California University of Science & Medicine in Colton, California.

Kane, Kathleen

Kathleen Kane is a second-year MPH student at UCLA. She's worked on community health projects targeting harm reduction and HIV and Hepatitis C prevention and data collection and focuses on health policy as a graduate student. Kathleen has worked as an operations intern at AltaMed Health Services, where she has provided technical writing, operational support, and financial and data modeling on a range of projects related to Covid-19, pediatric trauma, and business development and strategy.

Kathirgamanathan, Kala, MD, FRCPC

Kala Kathirgamanathan MD, FRCPC is a board-certified cardiologist with subspecialty fellowship training in advanced heart failure, mechanical circulatory support and heart transplantation. She completed her internal medicine and cardiology training at Western University in Ontario and subsequently completed her subspecialty fellowship training at the University of Toronto. Throughout her training, she served on several committees and was chief cardiology resident. She authored the book chapter "Acute Coronary Syndromes" in the Handbook of ICU Therapy, 3rd edition. She currently has a community based cardiology practice and is currently pursuing a degree in the Master of Academic Medicine Program at the University of Southern California.

Kauffman, Doug, MD

Dr. Douglas Kauffman is an Assistant Dean of Clinical Medicine at Medical University of the Americas. He is an internationally recognized researcher, educational psychologist, and administrator with expertise in human cognition, learning, motivation, educational measurement, and assessment

applied to medical and higher education. He has spent over two decades serving as a faculty member and senior administrator at top research and teaching universities in both education and medicine.

He is an expert in teaching and learning, multidisciplinary communities of practice, curriculum/instructional design, program and professional development for teachers, schools, and programs, educational assessment, accreditation, and more.

Dr. Kauffman is an award-winning educator who has designed, built, and taught hundreds of online, blended, and face to face courses in education and medicine. An Internationally known educational researcher and scholar, Dr. Kauffman's research involves developing and assessing the impact of instructional interventions designed to improve student learning, motivation, and beliefs across disciplines. He is the Chief Editor of *Frontiers in Psychology-Educational Psychology*, a global open access journal (Impact factor of 2.15).

Keddis, Mira

Dr. Mira Keddis is a nephrologist at the Mayo Clinic in Arizona who specializes in the evaluation and management of kidney stones. In this role, she has incorporated protocolized approach to genomic testing for candidate patients to guide the management of kidney stone disease. She is the associate program director for Education for the Center for Individualized Medicine at Mayo Clinic in Arizona. In this role, her goal is to increase the visibility of the department of clinical genomics and pharmacogenomics and engage with allied health staff and physicians to be aware of available genomic resources and utilize these resources to provide individualized patient care. She has led several educational initiatives sponsored by the Center for Individualized Medicine including the 2020 Advancing Care Through Genomics webinar series, 2021 Mayo Arizona Webinar Series on What You Need to Know about Genomics and Beyond, and the 2021 Genomics of Kidney Disease Webinar Series which has been ongoing since May 2021. In addition, she has developed a successful hybrid selective experience for Mayo Medical Students and started a 2-year curriculum of genomics, pharmacogenomics, and beyond DNA for the internal medicine residency program at Mayo Arizona. Her experiences in leading new initiatives in education within the Center for Individualized Medicine have prepared her to pursue this study.

Khan, Masrur

Masrur Khan, MD, is a 2nd year pediatric resident at Children's Hospital Los Angeles. He is from Queens, New York. He graduated from Boston College with a Bachelor of Science degree in Physics and from Albert Einstein College of Medicine with a Doctor of Medicine degree. His interests include medical education, serving the medically underserved, and wellness. He has interests in acute care and plans to pursue a fellowship in Pediatric Emergency Medicine after residency.

Khan, Rehna

Consultant Ophthalmologist, Evolutio Care Innovations Ltd.

Kim, Gina

Gina J. Kim, MD, MPH, Assistant Professor of Clinical Pediatrics, Keck School of Medicine of USC. Dr. Kim is a Pediatric Intensivist at Los Angeles County + USC. She received her BA in Computer Science from Wellesley College while completing the Pre-Medical Track. She worked as a software developer building electronic medical record systems before realizing her true passion was in medicine. She attended the dual-degree MD/MPH Program at University of Texas Health Science Center at San Antonio where she also completed her residency. During her critical care fellowship at Children's Hospital Los Angeles, she rediscovered her excitement for quality improvement, research, and medical education. As the Co-Director of Scholarly Activity for the LAC+USC Pediatric Residency Program, she helps develop curricula and mentors resident projects, while having the privilege of caring for the underserved and marginalized in Los Angeles alongside others who share the same passion.

Kim, Michael

Michael Kim is a second-year medical student at the Keck School of Medicine of USC. He graduated from Duke University in 2018 having majored in biomedical engineering and minored in chemistry and cultural anthropology. After graduating, he worked at restor3d, Inc. (Durham, NC) for two years as a

biomedical engineer developing 3D-printed metal implants and 3D-printed, single-use polymer instrumentation for orthopedic indications and founded Narrative Applications, an online educational consultancy. As a medical student, he is conducting research in medical education, minimally invasive surgery, and orthopedic surgery and is the co-president of the Keck Translational Biotechnology Association, a student interest group promoting early exposure to innovation and entrepreneurship within the medical school curriculum. Outside of school, he is an avid rock climber and a somewhat reluctant runner. In the future, he would like to integrate his background in medical device development and innovation and entrepreneurship with his interest in research, teaching, and mentorship as an academic orthopedic surgeon.

Kimes, Brandon, BS

Brandon Kimes is a second-year medical student at Indiana University School of Medicine. He earned a bachelor's degree in chemistry from Purdue University Fort Wayne in 2020 where he was involved in undergraduate research and student organization leadership. He has experience in community-based research and has spent time volunteering at local non-profit organizations. Throughout both undergraduate and medical school physician shadowing, he was able to observe the important relationship between medical professionals and the local community. Brandon currently is involved in local epidemiologic research and student interest group leadership, and he plans to practice medicine in his hometown community in the future.

King, Steven

Steven King is a third-year medical student at Penn State College of Medicine.

Konopka, Christian

Christian Konopka is an MD/PhD student at the University of Illinois College of Medicine at Urbana-Champaign, who completed his PhD in Bioengineering in 2019 and is currently an MS4 student. During his PhD, Christian developed a passion for personalized medicine using molecular imaging and he is interested in pursuing Diagnostic Radiology for his residency. During his training, he developed a passion for research and medical education. Christian's passion for medical education was inspired by the wonderful mentorship he experienced as a student. Throughout Christian's medical education he received multiple research awards, including the Whitaker Foundation International Summer Fellowship, and the Mayo Clinic's Early Career Investigators in Precision Medicine Award. Additionally, Christian has taken on the role of mentoring high-school and college students interested in pursuing biomedical research through the summer ResearchHStart program and bioengineering Research Experience of Undergraduates. He anticipates entering an academic career in Diagnostic Radiology where he can focus on improving the education of medical students, pursuing his research interests in molecular imaging, and practicing clinical medicine.

Ku-Borden, Teresa

Dr. Teresa Ku-Borden is a family physician and a mother of two young children. She received her medical degree at the USC Keck School of Medicine in Los Angeles, then completed both her residency and high-risk obstetrics fellowship at Ventura County Medical Center in Ventura, California. Subsequently, she moved back to Los Angeles to join Family Care Specialists, a group practice that provides comprehensive primary care to the East Los Angeles community and delivers graduate medical education to family medicine residents. She currently serves as the Associate Program Director of the Adventist Health White Memorial Family Medicine Residency program (AHWM FMRP). Her interests include women's health, specifically pregnancy, childbirth, and lactation, interdisciplinary chronic disease management, hospital medicine, and providing trauma-informed care as a primary care physician. She also serves as the Chair of the FMRP Diversity, Equity, and Inclusion (DEI) committee and the Graduate Medical Education DEI strategy group, which oversees DEI and cultural humility efforts across multiple residency programs at AHWM.

Kuilanoff, Elizabeth, MD, MPH

Elizabeth Kuilanoff is a general pediatrician and faculty member at Children's Hospital Los Angeles. She is also a student in the Master of Academic Medicine program at the University of Southern California. She is passionate about medical student and resident education and has been very

involved in teaching and mentoring since attending medical school at the University of California, Davis (2014). Her current research and educational projects include a medical student transition curriculum for pediatric-bound students, resident outpatient and community pediatrics curriculum, and physical activity and obesity programs for school-aged children.

Kysh, Lynn, MLIS, MPP

Lynn Kysh is a health sciences librarian with nearly a decade of experience. She received her Master of Library & Information Science from the University of California, Los Angeles (UCLA) in 2012. After working as an informational services librarian at the University of Southern California (USC) and acting as a liaison to the Keck School of Medicine for over 5 years, she went on to complete her Master of Public Policy from UCLA in 2020. Lynn is currently the solo librarian at Children's Hospital Los Angeles (CHLA) and is a member of CHLA's Institute for Nursing and Interprofessional Research. Her responsibilities include investigating the value of health humanities, conducting systematic and scoping reviews, and teaching evidence-based practice.

Lamb, Lynn

Dr. Lynn Lamb is a Behavioral Medicine Faculty Member for the Kaiser Santa Rosa Family Medicine Residency.

Lawson, Nicole L., PhD

Faculty Director of Inclusive Curriculum, Kaiser Permanente School of Medicine

Le, Kevin

Kevin Le was born and raised in Raleigh, North Carolina. He obtained a B.S. in Biophysics from Duke University and a Master's in Physiology from NC State University. He is currently a medical student at the Brody School of Medicine, where he is a Service-Learning Distinction Track scholar and serves as the co-director for the Greenville Community Shelter Clinic. He is hoping to pursue internal medicine.

Leding, Brandon

Medical Student, University of Arkansas for Medical Sciences

Lee, Danny

Danny Lee is a 2nd-year family medicine resident at Harbor-UCLA Medical Center. He has had extensive experience volunteering in the field of mental health working as a suicide crisis counselor, a peer mental health group support leader, and founder of a grassroots organization Free Minds United. As president of Free Minds United, he created a platform where people from all walks of life can share stories to destigmatize mental health. He has also spent a great deal of time researching mental health, particularly in college populations. One of his studies looked at how stigma pertaining to mental health affected depression severity in college students. His work demonstrated that the higher the personal stigma regarding mental health the higher the depression severity. He hopes to further his knowledge regarding stigma as it pertains to various psychological and physical ailments including addiction.

Lee, Hwal

Hwal Lee, MS, is a Community Based Health Program PA at Whitney M. Young Jr. Health Center in Albany, NY and a Class of 2020 graduate of the Radford University PA Program. Hwal is also a nationally certified Adult and Youth Mental Health First Aid instructor and a recipient of the PA Foundation's inaugural Mental Health Outreach Fellowship.

Lee, Jonathan

Jonathan Lee is a second-year medical student at the Keck School of Medicine of USC. He's originally from the Bay Area and graduated from UCLA in 2019 with a degree in chemical and biomolecular engineering. During his gap year, he worked at Octant Bio as an R&D engineer building high-throughput genetic reporters and computational pipelines in the drug discovery space. He is currently one of the co-advisors for the Translational Biotechnology Association at Keck SOM.

Lee, Kathryn

Kathryn Lee is a fourth-year medical student at Georgetown University of Medicine applying to Psychiatry residency programs.

Lewis, Nicholas

Nicholas Lewis is a second-year medical student at the University of South Florida Morsani College of Medicine.

Li, Calandra, BSc

Calandra Li is a third-year medical student at the University of Toronto, Temerty Faculty of Medicine.

Li, Michelle

Michelle Li is a dual MD/MBA candidate at David Geffen School of Medicine (DGSOM) at UCLA and UCLA Anderson School of Management. She has completed her third year of medical school and is now transitioning into her first year of MBA. A strong believer in personalized learning, Michelle has been providing tailored one-on-one and small group sessions to help students tackle standardized examinations from ACTs and SATs to medical licensing examinations. For the past three years, she has worked with the DGSOM Peer Tutoring program, through which she has assisted students in both preclinical and clinical materials. She hopes to eventually pursue a career in academic medicine to guide the next generation of healthcare leaders.

Li, Shirley, BA

Shirley Li is a current second-year medical student at Keck School of Medicine of USC. In 2019, she graduated from the University of California, Berkeley where she earned a BA in Molecular & Cell Biology and a minor in Education. While an undergraduate, she served as a tutor and mentor for programs and organizations including the Pre-Medical Honor Society, UC Berkeley Chemistry Department, Creative Residencies for Emerging Artists Teaching Empowerment, and AFX Dance. She was also a health coach at Silver Avenue Family Health Center in San Francisco. Since graduation, Shirley has been an instructor for test preparation, English, and STEM topics for middle and high school students at FLEX College Prep. Currently, she is also a board member for the Family Medicine Interest Group and Student Ophthalmology Interest Group, as well as Synaesthesia and Healthy Choices, Healthy Lives. She is a recipient of the 2021 Walker Foundation Scholarship and looks forward to incorporating education and medicine into her future career with her commitment to lifelong learning and providing care for those in need.

Lim, Caryssa, MPH

Caryssa Lim is a second-year medical student at the Kaiser Permanente Bernard J. Tyson School of Medicine. She has extensive experience in program planning and evaluation, community-based participatory research, and UME curriculum development. Her interests include developing socially accountable and community-centered medical education curricula, advocating for anti-gentrification and housing first policies, and promoting digital equity among historically underserved communities. She has a Bachelor of Arts degree in Biological Sciences and Human Rights from the University of Chicago and a Master of Public Health degree in Community Health Sciences from UCLA.

Linsenmeyer, Machele

Machele Linsenmeyer, Ed. D. is currently the Associate Dean for Assessment and Educational Development and Associate Professor at the West Virginia School of Osteopathic Medicine. In this capacity, she oversees many departments and activities including testing/assessment/surveying, curriculum review, competency tracking, academic technology, faculty development, program evaluation and educational research. Dr. Linsenmeyer's initiatives encompass the entire span of medical education from the first academic year of coursework to the residency or fellowship years. She has over a decade of experience in the medical education profession serving nationally as part of the AACOM Core Competency Liaison Group (member), AACOM EPA Steering Committee (Chair), NBOME Portfolio and Special Assessment Taskforce (member), and program planning committees for both The Generalists in Medical Education and the International Association of Medical Science Educators. She is a fellow in the National Association of Osteopathic Medical

Educators, is editor for two medical education journals, is an author of several manuscripts, and an invited speaker for various organizations/conferences. She has presented both nationally and internationally on various medical education topics also spanning her broad background.

Liu, Alan, MD

Alan Liu, MD, is an assistant professor at the Department of Medical Education at USC's Keck School of Medicine and the Assistant Director of the Clinical Skills Education and Evaluation Center. He administers and implements Objective Structured Clinical Examinations (OSCEs) in collaboration with the Introduction to Clinical Medicine course and the core clerkships. He evaluates medical students' performance of core competencies related to patient care and communication skills through the Clinical Performance Exam (CPX). Along with evaluation and assessment, he also engages in the remediation of clinical skills of the medical students. Dr. Liu recruits and trains standardized patients for both teaching and assessment as well as monitoring their performance for quality assurance. He is the Lead Trainer of the Trainers' Group in the California Consortium for the Assessment of Clinical Competence (CCACC), which is a consortium of eight allopathic medical schools in California. He is also a member of the American Association of Medical Colleges Group on Educational Affairs (AAMC-GEA).

Liu, Langfeier

Langfeier Liu is a second-year medical student at the University of South Florida Morsani College of Medicine

Liu, Roger, PhD

Dr. Roger Liu serves as the Director of Medical Education for the Institute for Health Equity at AltaMed, where he oversees all educational program and curriculum development including pre-health pipeline programs, new AltaMed residencies in Family Medicine, and Continuing Medical Education (CME) for providers. In this role, Dr. Liu develops faculty training and support, as well as evaluations and assessments for all programs and activities. He also oversees any grant-funded programs that include an educational component. Prior to joining AltaMed in 2019, Dr. Liu was a Professor in the Department of Family Medicine at the UC Irvine School of Medicine, where he was the Director of the Program for Medical Education for the Latino Community (PRIME-LC) Residency Track, as well as the Director of Research and Resident Scholarship. Dr. Liu supported students committed to serving the most vulnerable populations and was involved in the development of programs, curriculum and research focused on the training and mentoring of the next generation of faculty and health practitioners from diverse backgrounds. He brings his venerable experience in this field to his work at AltaMed.

LoBasso, Michael

Michael LoBasso is a fourth-year medical student at the University of California, Irvine School of Medicine who has a background in clinical research. Before his medical education, he completed a senior thesis at the University of Notre Dame measuring the efficacy of various feedback mechanisms for stroke patients undergoing virtual physical therapy. He has helped with multiple research projects since then, where he was published as the first author of a multicenter, retrospective study analyzing the effect of acute kidney injury and kidney recovery following cardiopulmonary bypass in children. Notably, he has also assisted in the inception of research studies including a randomized clinical trial assessing the relationship between allopathic and osteopathic medical students. Furthermore, Michael traveled to Kenya through the Mentored Scholarly Research Program (MSRP) where he analyzed various tools to diagnose malaria. He serves on the MSRP steering committee and advises students on how to create, study, and write research projects.

Logan, Moreen, RN, EdD

Assistant Professor of Clinical Medical Education Assistant Director, ICM, Keck School of Medicine of USC

Loh, Jennifer, MD

Dr. Jennifer Loh is the Director of Curricular Integration and Director of Doctoring and Clinical Skills Phase 2 at the Kaiser Permanente Bernard J. Tyson School of Medicine (KPSOM). She is the Assistant Area Medical Director for Medical Education in the Kaiser Permanente Hawaii Region. She has practiced adult Endocrinology and served as the Chief of Endocrinology and Assistant Associate Medical Director of Medical Education at the Hawaii Permanente Medical Group (HPMG) since 2008. Her career and education have emphasized endocrinology and she has written and researched topics such as diabetes, metabolism, thyroid conditions, pituitary disease, and osteoporosis. Her medical education background includes work as a preceptor, instructor, lecturer, clinician coach, curriculum lead, and assistant professor.

Lucas, Candice Taylor, MD, MPH

Candice Taylor Lucas, MD, MPH is a general pediatrician and Health Sciences Associate Clinical Professor in the UC Irvine School of Medicine, Department of Pediatrics. She is Co-Director for Leadership Education to Advance Diversity for African, Black and Caribbean communities (LEAD-ABC), Associate Program Director for the UC Irvine/CHOC Children's Pediatric Residency Program, and faculty affiliated with the UC Irvine Pediatric Exercise and Genomics Research Center (PERC). She champions curricula addressing diversity, equity and inclusion in undergraduate and graduate medical education, serves on the UC Irvine School of Medicine Equity Task Force, the Executive Committee for the UCI Center for Medical Humanities, and volunteers with the Board of Directors for two nonprofit organizations – Shared Harvest Fund - myCovidMD, and Raising Compassionate Leaders. Her advocacy and research focus on early life physical activity, early childhood obesity prevention, maternal-child health disparities, and diversity, equity, and inclusion in medicine. In recognition of her work, she has received diverse awards including the 2018 American Academy of Pediatrics – Orange County Chapter Young Physician of the Year and is the recipient of the 2019 UC Irvine School of Medicine Leonard Tow Humanism in Medicine Award, the 2020 UC Irvine Humanism in Medicine Faculty Award, and 2021 UCI Dynamic Womxn Faculty Award.

Lulejian, Armine, EdD, MPH

Dr. Lulejian is Senior Director of Educational Initiatives for the MESH Academy, Associate Director for Informatics Education, Training and Outreach Clinical Research Informatics Core for the USC CTSI, and Clinical Assistant Professor of Population and Public Health Sciences at the Keck School of Medicine of USC. She has over 20 years of experience in teaching, research, and administration in health services. She spearheaded the launch of doctoral and master's training programs in Biomedical Informatics. In addition, Dr. Lulejian has developed and redesigned several training programs, led and partaken in several accreditation cycles with different accreditors, and developed 20+ new courses. She teaches undergraduates, graduates, and medical students at USC Irvine and Young Academy, USC Sol Price School of Public Policy, and USC Keck School of Medicine. She received her doctorate in education (EdD) in health education from Columbia University Teachers College. She also holds MS in health education from Columbia University, an MPH in epidemiology from UCLA, and completed her undergraduate studies in Psychobiology with a minor in Near Eastern Studies at UCLA. Lulejian is a certified health education specialist (CHES) and emergency care technician.

Luong, Serena

Serena Luong graduated in 2011 from the University of California, Los Angeles with a degree in Physiological Sciences. She completed her medical training at Des Moines University, where she obtained her D.O. degree. Dr. Luong is currently a third-year Pediatric resident at Loma Linda University Children's Hospital.

Lupton, Katherine L., MD

Katherine L. Lupton, MD, is a general internist at San Francisco General Hospital and medical educator whose work focuses on incorporating best practices in diversity, equity, inclusion and belonging in the way we teach health professions learners and creating equitable clinical learning environments. She is a member of UCSF's anti-oppression curriculum initiative and leads a faculty

development series on teaching for equity and inclusion through the UCSF Center for Faculty Educators.

Ma, Melissa

Medical Student, California University of Science and Medicine

Madhok, Manu, MD

Dr. Madhok is clinical adjunct professor of pediatrics at the University of Minnesota and former director of the pediatric emergency medicine fellowship program. He is involved in health-equity initiatives, peer coaching and simulation based medical education for pediatric, pediatric emergency medicine and emergency medicine trainees.

Mak, Allison, BA

Allison Mak is a second-year medical student at the University of Pittsburgh School of Medicine. She received a bachelor's degree in Neuroscience from the University of Pennsylvania and worked as a medical assistant before medical school. At Pitt Med, she is involved in several premedical mentorship organizations and interviews prospective students on behalf of the admissions committee.

Malinowski, Robert

Dr. Malinowski is dedicated to the advancement of medical education and leverages his unique combination of expertise in medicine, technology, and education to advance the mission of the College of Human Medicine. He provides leadership for Academic Affairs on investing in the dynamic incorporation of technology and methods into teaching and assessment. Malinowski collaborates with the Just in Time Medicine (JIT) and Assessment teams. He creates curricular content in JIT and works with the development team to improve functionality and optimize faculty and student experiences. He works with the Assessment team to address the needs of the Student Competence Committee, generate reports that highlight trends and areas of concern, facilitate the Progress Suite of Assessments, and provide oversight and support for the implementation of the multi-source feedback process to better meet CHM's needs, process improvements and refinements.

Mao, Kai-Hong

Dr. Kai-Hong Jeremy Mao graduated from the Creighton University School of Medicine in 2013, matching into residency at the UCLA-San Fernando Valley Psychiatry Training Program. He then completed his child and adolescent psychiatry training at the University of Southern California in 2018, joining their faculty soon after graduating. He now serves as the Service Chief of the Child and Adolescent Psychiatry Consultation-Liaison and Emergency Service at LAC+USC Medical Center as well as the Psychiatry Clerkship Director for the Keck School of Medicine.

Marbin, Jyothi

Jyothi Marbin, MD, is the Director of the UC Berkeley UCSF Joint Medical Program (JMP). Dr. Marbin holds appointments as HS Clinical Professor of Pediatrics at UCSF and HS Clinical Professor at UC Berkeley and is also a general pediatrician who practices at San Francisco General Hospital. Prior to my role at the JMP, Dr. Marbin served as the Associate Program Director (APD) for Recruitment and for Diversity Equity and Inclusion (DEI) for the Pediatrics residency program. Dr. Marbin was also the Director of the Pediatric Leaders Advancing Health Equity (PLUS) Residency Program and Founder and Co-Director of the Health Equity & Racial Justice GME Pathway. Dr. Marbin has given many local, regional and national talks on racism in medicine, social justice and medical education, and is a member of the UCSF Academy of Medical Educators. As an educator, Dr. Marbin is interested in developing anti-racist curricula around leadership, social justice and health equity. Dr. Marbin's areas of interest include social justice and medical education, design thinking and adaptive leadership. Dr. Marbin's research interests focus on the medical education to advance health equity and is also interested in the impact of tobacco on low income, urban children and reducing the burden of secondhand smoke on children.

Mars, Lori, JD, LLM

Lori Mars is an assistant professor of research in the Department of Family Medicine at the Keck School of Medicine of USC. After practicing law for over 20 years, Lori's concentration lies in the area of elder abuse research and education. Her work includes scholarship at the intersection of law, aging, and elder abuse. She is interested in the development of elder abuse curricula for law students as well as members of the medical community. With a master's in law in alternative dispute resolution, she is focused on restorative practices, and elder mediation in particular, as a means to prevent or mitigate elder mistreatment. In addition to her work at USC, Lori is involved in research projects for the National Center on Elder Abuse (NCEA). Among her activities at the NCEA, Lori develops research briefs and works with medical residents to translate topical elder abuse research articles into a pragmatic and accessible format for frontline practitioners.

Martinez, Melissa

Pharmacy Student, USC School of Pharmacy

Matho, Andrea, MD

Dr. Andrea Matho is an assistant professor of Pediatrics and Internal Medicine at Children's Hospital Los Angeles and the USC Keck School of Medicine, practicing as a hospitalist for both adults and children. Her academic interests are focused on point-of-care ultrasound (POCUS), medical education and pediatric-to-adult healthcare transition in the inpatient setting. Her ongoing projects include establishing a longitudinal curriculum on adolescent and young adult medicine for pediatric hospital medicine fellows and developing a practice and needs assessment of inpatient providers on the topic of pediatric-to-adult healthcare transition. She is currently obtaining credentialing in POCUS through the Society for Hospital Medicine (SHM).

Matsubara, Erin, BA

Erin Matsubara accepted her Public Health Policy Bachelor of Arts degree from the University of California, Irvine in 2019. She began her career in public health as an AmeriCorps Member for AltaMed Health Services in early 2020 serving in the Health Education and Wellness Department. In this position, Erin connected with AltaMed's patient population, many of whom are people of color, and quickly recognized the disparity in health outcomes, especially during the COVID-19 pandemic. After Erin's AmeriCorps service, she went on to serve as a project intern developing a multi-part COVID-19 webinar series aimed to educate high school and early college learners about the science behind COVID-19 as well as the disproportionate impact that the pandemic has had on underserved communities of color and on frontline workers' mental health. Erin is currently serving as a project intern in AltaMed Health Services' Medical Education Department where she supports the Medical Education Directors with provider well-being initiatives. She has helped coordinate and launch a new program called Site Medical Director University aimed to teach clinic leaders tangible leadership skills and development. She has also helped coordinate a virtual provider conference emphasizing wellness and celebrating AltaMed's health care providers. Erin is passionate about serving medically vulnerable communities and dedicates her work to eliminating health barriers and promoting provider wellness.

May, Win, MD, PhD, FRCP

Dr. Win May is a professor in the Division of Medical Education and the Director of the Clinical Skills Education and Evaluation Center at USC's Keck School of Medicine. She is a Distinguished Faculty Fellow of the USC Center for Excellence in Teaching, and a member of the California Consortium for the Assessment of Clinical Competence. Dr. May was a member of the Association of American Medical Colleges (AAMC) Research in Medical Education (RIME) Planning Committee and served as a member of the United States Medical Licensure Examination (USMLE) Step 2 Clinical Skills Test Material Development Committee for the National Board of Medical Examiners. She also served as a member of the Advisory Committee of the AMA Learning Environment Study. She is a co-director of the Intersessions Course, teaches in the Introduction to Clinical Medicine (ICM) Program and has been a faculty mentor in the Professionalism and the Practice of Medicine (PPM) course since its inception. She is also an instructor in the Master of Academic Medicine and Faculty Development programs. Dr. May has worked collaboratively with the Institute of Creative Technologies to develop a

virtual standardized patient. Prior to joining USC in May 2000, Dr. May worked for the World Health Organization (WHO) in Geneva and New Delhi. She was the founding Dean of the Institute of Nursing in Myanmar. Dr. May is a reviewer for medical education journals and has written journal articles and book chapters in medical and nursing education. She was awarded an honorary Fellowship from the Royal College of Physicians of London.

McDonald, Jordan, BA

Jordan McDonald is a fourth-year medical student at the University of California, San Francisco School of Medicine and graduate of Brown University. Throughout medical school, he has conducted research in the domains of diversity and inclusion within medical education and is passionate about improving equity for medical learners from backgrounds underrepresented in medicine. He is a Congressional Black Caucus Health Scholar and participant in the Program in Medical Education for the Urban Underserved and is dedicated to improving health justice for historically marginalized groups through clinical practice and scholarship. He plans to pursue residency training in Family & Community Medicine.

McKenzie, Ning, BA

Ning McKenzie is a second-year medical student at Mayo Clinic Arizona who is passionate about mental health, health equity, mentorship, and teaching. At Mayo Clinic, she is involved in sustainability in medicine, dermatology education, student life and wellness, and Native American health. Ning co-founded the Happiness Selective at Mayo Clinic, which is a course that provides first and second-year medical students with the evidence-based science behind happiness.

Mehta, Nishila, BA, MSc

Nishila Mehta is a fourth-year medical student at the University of Toronto Temerty, Faculty of Medicine.

Melen, Arielle, MS

Arielle Melen is originally from Houston, Texas, and moved to Kamas, Utah as a child. Since then, she has called Utah home. She completed her undergraduate degree in Neuroscience from Westminster College and attended graduate school for her master's degree at the University of Vermont. Arielle grew up flying airplanes with her father and enjoys home renovation projects. She loves doing anything outdoors— hiking, mountain biking, skiing, snowboarding, and running— with her husband and daughter. As a Population Health Scholar, Arielle is excited to learn how to provide excellent patient care while decreasing overall costs and increasing positive health outcomes in the community. In addition, she looks forward to expanding her knowledge base to advocate for policy changes and approaches to care that will result in better patient outcomes. Her career interests include working with pediatric patients and care coordination in patients with chronic diseases. After residency, Arielle hopes to return to work as a Pediatrician in her hometown.

Menard, Laura

Laura Menard, MLS, has been with the IU School of Medicine as the Assistant Director for Medical Education and Access Services since 2018. In her role, she serves as the liaison between the Evidence-Based Medicine (EBM) thread and several foundational curricular components committees. She creates EBM curricular content and trains faculty in best practices for delivery. A member of the Medical Library Association's Rising Stars (2017) and Research Training Institute (2019) cohorts, Laura's research focus is EBM curricular assessment.

Michel, Zachary

Zachary Michel is a second-year resident within the Department of Psychiatry at Louisiana State University Health Sciences Center at Our Lady of the Lake in Baton Rouge, Louisiana. He obtained his MD from Oregon Health Science Center in Portland, OR, and his BS in biopsychology at Tufts University in Medford, MA. His clinical interests are in medical education and infant and child mental health; he plans to pursue a career in child and adolescent psychiatry. His research focuses on improving outcomes for trans- and gender-diverse patients by educating pre-health students and hospital staff.

Miller-Lloyd, Leah

Leah Miller-Lloyd is a harm reductionist and second-year resident at Harbor-UCLA Medical Center, hoping to spend her career providing comprehensive primary care for people who actively and formerly use drugs. She first volunteered with San Francisco Syringe Access Services before medical school, then with Project Safe Point in Albany, NY. She has worked with people who use drugs and hospital administrators to break down barriers to primary care through research and improving education for students and established physicians regarding best practices for caring for people who use drugs.

Mills, Georgia, Medical Student

Georgia is an Undergraduate Medical Student who undertook this research as a Student Selected Component in her 4th year. She has an interest in medical education and paediatrics.

Minhas, Prabhjot K., BS, BA

Prabhjot K. Minhas, BS, BA, is a third-year medical student at the University of California, San Francisco School of Medicine and the Program in Medical Education for the Urban Underserved (PRIME-US) at UCSF. She graduated with her bachelor's degrees in genetics and anthropology and a minor in disaster management from the University of Georgia in 2019. She has previously conducted research on placental malaria and vaccine development, refugee and migrant health, and disaster response and solidarity. Her current academic interests include social justice in medicine, health equity, migrant health, and medical education research.

Mojab, Yasi

Structural-based drug design research was the launching pad of Yasi Mojab's interest in the field of pharmacy, and she is pursuing a Doctor of Pharmacy as well as a Master of Science in Pharmaceutical Sciences at USC School of Pharmacy. She has completed a Bachelor of Science in Biology, Bachelor of Arts in Chemistry, and a minor in Art at California Lutheran University. During her undergraduate studies, Yasi conducted graduate-level research on the atomic-level structure of DesD enzyme using x-ray crystallography using site-directed mutagenesis technique along with CCP4i2, Refmac5, and COOT computer programs. This research has been published recently under the title of Cofactor Complexes of DesD, a Model Enzyme in the Virulence-related NIS Synthetase Family in the Journal of Biochemistry. The molecular structures have been published on the Protein Data Bank. Currently, she is exploring academia through participation in teaching international courses at USC School of Pharmacy. Yasi served as the course facilitator and Supplemental Instruction Leader for Pharmaceutical Sciences, in charge of making interactive video lectures to teach Chimera features, making study guides, and worksheets in order to facilitate teaching.

Molas-Torreblanca, Kira, DO FAAP

Kira Molas-Torreblanca, DO, FAAP, is a Clinical Associate Professor of Pediatrics at USC and a pediatric hospitalist at Children's Hospital Los Angeles where she is the Director of the CHLA Pediatric Hospital Medicine Fellowship Program. She is currently serving a two-year term on the executive committee for the National Council of PHM Fellowship Program Directors. She is a graduate of the American Academy of Pediatrics Society of Hospital Medicine sponsored APEX Teaching Program and is currently participating in the inaugural cohort of the Academic Pediatric Association's Advancing Pediatric Leaders Program. Her interests include curriculum development, and she has presented numerous workshops at various national conferences on topics such as feedback and summative assessments, learner climate and fellow autonomy.

Moniz, Karen, MEd, PhD Student

After receiving a BSc degree in Nutrition from the University of Alberta, Karen gained clinical experience at an acute care teaching hospital through her work with cardiology and cardiology intensive care units before working with community primary care health services. These experiences prepared her for her current work as Director of Faculty and Staff Development in the Department of Family Medicine at the University of Alberta. She received her Master of Education in Health Sciences

Education in 2018 and is currently a second-year PhD student in Health Sciences Education at the Institute of Health Sciences Education at McGill University.

Morm, Lynnea

Dr. Morm serves as the Faculty Lead for inpatient care, in support of the teaching service at Adventist Health White Memorial Hospital. She is passionate about working with underserved communities, and continuity of care between the hospital and the clinic setting. Dr. Morm completed her medical education at Western University of Health Sciences, where she obtained her degree of Doctor of Osteopathic Medicine. She was at Harbor-UCLA for her Residency, where she also served as Chief Resident. She recently completed a Fellowship in Faculty Development at Harbor-UCLA Medical Center and has been working as a hospitalist. Dr. Morm's special interests are in Street Medicine, pipeline programs, and community outreach, including Refugee Health. She does a significant amount of volunteer work with refugees in Tijuana, Mexico as well as has spent time working in free clinics in Southern California and pipeline programs. Dr. Morm believes that health care is a basic human right and is committed to working towards health equity. She is passionate about community medicine and mentoring the next generation of healthcare professionals.

Mui, Paulius

Family Medicine Resident, VCU-Shenandoah Valley, Family Practice Residency

Murphy, Tyler

Dr. Tyler Murphy is a current Hospice and Palliative Medicine fellow at The Johns Hopkins Hospital in Baltimore, Maryland. Prior to his current training, he completed his residency in Family Medicine at Creighton University School of Medicine at St. Joseph's Hospital and Medical Center in Phoenix, Arizona. During this time, Dr. Murphy served as a representative and then Co-President of the Housestaff Leadership Council. During his last year of residency, he also completed a Faculty Development fellowship with an emphasis in Competency-Based Education and Assessment through the University of Arizona College of Medicine in Phoenix, Arizona. He has a significant passion for medical education and has been awarded the Resident Teacher-Scholar award by the Creighton University School of Medicine students in both 2020 and 2021. In addition to working on a standardized precepting tool for virtual patient encounters, he is currently involved in research into the ethics curriculum of the nation's Palliative Medicine fellowship programs, with the hope to develop standardized guidelines. He has previously been published in The Journal of Surgical Case Reports, Journal of Gastrointestinal Surgery, and Gastroenterology Research.

Murray, Ian, PhD

Ian is an Instructional Associate Professor with 13 years of teaching in medical education at Texas A&M & St George's University. He has a PhD in Physiology, certificates ineffective & inclusive teaching (ACUE, MOOC EdX Columbia U), Fundamentals of TBL (TBLC & InteDash). In 2020 he enrolled in a Master's in Healthcare Education at TAMU to enhance both my teaching, & SOTL. He transitioned to the teaching track in 2014 and increased his SOTL with several peer-review articles & conference posters. The focus includes misconceptions in lectures, small groups & online learning, attention during lectures, & eye-tracking for teaching histology. Indeed, the latter poster won an award at a TAMU conference & was nominated for an award at the IAMSE 2021 conference. The EnMed curriculum involves innovation in education and a small core of dedicated teaching faculty. Part of the teaching includes TBLs, of which he has facilitated 18 since 2019. In 2020 they evaluated student TBL satisfaction and used this feedback for this current project of TBL improvements. The blending of education and medicine and applying educational theories to improve TBLs involved the interprofessional collaboration between students, educators, basic science researchers, engineers & clinicians. These experiential TBLs converted abstract concepts into concrete demonstrations and then applied and transferred to basic science and clinical scenarios.

Nadone, Haley

Haley Nadone is a second-year medical student at the University of Nevada, Reno School of Medicine, and an aspiring surgeon who is passionate about gender equity, social justice, and health policy. She graduated from Arizona State University with a double major in Biological Sciences and

Political Science. During her undergraduate career, she interned multiple times on Capitol Hill, including as a health policy intern in the US Senate. In medical school, she is in the Medical Social Justice scholarly concentration, co-founded her institution's chapter of the Association of Women Surgeons, and was a Summer Research Intern with the UCSF Orthopaedic Trauma Institute. Additionally, she is on the mentorship council for the Gender Equity Initiative in Global Surgery.

Nash, Ranna

Dr. Nash has extensive experience with the application of the MBTI in medical education from individual academic advising to innovative applications in supplemental instruction. She teaches medical students' insights from their personality type that help them take advantage of hearing students with opposite types think during small group problem solving.

Nasrolahi, Shyon

Shyon Nasrolahi is a third-year medical student at the Keck School of Medicine of USC. He received his B.S in Biology from UC Riverside in 2018 and graduated with high honors. He has contributed to published works in the fields of parasitology and immunology, received teaching awards, and has held a variety of class leadership positions. He is interested in anesthesiology, critical care, medical education, and physician wellness. More specifically, he is interested in investigating the mechanisms that contribute most to physician burnout, in order to help create institution-wide strategies to prevent its occurrence.

Newman, Hana

Hana is a medical student at Mayo Clinic Alix School of Medicine in Arizona who is interested in healthcare education and incorporating genetics in clinical practice. In her training, she has helped create a curriculum for medical students on how to be an effective teacher in the classroom, clinic, and hospital. This includes experiences with colleagues and patients, and different techniques to utilize. She also serves as a medical tutor in microbiology, helping other medical students prepare and review for quizzes and tests. Her interest in genetics began early in her training during college, as she completed a Bachelor of Science in Public Health at the University of Washington. She has researched genetic markers of colon cancer at Fred Hutchinson Cancer Research Center and her current focus is attempting to understand effective techniques on how to incorporate genetics into clinical practice. Hana's experiences and interest in genetics and healthcare education have prepared her to complete this study.

Nguyen, Kevin C.

PharmD Student, USC School of Pharmacy

Nichols, Julieana

Julieana Nichols, MD, MPH, is a board-certified, practicing general pediatrician and fellowship trained clinician educator, and has a passion for teaching and mentoring. Dr. Nichols' career thus far reflects a focus on public health pediatric issues as well as medical education. After completing a MPH during a fellowship in Academic General Pediatrics, Dr. Nichols developed a Child and Adolescent Obesity Program in their first faculty position at the University of Texas Health Science Center in Houston. This obesity intervention program served a primarily lower socioeconomic minority population. Dr. Nichols continued these efforts tackling childhood obesity by developing another multidisciplinary childhood obesity program as faculty at Baylor College of Medicine in 2007. Dr. Nichols' work educating families as well as mentoring trainees led her to pursue additional training in medical education. Dr. Nichols completed a Master Teacher Fellowship Program at Baylor and shifted her focus to medical education, in the areas of medical student, resident, and fellowship training as well as faculty development. Dr. Nichols has a particular interest in giving and receiving feedback to trainees and has presented locally, regionally, nationally, and internationally on this topic. Dr. Nichols' other scholarly interests include curriculum development, advocacy, and social justice in medical education.

Noor, Maha

Dr. Maha Noor is currently working as a Junior Fellow in Ophthalmology at Northern Care Alliance Trusts, Manchester, United Kingdom.

Novak, Daniel, PhD

Dr. Novak is an Assistant Professor of Clinical Medical Education at the Keck School of Medicine of USC. He earned a master's degree in educational technology and instructional design from San Diego State University, and his Ph.D. in Learning Sciences from the University of Washington, Seattle. His practice focuses on the development of innovative postgraduate professional training programs for teachers, engineers, and physicians. His research focuses on the development of expertise across the career-span, with a focus on how learners develop expertise through reflective and deliberate practice. In 2018, he served as a consultant for a WHO funded project to support pediatric health in Mongolia and won a grant from the American Medical Association's Accelerating Change in Medical Education initiative. In 2019, his team won the AAMC Western Group on Educational Affairs' Computer Research in Medical Education (CRIME) award for innovative technological research, and his latest article in Academic Medicine has been nominated for the New Investigator award in the Research in Medical Education division.

Nyquist, Julie G., PhD

Dr. Nyquist is the director of the Master of Academic Medicine program and the lead instructor for the Introduction to Academic Medicine and the Accreditation and Program Evaluation courses. She is also part of the team that teaches learning and curriculum design, professionalism and leadership. Dr. Nyquist also developed and directs a flexible (online) elective for 4th year medical students, Preparing to Teach and Lead in Medicine, that has been completed by over 300 medical students since it was first offered in 2018. Dr. Nyquist has been on the faculty at USC since 1981, and from 1981–2014 served as the program evaluation specialist for the school. She has been a member of most of the school's curriculum committees and co-chaired the school's effort to move toward Competency-Based Medical Education (CBME). Within faculty governance, she has served twice as President of the Medical Faculty Assembly and also served in many capacities with the university-wide Academic Senate, including service on the board (2002-2006, 2010-2012). In conjunction with her USC position, Dr. Nyquist held the role of Director of Medical Education at a regional medical center in Bakersfield, California for eight years. Nationally, she has developed and delivered over 900 workshops and presentations on a wide variety of educational and leadership topics, primarily to groups of health professions' faculty. Julie G. Nyquist, PhD is a Professor in the Department of Medical Education within the Keck School of Medicine (KSOM) of USC. She directs the Master of Academic Medicine (MACM) program, Chairs the department's annual Innovations in Medical Education Conference for (2014-present), and developed a flexible elective to help 4th year medical students transition to residency. Dr. Nyquist joined the faculty in 1981, served as program evaluator for the Medical Student curriculum (1981-2014) and co-chaired the school's Competency-Based Education initiative (2010-2017). Within KSOM she has served on most of the curriculum committees and was a member of the central Education Committee for the school for 20 years (1993-2013). Within the MACM program she is on the teaching team for multiple courses focusing on the four key roles of faculty: teacher, leader, scholar and mentor. Dr. Nyquist has developed and led over 950 workshops and presentations on topics related to leadership, teaching, evaluation, cultural competence, career development, and the 21st Century mindset, to a variety of health care professions' faculty members. In conjunction with her USC position, she was also Director of Medical Education at a regional medical center in Bakersfield, California for 8 years (1993-2001). She has been the author or co-author on 14 federally funded education-related grants. Dr. Nyquist received her doctorate in Educational Psychology from Michigan State University.

O'Brien, Bridget

Bridget O'Brien, PhD is a professor of medicine and an educational researcher in the Center for Faculty Educators at the University of California, San Francisco, where she co-directs the Teaching Scholars Program and the UCSF-UMC Utrecht Doctoral Program in Health Professions Education, teaches in the Health Professions Education Pathway, and supervises masters and doctoral students. At the San Francisco VA, she directs the Health Professions Education Evaluation and Research

fellowship. Her research focuses primarily on understanding and improving workplace learning among health professionals using a variety of qualitative and mixed methodologies. She is a deputy editor for Academic Medicine, network lead for the Association of Medical Education Europe (AMEE) Research paper committee, and co-editor of the third edition of the book Understanding Medical Education.

O'Brien, Meghan, MD, MBE

Meghan O'Brien, MD, MBE, is a hospital-based general internist at San Francisco General Hospital where she leverages her training in primary care, humanities, and bioethics in service of providing dignity-driven, whole-person care. Academically, she splits her time between medical education, advancing diversity, equity and belonging, and addiction medicine. She is a Bridges Coach for the SJV-PRIME program, teaching medical students clinical reasoning and doctoring skills, and a member of UCSF's Differences Educational Action Group for which she co-authored the Race and Race Literacy: Toolkit and Primer for Anti-Racism. In addition to providing clinical care and education, she also serves as a Bay Area Regional Director for the California Bridge Project. In this capacity, she works with a team to support regional hospitals in building their capacity to treat patients with opioid use disorder and connect them to ongoing care.

Ogawa, Ai

Allison Ogawa, BA is a medical student at the University of Rochester School of Medicine and Dentistry. They graduated with a BA in Sociology from Amherst College in 2018. They are a born and raised New Mexican who is passionate about health justice and curious about how we can provide better care and support healing for older adult populations especially through the disease reversal and prevention lens. Their work has focused both on medical education and on health equity through several lenses including movement and immersion based educational opportunities, wellness initiatives, and policy work to improve healthcare for incarcerated individuals. They are a poet and writer and are currently pursuing a Medical Humanities Fellowship researching the experiences of LGBT+ older adults living in New Mexico during the Covid-19 pandemic.

Ogunyemi, Dotun, MD

Dotun Ogunyemi, MD is currently the DIO for GME and Associate Chief Medical Officer at Arrowhead Regional Medical Center. He was previously the Senior Associate Dean of Faculty Affairs and Chief Equity, Diversity, and Inclusion Officer at the California of University of Science and Medicine. He obtained his MD degree from the College of Medicine, University of Ibadan, Nigeria. He completed a residency in Obstetrics & Gynecology at King Drew Medical Center, Los Angeles, California, and a Maternal-Fetal Medicine fellowship (MFM) at David Geffen School of Medicine, UCLA. Currently, he is on the editorial board of Journal of the Graduate Medical Education (JGME), a member of ACOG: Committee on Women's Preventive Services Implementation, ACGMECLER voluntary site visitor, ACGME Physician DEI Committee, and on the Society of Maternal Fetal Medicine Fellowship Affairs Committee. He has over 80 peer-review publications.

Osheroff, Neil

Neil Osheroff, PhD, is Professor of Biochemistry and Medicine and the John G. Coniglio Chair in Biochemistry at Vanderbilt University School of Medicine. Beyond running his research laboratory, he is committed to the education of future health professionals and the development of medical educators. He co-leads the highly integrated Foundations of Medical Knowledge (FMK) pre-clerkship phase, where he helped institute a competency-based assessment program. He chairs the FMK teaching team and the Master Science Teacher group, co-directs the Human Blueprint and Architecture medical student block, and is a facilitator in case-based learning. He is an inaugural member and the immediate Past-Director of the Vanderbilt Academy for Excellence in Education. Outside of Vanderbilt, Dr. Osheroff is a Past-President of the Association of Biochemistry Educators and the immediate Past-President of the International Association of Medical Science Educators (IAMSE). He also sits on the Administrative Board of the AAMC Council of Faculties and Academic Societies.

Dr. Osheroff has received awards for mentoring, teaching, diversity and inclusion, curricular design, and educational leadership and service. He is a Fellow of the American Association for the Advancement of Science (2018) and a recipient of the IAMSE Distinguished Career Award for

Excellence in Teaching and Educational Scholarship (2019). He has published 270 papers and has presented >300 scientific and educational talks in 32 countries.

Ottowitz, William

Following graduation from the SUNY Buffalo School of Medicine, Dr. Ottowitz received two years of neurology training at the West LA VAMC and three years of psychiatry training at Brown University. This dual residency training was followed by a (three year) functional neuroimaging research fellowship at Massachusetts General Hospital and Harvard Medical School. During residency and fellowship training he progressively developed an interest in the prospect of using an unconventional dramatic video framework for the presentation of neuroscience concepts to both the layperson and to psycho-dynamically oriented psychiatrists. Subsequently, his trajectory involved general film studies at the School of Visual Arts (in NYC) and at the Hong Kong International Academy of Film and Television, wherein he further developed the conceptual backdrop for a novel neuro-medical educational video framework. The resulting “HEMVFED” genre became more completely formalized during graduate studies at the University of the Arts, London (HEMVFED = Hybrid, Experimental, Music Video Formatted, Educational Docufiction) and was submitted to the USC Innovations in Medical Education conference as a novel framework for medical edutainment, specifically meant to supplement online didactics.

Overcash, Stephen, MD

Stephen Overcash, MD, is a second year Pediatric Hospital Medicine fellow at Children’s Hospital Los Angeles. He completed his undergraduate and medical degrees at Indiana University and residency at Children’s National Hospital in Washington, D.C. His clinical areas of interest include complex care, asthma, and infectious disease. His academic interests include intra-hospital transitions of care, survey design, and quality improvement. From a medical education standpoint, he likes to employ Jeopardy! to facilitate resident teaching sessions and enjoys helping learners on family-centered rounds apply principles of “safely doing less” in efforts toward care de-escalation.

Patel, Karishma

Karishma Patel is an inpatient Pediatric Nurse Practitioner for the Cancer and Blood Disease Institute at Children’s Hospital of Los Angeles (CHLA). She received her Bachelor of Science in Nursing from Frances Payne Bolton School of Nursing at Case Western Reserve University in 2014. She worked as a bedside pediatric oncology nurse at CHLA prior to obtaining her Master of Science in Nursing from the University of Pennsylvania in 2018. She holds a Certified Pediatric Hematology/Oncology Nurse (CPHON) certification and is a board-certified Pediatric Acute Care Nurse Practitioner. Karishma has a strong interest in working with the Adolescent and Young Adult (AYA) population and learning about new treatment protocols.

Pelley, John, PhD, MBA

Dr. Pelley has worked on the application of metacognition in learning clinical reasoning skills. His website contains the Expert Skills Program which teaches how the Myers-Briggs Type Indicator (MBTI) Intuitive learning style builds the integrative thinking skills that are fundamental to the development of the differential diagnosis and establishing the most likely diagnosis.

Dr. Pelley has served five times as an AOA Visiting Professor and also received the AOA Robert J. Glaser Distinguished Professor Award, 2010, in recognition of this work. He has published an invited college textbook chapter on learning styles, an IAMSE manual chapter on metacognition, and other articles on brain-based active learning. His TED Talk, “Bodybuilding for the Brain” has had over 200,000 views. He served on the original board of directors for the Team Based Learning Collaborative and is also experienced with PBL. He has conducted flipped classroom sessions in Zoom interactive video involving breakout rooms. He has previously served as academic affairs dean and admissions dean.

Perez, Norma

Dr. Norma Perez was born in Los Angeles, raised in the city of Huntington Park, and attended UCLA for her undergraduate education. Her personal experiences with her own pediatrician in the community piqued her interest in medicine. Dr. Perez attended medical school at New York Medical

College, completed a residency in Pediatrics at Stonybrook University Hospital in 2010, and went on to complete a Hospitalist Medicine Fellowship at Children's Hospital Los Angeles. Dr. Perez has worked with underserved communities in several primary care settings throughout her career. She joined AltaMed in 2015 as a primary pediatrician and transitioned into the Site Medical Director position for the Commerce-Goodrich Clinic in 2017. She is a board-certified pediatrician who serves as AltaMed's in-house ACEs Lead Physician Champion. Dr. Perez has dedicated her decade-long career to medically underserved communities and serves patients with the philosophy of mutual respect to develop healing partnerships. Dr. Perez's commitment to quality care, patient advocacy, serving vulnerable communities, and longtime partnership with CHLA leadership and pediatricians is vital to the successful integration of ACEs screening and toxic stress prevention and treatment of ACE-Associated Health Conditions at AltaMed Health Services.

Pettepher, Cathleen

Cathleen C. Pettepher, PhD, is Professor of Biochemistry at Vanderbilt University School of Medicine. She co-leads the Foundations of Medical Knowledge Phase and has oversight of the fully integrated basic science pre-clerkship phase of Vanderbilt's Medical Curriculum 2.0. She also serves as director of Anatomy with oversight of the teaching of anatomical sciences across all four years of the medical school curriculum. As assistant dean for medical student assessment, she oversees the evaluation of student academic and professional development across all four years of the curriculum and helps students with the transition into and challenges associated with medical school.

Dr. Pettepher co-directs the Human Blueprint and Architecture block of Curriculum 2.0, directs the Cell and Tissue Biology Laboratory, and serves as one of three senior anatomists in the Gross Anatomy Laboratory. She is designated as a master science teacher and is a member of Vanderbilt's Academy for Excellence in Education. She has received numerous awards for teaching and curricular design, including the 2019 AOA Robert J. Glaser Distinguished Teacher Award from the AAMC. Her scholarly focus is on learning styles and their effects on study strategies and time management skills and the value of peer assessments in professional growth and development. She has mentored many individuals at all different levels of training and most appreciates the collegiality and career support that is abundant at Vanderbilt.

Phan, Kristina

PCLP NMF Scholar, AltaMed Institute for Health Equity

Pinanong, Patty

Keck Medicine's Gender Affirming Care Team started in 2013 in response to requests from the gender-nonconforming student community for inclusive care. As the Physician Lead, Dr. Pinanong has collaborated with campus partners to create that environment. Rotating medical students do not receive a large amount of exposure to gender-affirming care. During their College Health rotation, the program strives to provide didactic and hands-on learning for them.

Pipaliya, Royal

Royal Pipaliya is a third-year medical student at the Medical University of South Carolina in Charleston, SC. Working with the Department of Otolaryngology, Royal Pipaliya has focused on conducting research involving innovations in surgical education. He completed his undergraduate education at the College of Charleston with a Bachelor of Science in Biology. Email: pipaliya@musc.edu

Poorghasamians, Ervin

Ervin Poorghasamians is currently pursuing a PharmD degree at the USC School of Pharmacy. He received his Bachelor of Science in Chemistry and Biochemistry from the University of California, Santa Barbara, where he conducted research in computational biochemistry and synthetic biology centered around in vitro selection of nucleic acid-based aptamers. Later, he joined the Imaging Research Program in the radiology department at Children's Hospital Los Angeles. There he assisted in the clinical investigation of pediatric skeletal development and the pathogenesis of spinal disorders, publishing several longitudinal studies before starting graduate school. For over a decade, he has

developed skills as a mentor, tutoring students, and giving lectures in topics including calculus, organic and medicinal chemistry, pharmaceuticals, pharmacokinetics, and microbiology.

Pope, Justin

Justin Pope is a first-year medical student at the Indiana University School of Medicine. He earned a Bachelor of Arts degree from Hanover College with a major in biochemistry and a minor in mathematics. As an undergraduate four-year student-athlete, he spent his free time trying to gain exposure in the medical field. Through his experiences volunteering in an inner-city hospital and as a scribe in the emergency department, he witnessed the relationship between social disparities and chronic diseases. In addition to his time in the pre-medical field, he had the opportunity to counsel and coach baseball for underprivileged youth at a Salvation Army sports camp. The camp opened his eyes and mind to how people and resources can make a difference in a community in need. Now as a medical student, he has a strong interest in the field of emergency medicine and its opportunities to monitor and impact community health trends.

Ragay-Cathers, Christine, DO

Christine Ragay-Cathers is the Associate Program Director of the Marian Family Medicine Residency Program in Santa Maria, California, as well as the medical director of the clinic. Previous to this, she was faculty at the Creighton University Arizona Health Education Alliance Family Medicine Residency Program in Phoenix, AZ. She has also served as a family physician in the Air Force. She has a passion for dermatology in primary care and currently uses dermoscopy in her own practice.

Ramos, Harry, BS, BA

Harry Ramos is a 2nd-year medical student at Wayne State University School of Medicine in Detroit, MI. Harry obtained a dual degree in Economics (BA) and Chemistry (BS) at the University of Florida in 2015. Prior to attending medical school, Harry worked as a healthcare consultant for Cerner Corporation and collaborated with various healthcare systems to implement a new electronic medical record system and to standardize clinical and non-clinical workflows. Harry also worked in the Middle East assisting a healthcare system to develop and to deliver end-user training prior to a project implementation event. After consulting, Harry worked as a Clinical Informatics Specialist at Karmanos Cancer Institute in Detroit, MI. Here, Harry spearheaded several healthcare improvements projects such as a cloud-based dictation technology implementation, end-user training development, e-Prescription workflow standardization, computerized provider order entry workflow optimization, and more. As a medical student, Harry remained driven in delivering patient care improvements as the Vice President of the Institute of Healthcare Improvement Chapter at WSUSOM. Harry aspires to have more medical students involved in quality improvement and its positive and lasting impact on patient care.

Rasmussen, Chad, DDS

Orthodontics Residency Program Director, Mayo Clinic College of Medicine and Science

Reed, Sabrina

Sabrina Reed, MD is originally from the suburbs of Chicago where she earned a BA in psychology at Northwestern University and stayed in Chicago to obtain her medical degree. After completing residency in Madison, WI, she completed a fellowship in child & adolescent psychiatry at UCLA where she served as chief resident. She currently works on the adolescent inpatient unit at Augustus Hawkins and at Student Mental Health at USC. Her other responsibilities include teaching the pre clerkship medical school courses in psychiatry/behavioral sciences and serving as the assistant clerkship director for psychiatry. Dr. Reed currently holds an executive position of treasurer in the Southern California Society of Child and Adolescent Psychiatrists (SCSCAP) and has a strong interest in medical education and training in program leadership.

Remskar, Mojca

Mojca Remskar is a Professor in the Department of Anesthesiology at the University of Minnesota. She is a fellowship-trained cardiac anesthesiologist and pediatric anesthesiology certified anesthesiologist with a special interest in adult and pediatric cardiac anesthesia. She is the Executive

Vice Chair in the Department of Anesthesiology at University of Minnesota. She teaches medical students, anesthesiology residents, and fellows and has received several Teacher of the Year awards. She began working with simulation in 2009 and is now Medical Director of M Simulation at the University of Minnesota and also Medical Director of the MVAHCS simulation center. She is involved with curriculum development and is developing multidisciplinary educational curricula, which utilize high- and low-fidelity simulation. Her special area of interest is the translation of clinical skills, medical knowledge, and attitudes obtained in the simulation laboratory into the clinical world.

Ring, Jeffrey M., PhD

Jeffrey Ring, PhD, is a health psychologist dedicated to health equity and justice. He works in the field of medical education, leadership and team coaching, behavioral health integration and health practitioner resilience and wellbeing.

Rivera, Ronald, MD

Ronnie Rivera, MD is a current fellow in Multimedia Design and Education Technology (MDEdTech) at the University of California, Irvine. Having completed medical school at UCLA's David Geffen School of Medicine, he went on to complete his residency at SUNY Downstate/Kings County in Brooklyn, New York. After being elected to Chief of Education, he discovered a passion for teaching his peers much in the same way he advocates for improving bedside patient education as part of patient centered care. He is currently completing a master's in education focused on Digital Age Learning and Technology with hopes of creating a free, public-access, health literacy education series. His current projects include teaching techniques for improved bedside interactions with patients from at-risk populations and educating on improving social determinants of health from the Emergency Room.

Rodriguez, Maite Villareal, MA

Maite Villareal Rodriguez joined the AltaMed team in Spring 2020 as the Manager of Graduate Medical Education. Her role is to provide programmatic and project management support to ensure that residents have an optimal learning environment. Maite is an educator at heart and has spent the last 15 years working at community colleges and public universities as an advisor, lecturer, and mentor. Maite's love for students and yearning for more contextual knowledge led her to pursue her master's in higher education from the University of Michigan Ann Arbor (class of 2014). She most recently served as the Health and Science Careers Advisor at Cal State LA, where discovered her love for the overlap of health, education, and social justice.

Roman, Sanziana, MD

Dr. Sanziana Roman is a Professor of Surgery and Medicine (Endocrinology) at UCSF. In her medical career traversing more than two decades, she had the privilege to work in medical education in all aspects of training, from undergraduate to graduate and post-graduate medical education, and early professional careers at different institutions including Yale, Duke, and UCSF. She currently is the Director of Learning and Teaching in the Procedural Specialties at the UCSF School of Medicine. Her clinical interest is in endocrine and minimally invasive surgery. She is the author of more than 200 peer reviewed publications, many which center around medical education. Dr. Roman was born in Romania and raised in Transylvania, immigrating to the United States as a teenager. She received her BA at Cornell University studying vocal performance, and her MD from Columbia University College of Physicians and Surgeons. Prior to embarking on her surgical career, she was a professional opera singer.

Rosas, Anthony Diep

Anthony was born and raised in South Los Angeles, California. As a kid, Anthony witnessed how his grandpa's lack of access to transportation prevented his grandpa from visiting his primary care provider, and ultimately, managing his diabetes. Anthony's grandpa died due to complications from diabetes. Reflecting, Anthony realized that his grandpa's death was not unique; in his hometown, Black and Latino residents prematurely die from uncontrolled chronic illness. Anthony believes that the social determinants of health (SDoH) prevent his local neighbors from managing their illnesses. This realization sparked Anthony's interest to learn how to help patients like his grandpa overcome

barriers to their health. During college, Anthony studied in Costa Rica, where he learned about how primary care clinics used their medical technician (ATAP) to help their patients navigate barriers to disease management. After graduating college, Anthony lived in Thailand where he evaluated how community health workers (CHW) from a migrant rights organization helped migrants from Burma access TB testing services. In essence, Anthony learned, models like the ATAP and CHW helped individuals be in a better position to care for their health. Now, Anthony serves as a Health Equity Navigator at AltaMed, where he helps patients navigate the SDoH in South LA. He hopes to learn how health navigators can be integrated into FQHCs as an effort to dismantle chronic illness disparities in the area.

Roy, Shuvro

Shuvro Roy is a clinical Neuroimmunology and Neurological Infectious Disease fellow at Johns Hopkins University, supported by the National MS Society. His educational interests are focused on reducing neurophobia, in the hope of improving matriculation from medical school to Neurology residencies. He is also interested in the navigation of utilizing health systems science to structurally address trainee well-being and burnout, overall trainee education, and determine which outcome metrics can best provide answers to improving graduate medical education. Shuvro obtained his medical degree at Ohio State University, where he served on Student Council academic committees, and reformed the third-year medical student curriculum, which served as his thesis project for his Medical Education Advanced Competency. He subsequently completed his Neurology residency at UCLA, where he served as Chief Resident in his final year. During this year, he converted the residency schedule to an X+Y schedule and evaluated the impact of this schedule on resident education and satisfaction. He additionally completed the UCLA Medical Education Fellowship in his final year of residency. Clinically, Shuvro hopes to pursue a long-term academic career primarily seeing patients, with an additional focus on advocating for reduced barriers to care for people with MS and educating the next generation of Neuroimmunologists.

Rudnick, Melanie

Melanie is a pediatric hospitalist at Connecticut Children's Medical Center and an Assistant Professor at the University of Connecticut School of Medicine and the Frank H. Netter School of Medicine at Quinnipiac University. She completed her pediatric residency at Connecticut Children's Medical Center, where she initially became interested in developing tools to improve communication between patients and providers, specifically in the setting of Family-Centered Rounds. She completed her pediatric hospital medicine fellowship at Children's Hospital Los Angeles at which time she enrolled in the Master of Academic Medicine program at the University of Southern California to gain more skills in the principles and execution of medical education research. She completed the MACM program in 2020 and has since become the Associate Pediatric Clerkship Director for the Frank H. Netter School of Medicine. Her current interests include interprofessional education and practice, and curriculum design at different levels of medical education. mrudnick@connecticutchildrens.org

Rybka, Michelle

Michelle Rybka, MD, is currently a second-year pediatric cardiology fellow at the Children's Hospital of Los Angeles. She received her pediatric training at the University of California, San Francisco. Following residency, she completed a fellowship in pediatric hospice and palliative care medicine at the Children's Hospital of Philadelphia. Michelle's academic focus is centered on increasing palliative care skills within the field of pediatric cardiology. As one of only a handful of pediatric cardiologists with formal pediatric palliative care training, she has served on both local and national collaborations to increase both awareness and education of palliative care skills in pediatric cardiology. After completing her bachelor's degree in Philosophy at Colorado College, Michelle spent several years coaching volleyball prior to enrolling in medical school. As a previous Division I volleyball player, communication and a team-centered approach to overcoming obstacles is at the core of Michelle's practice. Michelle's family is from Argentina, and as a first generation American she is particularly interested in serving the needs of the Latinx population.

Sabeti, Sara

Sara Sabeti is a fourth-year medical student at the University of California, Irvine School of Medicine. Before entering medical school, Sara received a BS in Public Health Sciences from UCI. She is passionate about mentorship, community outreach and event coordination, medical education, and promoting wellness through educational and collaborative initiatives.

Sadula, Sushma

Dr. Sushma Sadula is a third-year family medicine resident at Chino Valley Medical Center. She went to medical school in India to serve the poverty-stricken community in her father's footsteps. Her passion for women's health and pelvic pain stems from her own journey and survival with endometriosis. She pioneered the research department at her community-based unopposed family medicine residency program as a PGY2 resident. She is the private investigator for two ongoing projects on endometriosis: Menstrual Health Educative Protocol and Analysis of Quality of Life in Women with Endometriosis to Develop a Screening Survey Tool. In addition to working on other quality improvement and research projects, she has presented case reports at the 2021 Virtual PREMIER FM Residency Research Competition and the ACOFP '21 Virtual 58th Annual Convention & Scientific Seminars. She is currently in the process of publication of three case reports related to women's health and pelvic pain. She plans to pursue an obstetrics fellowship and have a long career in public health, academics, and women's health.

Saladik, Monica

Building a comprehensive curriculum for a pediatric emergency medicine rotation has unique challenges given the breadth of clinical experiences residents encounter. Curriculums must also be tailored to different resident learners depending on their department and background. As a pediatric emergency medicine fellow and former pediatric chief resident, Dr. Monica Saladik has had direct ongoing involvement in resident medical education and relevant previous experience with curriculum expansion and development. As a fellow, she plans and leads the half-day pediatric educational conferences for the emergency medicine residents. During her chief year, she led educational projects such as the expansion of the pediatric resident mock code boot camp. She has presented multiple posters at national meetings on pediatric residency curriculum development such as procedural training and general pediatric behavioral health exposure. Monica is also currently enrolled in the one-year Educational Scholars Program to continue her development of educational scholarship. These experiences and her ongoing training have made her ideally suited to lead this trauma education project.

Satcher, DJuanna

Assistant Professor of Pediatrics, Baylor College of Medicine

Schlegel, Elisabeth, MS, PHD, MBA, MS

Elisabeth Schlegel, PhD, MS, MBA, MS (HPPL), is Associate Professor of Science Education and Assistant Director of Faculty Development and Medical Education Research at the Zucker School of Medicine at Hofstra/Northwell, Hempstead, NY 11549. Elisabeth.Schlegel@hofstra.edu. Her work in medical education/faculty development spans the educational landscape of ZSOM and the Northwell Health System. She has an advanced certificate in instructional design and technology and a strong interest in promoting comfort with technology-assisted faculty development strategies.

Schneider, Molly

Molly Schneider is a third-year medical student at SUNY Downstate Health Sciences University in Brooklyn, New York who plans to pursue a career in pediatrics. Originally from Rockville, Maryland, Molly graduated from Barnard College in 2017 with a BA in psychology. She worked for two years at the Depression and Anxiety Center for Discovery and Treatment at Mount Sinai before starting medical school in 2019. After her first year, she was awarded a research grant by SUNY Downstate's alumni association. She spent the summer studying the impact of COVID-19 on depression symptoms among adolescent patients at the University Hospital-affiliated pediatrics practice. She plans to spend her career addressing structural barriers that prevent adolescents from under-resourced communities from accessing timely, quality mental health treatment. Given that most children visit the pediatrician

yearly for well-childcare, she is particularly curious about the role that pediatricians can play to increase mental health service availability, make such services more approachable, and deliver treatment via non-traditional modalities.

Schreiber, Jacob

Instructor of Clinical Medical Education, Keck School of Medicine of USC, Department of Medical Education

Sellami, Nadia

Assistant Professor of Clinical Medical Education; Associate Director, Academic Support Program, Keck School of Medicine of USC

SenthilKumar, Gopika, BS

Gopika SenthilKumar is a third year MD-PhD student at the medical college of Wisconsin. Her long-term goal is to practice as a physician-scientist at an academic center, and she is funded by the American Heart Association Pre-Doctoral Fellowship. In addition to her research, Gopika is dedicated to the improvement of medical education through: (1) curricular development and evaluation; and (2) mentoring and teaching the upcoming generations. During the 2020-2021 academic year, she served as the Co-Chair for the Kern Institute Student Leadership Committee, Co-President of Student Leadership Development Initiative Student Organization, and as a student representative for MCW's Curriculum Exploration Committee. In these roles, she helped promote leadership education for medical students, developed curricular modules, and presented her work at the 2021 MCW Innovations in Healthcare Education Research IHER annual conference, and 2021 AAMC GSA & OSR Spring Meeting. She currently serves as the Executive Director for F1 Doctors (national mentorship platform for international medical students), through which she oversees the platform, conducts studies focused on understanding the unique challenges that international students pursuing medicine in the U.S. face, and mentors numerous students one-on-one. She is also the Associate Mentorship Coordinator for the Association of Women Surgeons National Medical Students Committee, where she helps design and coordinate a surgical mentoring program for female medical students interested in surgery around the world. She is also passionate about mentoring students at her PhD lab, tutors students for the USMLE Step 1 board exam, and participates in panel discussions throughout the country to encourage the next generation of physician scientists.

Shah, Harini, BS

Harini Shah is a second-year medical student at the Medical College of Wisconsin in Milwaukee, WI. She is the founder and co-president of the MCW South Asian Medical Students Association and co-president of the MCW American College of Physicians chapter. In 2020, Harini graduated magna cum laude from the University of Chicago, where she earned a BS in Neuroscience and Human Rights with Honors. As an undergraduate, Harini served in several leadership positions such as running the honor board of Delta Gamma at UChicago and serving as the lead program assistant at the Pozen Center for Human Rights. At the Pozen Center, Harini curated displays at UChicago with written works and art by formerly incarcerated artists and creators at the Stateville Correctional Center, Illinois' maximum-security facility. Her work at the Pozen Center confirmed her dedication to social justice as a future physician. An outspoken activist since she was young, Harini advocates for healthcare rights and social justice for formerly incarcerated persons in Chicago and Milwaukee greater regions. She sees power in using written words as a means of protest and storytelling. In Milwaukee, she centers her goals towards improving health policy and medical education, and she encourages healthcare workers to never forget their important roles in advocacy.

Shih, Evan

Evan Shih graduated with a BS in physiology from UCLA and was excited to continue his medical school education at the David Geffen School of Medicine at UCLA. At DGSOM, he discovered his passion for medical education and knew a career in academic hospitalist medicine would allow him to continue to work with the next generation of medical trainees, students and residents alike. He completed his residency in internal medicine at the UCLA Medical Center and was selected as a Medicine Chief Resident in 2019. He now works as a Clinical Instructor in the UCLA Santa Monica

Hospitalist Cohort. When not attending on the direct care and teaching general wards teams at Santa Monica, Evan volunteers as a core simulation instructor for the IM residency and as a proceduralist on the procedure service. His interests include medical education, clinical reasoning, high value care, and quality improvement. As a fun fact, he was a proud member of the 2-time UCLA regional champion ACP Doctor's Dilemma team during residency

Singh, Narinder, MD

Dr. Narinder Singh is a first-year family medicine resident physician at Chino Valley Medical Center. Previously he was at UC Irvine; where he worked on projects such as blood pressure and heart rate variability in stroke and dementia, Cnm+ Streptococcus Mutans as a Risk Factor for Cerebral Microbleeds, Severe phenotype in an Indian Family with Progressive Pseudorheumatoid Arthropathy of Childhood, and continuous sensor technologies for remote COVID-19 monitoring. In addition to academic research projects, he has a significant amount of training and experience in conducting pharmaceutical clinical research trials at the Center for Clinical Research at UC Irvine. Dr. Singh initiated his medical career in India. There he obtained vast experience in General Medicine (locally and internationally) when he ran non-profit de-addiction campaigns in rural India. He also served as a Medical Superintendent and received ample experience in healthcare administration.

Sivadanam, Supriya

Supriya Sivadanam completed her undergraduate degree at North Carolina State University in Biomedical Engineering with a concentration in biomaterials and a minor in biology. She is interested in the application of biomedical engineering in medicine and has experience working in the fields of biomaterials and wound healing/regeneration. Additionally, she has a passion for working with and advocating for children of all ages and addressing healthcare issues that impact children. She is currently a second-year medical student at the Brody School of Medicine at East Carolina University and plans to pursue a career in pediatrics with a specialization in neonatology.

Smart, Jon

Jon Smart, MD, MS, is faculty at the University of California Irvine. Having completed a fellowship in Multimedia Design and Education Technology at UC Irvine, he is currently completing a Master of Science in Education in Digital Age Learning and Educational Technology at Johns Hopkins University. Areas of particular interest are gamification, meta-learning, novel technology applications, as well as engaging speaking methods and slide design.

Smith, Franz O., Smith, MD, FACS

Director of Graduate Medical Education Chief Academic Officer, RWJ St. Barnabas Health

Smith, Sherilyn

Sherilyn Smith, MD, is a professor of Pediatrics at the University of Washington. She served as Pediatrics Clerkship Director and the fellowship director for the Pediatric Infectious Disease Fellowship. She is currently the Clinical Skills Learning Specialist at the University of Washington. Sherilyn is active nationally in a variety of educational organizations and served as president of COMSEP (Council on Medical Student Education in Pediatrics) from 2015-2017. Sherilyn completed formal coach training in 2019 and is certified by the International Coaching Federation. She coaches physicians, academic faculty and medical students. Sherilyn is co-developing a national coaching program for academic pediatricians.

Smitheman, Matthew

Dr. Matthew Smitheman is an NHS Junior Doctor based in the East Midlands of the UK. He graduated from the University of Nottingham in 2020 with a Bachelor of Medical Science and a Bachelor of Medicine and Bachelor of Surgery. Dr. Smitheman has a keen interest in pursuing a surgical career.

Sokoloff, Max

Dr. Max Sokoloff is currently a third-year pediatrics resident at Children's Hospital Los Angeles. He grew up in the metro Detroit area in a proud family of high school educators. He pursued his undergraduate studies at the University of Michigan in Ann Arbor, with a double major in Evolutionary

Anthropology and the Spanish language. He obtained his medical degree from the University of Michigan, participating in the Global Health and Disparities pathway. Peer mentorship has been a staple of his interests, which translated to several leadership positions in peer mentorship and education as a medical student. He continued these interests by joining the Medical Education Track as part of his residency training. He was lucky enough to participate in his first medical education project almost 10 years ago this year, as a freshman at college, investigating how the change to night float impacted third-year medical student education. He has come full circle with his most recent project, with research partner Dr. Lorraine James, by investigating how a novel pre-rounding education impacts third-year students during their clerkship. Max plans to pursue pediatric hospitalist medicine after residency with hopes to become a clinician-educator in the field.

Soohey, Robert

Robert is a student at Tufts University School of Medicine. Prior to medical school, he graduated from the University of Maine Honors College with a degree in microbiology. He has an interest in medical education and will be working on helping develop OPENPediatrics' surgical curriculum as well as analyzing its use of the ventilator simulation as a learning tool.

Soto, Jr., Raul

Raul Soto Jr. is a second-year medical student at the Keck School of Medicine of USC. He is from Los Angeles, California, and has a Bachelor of Science degree in Molecular, Cell, and Developmental Biology from UCLA. His interests include serving the medically underserved, anti-racism initiatives, social and environmental justice, health equity, and mentorship.

Souter, Karen

Karen J. Souter, MB, BS, FRCA, MACM, ACC, is a full professor in the Department of Anesthesiology & Pain Medicine at University of Washington and practices clinically as an anesthesiologist. She served as the residency program director at UW for 12 years and has a master's degree in Academic Medicine from University of Southern California. Karen is active nationally in various educational societies and is currently serving as past president of the Society for Education in Anesthesia. Karen undertook formal coach training and is an International Coaching Federation Associate Certified Coach (ACC). She coaches physicians, academic faculty, residents, and medical students. Karen also runs a program coaching junior faculty in her department around promotion and academic advancement.

Spangler, Ann

Dr. Ann Spangler was an Associate Professor of Radiation Oncology at UT Southwestern Medical Center in Dallas from 2003 until retirement in 2019. She was involved in Graduate Medical Education, serving as the Program Director for the Radiation Oncology residency program at UT Southwestern, and a member of the GME Committee, and Radiation Oncology Clinical Competency Committee. She was a member of the Radiation Oncology Residency Review Committee at the ACGME and served as Chair of the Radiation Oncology Review Committee for three years. She was awarded the 2011-12 Educator of the Year Award for the UT Southwestern Radiation Oncology Residency Program by the Association of Residents in Radiation Oncology. Dr. Spangler is currently an Adjunct Clinical Associate Professor of Medical Education (Voluntary) at Keck School of Medicine of USC.

Srinivas, Divya

Divya Srinivas was born in Chennai, India but raised in Cary, North Carolina. She attended the University of North Carolina at Chapel Hill and graduated in 2019 with a bachelor's degree in biology. Divya is currently a second-year M.D. candidate at the Brody School of Medicine in East Carolina University and a Medical Education and Teaching Distinction Track Scholar. Additionally, Divya is a co-director of the Greenville Community Shelter Clinic and leads wellness classes for shelter residents. Her research focuses on improving existing instructional methodologies used in medical education and service to bridge the gap in healthcare inequalities. Divya hopes to specialize in Emergency Medicine in the future while continuing to advocate for healthcare and medical education improvement.

Stokke, Jamie

Jamie Stokke MD is an Assistant Professor of Clinical Pediatrics at the University of Southern California and is a pediatric oncologist specializing in leukemia and lymphomas at the Cancer and Blood Disease Institute at Children's Hospital Los Angeles (CHLA). She completed her pediatric residency and pediatric hematology/oncology fellowship at the University of Washington, Seattle Children's Hospital. Her clinical interests include developing clinical trials using novel therapeutics for the treatment of acute leukemias and lymphomas and developing national standards for rare lymphomas. She is currently the Director of Medical Education and Associate Fellowship Director for the division of hematology/oncology at CHLA. She loves working with trainees and strives to improve medical education through curriculum design, medical education innovation, feedback initiatives, and educational scholarship.

Strohm, Maureen, MD

Dignity Health Las Vegas

Suarez, Alexander

Alexander Suarez is currently a PGY4 Neurosurgery resident and enrolled Neurointerventional Fellow at Duke University. His clinical interests involve peripheral nerve and vascular neurosurgery while his academic interest revolves around medical and surgical education. Originally, he completed his Bioengineering degree at Rice University in Houston. Afterward, he completed his medical degree at the Perelman School of Medicine at the University of Pennsylvania. His passion for teaching took many forms during these earlier years as a tutor and organizing community outreach opportunities. Recently, in order to improve his educational foundation, he completed the Harvard Macy Institute, Program for Post Graduate Trainees: Future Academic Clinician-Educators, 2020. The teaching of future generations of neurosurgeons is a central tenet to the field, a requirement for the future safety of our patients. He aspires to dedicate his professional career to surgical education with the goal of fostering medical student interest, developing effective resident education initiatives, and supporting faculty development. His interests specifically include designing and planning learning, teaching and facilitating learning, and assessment of learning.

Sudario, Gabriel

Dr. Sudario is faculty in Emergency Medicine at UC Irvine Medical Center, is the assistant clerkship director for Emergency Medicine and is the UCI School of Medicine Summer Outreach Programs Director. He completed a fellowship in Multimedia Design and Education Technology at UC Irvine and a Master of Science in Education in Learning Design and Technology at Purdue University. He has a passion for DEI programming, visual design, social media and 'micro-learning'. He also serves as the Academic Life in Emergency Medicine Instagram Social Media Director, producing education content for a followership of over 5000 Instagram users.

Sun, Alexander

Alexander Sun is currently a second-year medical student at the Keck School of Medicine (KSOM) at USC. He completed his undergraduate education at the University of California San Diego in 2019 where he majored in physiology and neuroscience and minored in global health. His current research interests include addiction medicine and public health.

Tan, Kevin

Kevin is a second-year medical student at the University of Illinois College of Medicine in Chicago, Illinois. He was born and raised in Southern California, where he attended undergraduate at the University of California, Irvine, and studied Human Biology with a minor in Spanish. He has significant clinical experience working with Spanish-speaking and Burmese-speaking populations and wishes to continue working with them in the future. He also aspires to learn Mandarin so that he can also begin to better serve that patient population in his future practice. His current interests lie in Family Medicine and Sports Medicine.

Taranto, Lydia, MD

Dr. Lydia Taranto is currently a CVD Fellow in the HonorHealth Cardiovascular Disease Fellowship in Scottsdale, Arizona.

Tausinga, Telisha

Telisha is a second-year medical student at the University of Utah. She received her dual BS in Exercise Science and Anthropology from Brigham Young University. Telisha is interested in global and rural medicine, particularly increasing healthcare access and outreach in underserved communities. Besides leadership in WE WILL, Telisha is an OSR Representative and Ambassador for her medical school class and is a member of the school's Professionalism and Diversity Committee. She also enjoys teaching online puberty courses for tweens from around the world. Outside of school, she enjoys cooking and traveling with her partner, as well as creating digital art.

Tawfik, Huda

Dr. Tawfik is an associate professor of pharmacology at Central Michigan University College of Medicine. She has been working in the medical education field for more than 10 years and has received a one-year faculty development fellowship in medical education (theories and applications) from the Medical College of Georgia. Dr. Tawfik has also developed and published educational activities using clinical reasoning models in several educational journals.

Thammasitboon, Satid, MD, MHPE

As a clinician, Satid Thammasitboon, MD, MHPE, strives to provide the best care to individual patients and family members. Clinical expertise encompasses an adaptive application of the standardized practice via evidence-based medicine and the less explicit knowledge in the form of the art of medicine. As an academician, Dr. Thammasitboon aspires to foster learners' professional development by motivating learners to pursue clinical excellence, promoting deliberate practice in clinical medicine and scholarship, and mentoring learners on a journey towards expertise. Dr. Thammasitboon's passion is to inspire learners with explicit message to shape mind, hands and heart of future physicians. Based on revolutionary advances in understanding of how ones become experts via deliberate practice, Dr. Thammasitboon applies science- and pedagogy-based principles to facilitate learners to achieve excellence in their academic endeavors. Dr. Thammasitboon has dedicated themselves on mentorship at the individual and programmatic levels. As an educational scholar, Dr. Thammasitboon's focus in scholarship of discovery is in critical thinking, expedient development of expertise via deliberate practice, self-reflection and regulation. For a pursuit of scholarship of integration and application, Dr. Thammasitboon creates innovative curricular, and educate various levels of learners locally and nationally about medical education.

Thomson, Heather, PhD

Heather Thomson is an Assistant Professor, Teaching Stream, and the Director of the Master of Nursing Program at the Lawrence S. Bloomberg Faculty of Nursing, University of Toronto. She holds a PhD in Nursing with a diploma in Health Services and Policy Research, as well as a Master of Nursing from the University of Toronto. She obtained her Bachelor of Nursing from the University of Calgary. Heather has over 15 years of experience in the healthcare system with positions ranging from front-line nurse to leadership roles in the public and private sectors. Her interests include leadership, quality improvement, patient safety, simulation, innovation, and technology.

Tran, Meagan T., BS

Meagan Tran, BS, is an MD candidate at the Mayo Clinic Alix School of Medicine and served on the Diversity, Equity & Inclusion (DEI) Curriculum Review Project as a course auditor. As a former STEM educator, Meagan developed and implemented a culturally responsive science curriculum to meet the needs of underserved populations. Because of this prior experience, Meagan understands the need for a diverse and representative curriculum to effectively engage learners. Meagan's background in biomedical engineering provides a problems-based lens and design-thinking approach to their work, which includes educational curriculum design. Meagan brings this perspective to medicine, where she is involved in medical education as both a current student and former teacher. In addition to collaborating with faculty members and providing feedback about the pre-clinical education

curriculum, Meagan developed a student-led education curriculum that equips medical students with skills such as writing effective learning objectives and learner engagement strategies. While serving as a course auditor on the DEI Curriculum Review Project, Meagan examined course material from various preclinical courses and provided feedback on the overall representativeness of the image portrayals and case scenarios to improve medical student exposure to diverse patients.

Trant, Amelia

Amelia Trant is a fourth-year medical student at Yale School of Medicine. She aids in the course design for Yale's clinical reasoning course.

Treat, Robert, PhD

Robert Treat is an Associate Professor of Emergency Medicine and the Director of the Office of Measurement and Evaluation at the Medical College of Wisconsin. Dr. Treat provides consultation to faculty, residents, and staff in addressing key evaluation/measurement-related questions and is responsible for the analysis and evaluation of educational outcomes data for residents and medical students. This includes using psychometric, inferential, and descriptive data analyses for educational research and evaluation projects. He is a deputy editor for the international journal Teaching and Learning in Medicine and deputy editor for the Wisconsin Medical Journal.

Trinh, Christine

Christine Trinh completed her Bachelor's in General Biology at the University of California, San Diego, where she also completed her Master of Science. She then graduated medical school at David Geffen School of Medicine at UCLA. She is now pursuing her second year of Pediatric Residency at UCSF Benioff's Children's Hospital - Oakland. Her passion for teaching began after tutoring elementary school children with different types of reading curriculum and after she became a teaching assistant for Biology laboratory classes during her undergraduate studies. This led to her interest in medical education as she taught scientific-educational lessons to elementary-aged children, led a Pediatrics selective course, and became part of the applicant interview committee. She then completed research in resident duty hours, work safety, and call schedules. Her passion for promoting health and educational equity was also ignited through research on telephone-based screening of early childhood development and care coordination. Currently, she is completing a Medical Education pathway course to further strengthen her knowledge and skills in promoting education.

Tse, Jonathan

Jonathan Tse graduated from the University of California, Los Angeles in 2019 with a BS in Physiological Sciences. While there, his research centered around the role of the Wnt/ β -catenin signaling pathway in regulating airway basal stem cell homeostasis. He is currently a 2nd-year medical student at Western Michigan University Homer Stryker M.D. School of Medicine. While in medical school, he has developed an interest in studying how teaching strategies like mock practicals can be applied to enhance medical education in anatomy and neuroscience. Additionally, he is currently leading a project evaluating the effects of peer teaching on student performance and confidence in musculoskeletal anatomy. His other current research interest concerns the pharmacokinetics and pharmacodynamics of intravenous busulfan in pediatric leukemia patients receiving hematopoietic stem cell transplantation.

Ureste, Peter, MD

Assistant Clinical Professor, University of California San Francisco

Valencia, Mary

Project Coordinator, AltaMed Health Services

Vasilev, Jay

Jay Vasilev is a second-year medical student at Mayo Clinic Arizona. He is interested in minimally invasive surgery, entrepreneurship, and medical education. Jay co-founded and is currently teaching the Happiness Selective at Mayo Clinic for first and second-year medical students.

Vazquez, Jessica

Jessica Vazquez is a second-year medical student at the Keck School of Medicine of USC. She received her BS in Biology and minor in Global Health from UCLA in 2017. She has previously worked on research in the fields of geriatric and radiation oncology and has contributed to publications in both. She is interested in emergency medicine, gynecology, and neurology, and her research interests include physician burnout and methods to improve the wellness of physicians and medical students.

Vongsachang, Hurnan

Hurnan is a third-year resident in emergency medicine at LAC+USC. She graduated from Harvard University where she received her bachelor's degree in Human Evolutionary Biology. Hurnan later received her medical degree from UC Riverside, and her MPH from the Harvard T.H. Chan School of Public Health. She is the current director of the Wellness Committee and Social Emergency Medicine Committee for the LAC+USC Emergency Medicine Residency Program.

Watsjold, Bjorn

Assistant Professor, University of Washington, Department of Emergency Medicine

Whitton, Natalie

Dr. Natalie Whitton is an Emergency Medicine Consultant at the Great Western Hospital.

Wijesekera, Thilan, MD, MHS

Dr. Wijesekera is Assistant Professor of Medicine in the Program of Section of General Internal Medicine at Yale School of Medicine, where he is also the Director of Clinical Reasoning and Director of Remediation at the medical school in addition to being an Associate for Educator Development in Teaching Clinical Reasoning in its Teaching and Learning Center.

Williams, Morgan

Morgan is a second-year medical student at the University of Utah. She received her BS in Pre-Professional Studies with a Minor in History from the University of Notre Dame. Morgan is interested in the advocacy side of medicine, specifically for underserved and underrepresented populations. Besides leadership in WE WILL, Morgan is also a Manager of the Homeless Outreach Clinic and is involved with research with the Department of Family Planning. She also enjoys tutoring first-year medical students through the Academic Success Program.

Wolbrink, Traci

Traci Wolbrink, MD, MPH, is a pediatric intensivist at Boston Children's Hospital and Associate Professor of Anaesthesia at Harvard Medical School. Her academic interests are to develop and study innovative online educational strategies. She is Co-Director of OPENPediatrics (www.openpediatrics.org), an open access social learning platform designed to allow nurses, doctors and healthcare professionals to share best practices and knowledge about the care of sick children through academically rigorous, peer-reviewed educational resources including videos and screen-based simulators developed in collaboration with international experts. She also serves as a Course Director for the Harvard Macy Institute Transforming your Teaching for the Virtual Environment Course. She is the Education Chair for the Academic Pediatric Association and serves on the Executive Board of the Section on Simulation and Innovative Learning Methods for the American Academy of Pediatrics.

Wolfe, Marissa

Marissa Wolfe is a PGY3 emergency resident physician at LAC + USC Medical Center. She has a particular interest in women and children's health. She has a special interest in sexual assault care and was recently selected to speak at ACEP's national conference on the topic. Additionally, she enjoys evidence-based medicine and medical education and is an assistant editor for the Emergency Medicine Abstracts podcasts which reviews over 600 journals a month to find the most practice-changing papers.

Wu, Velyn, MD, MACM

Velyn Wu, MD, FAAFP, CAQSM, MACM, is an Associate Program Director for the University of Florida Family Medicine Residency Program, an assistant family medicine and ambulatory care clerkship director, and an assistant clinical professor in the Department of Community Health and Family Medicine at the University of Florida College of Medicine. Dr. Wu attended medical school at the University of South Florida College of Medicine. She completed both her family medicine residency training and fellowship in Primary Care Sports Medicine at Halifax Health Family Medicine Residency and Sports Fellowship in Daytona Beach, Florida. She completed the Keck School of Medicine of the University of Southern California Master of Academic Medicine program in August 2021. Prior to her current position, she was the assistant director of sports medicine and core faculty at Lynchburg Family Medicine Residency in Lynchburg, Virginia from 2014-2019. She worked in a community private practice from 2011-2014 in Jacksonville, Florida where she maintained a broad scope of practice, providing care to patients of all ages including minor office procedures. She also provided care at the Bethune-Cookman University Student Health Clinic (2010-2011) and the Halifax Health Emergency room (2009-2011). She desires to inspire future generations of family physicians to lead in providing individualized, comprehensive and cost-conscious health care to the communities that they serve.

Wybrecht, Alexis

Alexis Wybrecht, is an MS2 at the University of Nevada, Reno School of Medicine.
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Xenophontos, Anastasia

Anastasia Xenophontos is a medical student at Georgetown University School of Medicine. Anastasia earned her Bachelor of Science in Biopsychology, Cognition, and Neuroscience in 2016 from the University of Michigan and was a Post-Baccalaureate Research Fellow in the Developmental Neurogenomics Unit of the NIH from 2016 to 2018. She is currently a medical student at Georgetown and is interested in the field of Anesthesiology.

Yasar, Makeen

Makeen Yasar is the Coordinator for the Office of Equity, Inclusion, and Diversity (EID) at the Kaiser Permanente Bernard J. Tyson School of Medicine. Yasar has worked on collaborative projects with the Office of Medical Education and EID curriculum workgroup to integrate EID concepts into the MD curriculum. In collaboration with this group and the Office of Medical Education, Yasar has worked on various projects, ranging from developing diverse patient profiles within our case-based curriculum to the creation of an EID guidebook for faculty to aid in their creation of diverse patient narratives. Yasar received his BS from Loyola Marymount University with a major in Health and Human Sciences with a minor in African American Studies.

Yiu, Stella

Dr. Yiu graduated from the Family Medicine-Emergency Medicine Fellowship program at the University of Ottawa, where she also obtained her Master of Education in Health Professions Education. She is a distinguished teacher, award-winning mentor and a clinician educator at the Faculty of Medicine. Her academic interests include resuscitation and curriculum delivery in medical education. She is the lead of the Mentorship program for new physicians at the Department of Emergency Medicine at The Ottawa Hospital. Her current research focuses on tacit knowledge in various facets of clinical practice.

Youhasan, Punithalingam

Punithalingam Youhasan is a full-time international doctoral candidate at the Centre for Medical and Health Sciences Education, School of Medicine, University of Auckland, New Zealand. He is currently on study leave from his profession as a Lecturer in Medical Education and Research at the Department of Medical Education and Research, Faculty of Health-Care Sciences, Eastern University, Sri Lanka. His research interests are Blended Learning, Flipped Classroom, Technology Enhanced Learning, Innovative Teaching, Curriculum Development, and Questionnaire Design and Development. Email: p.youhasan@auckland.ac.nz

Yuan, Stanley

Stanley Yuan is currently a 3rd year Internal Medicine resident at UCLA. He attended medical school at the David Geffen School of Medicine and plans on becoming an academic hospitalist and clinician educator upon graduation.

Yung, Esther

Esther Wu, MD, FACS, is an Assistant Professor of Surgery at Loma Linda University Health. Dr. Wu is a surgeon for Division of General Surgery (General/Minimally Invasive/ Robotic/ Bariatric Surgery) and Division of Acute Care Surgery (Trauma and Emergency General Surgery). As the Associate Program Director for Simulation for the General Surgery Residency and Physician Assistant Student Surgery Clerkship Director, she is passionate about education. Areas of professional interests include curriculum development, psychometric analysis, mentoring, coaching, equity of care, access to care, health disparities, technical skills development and evaluations. She currently holds additional titles as Director of Research, Division of General Surgery; Director for Diversity, Equity and Inclusivity, Department of Surgery; and Medical Director for General Surgery, SAC Health System, CA (largest specialty-based FQHC in the nation).

Zaat, April, MD

Dr. April Zaat completed her undergraduate degree at the University of California, Berkeley. She then completed medical school at the University of California, San Francisco before completing residency at Children's Hospital and Research Center in Oakland. Upon completion of pediatrics residency, Dr. Zaat stayed at Children's Hospital and Research Center Oakland to serve as Chief Resident in the Pediatrics Residency program. Thereafter, she worked as a hospitalist within the medical group that provides service at what is now UCSF Benioff Children's Hospital Oakland. When on service, either she or a member of our team accepts and coordinates direct admissions and hospital transfers to the acute care units. Similarly, Dr. Zaat provides hospital medicine consultation to surgical inpatient services as requested. Additionally, Dr. Zaat has leadership roles in both the Graduate Medical Education department and the Hospital Medicine division. As Director of Undergraduate Medical Education, Dr. Zaat oversees all MS3 and MS4 rotators in the hospital. She participates heavily in recruitment and intern selection. As Associate Program Director for the Pediatrics Residency, she works within the leadership team to mentor residents, build curricula, and participate in the evaluation process for both residents and the residency program. As Associate Director of Hospital Medicine, Dr. Zaat participates in committees and QI projects that directly affect the care provided at all medical campuses.

Zafar, Abdal

Dr. Abdal Qadir Zafar is an NHS Junior Doctor based in the East Midlands of the UK. He graduated from the University of Exeter in 2020 with a Bachelor of Science in Sports Medicine and a Bachelor of Medicine and Bachelor of Surgery. Dr. Zafar is pursuing a career in surgery with a special interest in sporting injuries.

Zamora, Genesis

Dr. Genesis Zamora was born and grew up in Southern California. She studied and received her Bachelor of Science degree in the Biological Sciences at the University of California, Irvine. She did research for a few years studying methods of gene therapy as a treatment modality for brain cancer at the Beckman Laser Institute, and then decided to pursue a career in medicine. She studied medicine at the University of Iowa's Carver College of Medicine and graduated with Service Distinction. She is currently a pediatric resident at Loma Linda University in the Primary Care Track. Dr. Zamora is currently working on this quality improvement project at the Riverside University Health Systems, Neonatal Intensive Care Unit with her faculty physician mentor Dr. Lily Martorell-Bendezu.

Zapata, Geny

Geny B. Zapata, PsyD, is a clinical health psychologist who serves as Director of Behavioral Medicine at Adventist Health White Memorial Family Medicine Residency Program. Dr. Zapata earned her Doctorate in Clinical-Community Psychology from the University of La Verne and is a licensed psychologist in California. Dr. Zapata completed a two-year American Psychological Association

(APA) accredited fellowship in Behavioral Medicine, Women's Health and In-patient Psychiatry at Harbor-UCLA Medical Center and an APA accredited internship at Children's Institute Incorporated.

Dr. Zapata is a CAPIC/MHSA grant recipient for her work with underserved populations. Additionally, she serves as a member of the board at the Reiss-Davis Graduate Center for Child Development and Psychotherapy and is the chair for the Academic Affairs Committee for the institution. She has worked in hospital, clinic, and community settings providing culturally and linguistically appropriate mental health services to populations of diverse backgrounds. She provides clinical supervision, consultation, and education to doctoral and master level medical and mental health providers.

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Thank You

to everyone who made the 2022 IME Online Conference possible

The Conference Chair (Dr. Julie Nyquist) and Co-Chair (Dr. Cha-Chi Fung) want to take this opportunity to thank all of those who made the 2022 IME Conference possible. First, we need to recognize Pam Teplitz, the Conference Coordinator, without whose hard work the conference could not have taken place. Listed below are over 100 more individuals whose help was important to the conference's success.

This meeting depends on the many volunteers' willingness to devote their time and expertise to making the IME possible, especially during the abrupt changes required by the pandemic this year. We would like to thank the following people for their invaluable help with planning the meeting, reviewing abstracts, and serving as moderators and facilitators.

Special appreciation to the 2022 IME Online Conference Planning Committee: Dr. Donna Elliott, Dr. Patrick Crispen, Dr. Cha-Chi Fung, Dr. Julie Nyquist, and Dr. Win May. Thanks also to Norman Hobson and Raymond Lam from the Information Services team and to Student Affairs who handled registration; and to Lisa Delgado and Teresa Ball, our support team in the Office of Continuing Medical Education, who facilitated the awarding of CME Credits.

We'd also like to thank the expert Educational Technology team, headed by Dr. Patrick Crispen, that kept us on track with Zoom in every online session: Benjamin Davidsohn, Reuben Elias, Lincoln Wong, Ralph (Wolf) McCarron, David Shoop, Dan Villasenor, with additional help from David Galassi, Norman Hobson, Raymond Lam, Chulho Jo, and Wesley Chan. Department of Medical Education staff, Vanessa Arias-Herrera and Amanda Frataccia, also provided excellent assistance.

Our conference runs smoothly with the assistance of an expansive list of volunteer session hosts from the Department of Medical Education, the Master of Academic Medicine program (instructors, students, alumni), along with a few national volunteers. Thank you to Dr. Nida Awadallah, Dr. Ron Ben-Ari, Dr. Linda Berardi-Demo, Dr. Kathleen Besinque, Dr. Sarah Collins, Dr. Kathleen Crapanzano, Dr. Vicky Dunn, Dr. Sunny Elagandhala, Dr. Donna Elliott, Dr. Cha-Chi Fung, Dr. Jerry Gates, Dr. Ronan Hallowell, Dr. Greg Harlan, Dr. Reem Itani, Dr. Cathy Jalali, Dr. Kairos Llobrera, Dr. Doug Kaufman, Dr. Rory Kim, Dr. Alan Liu, Dr. Moreen Logan, Dr. Win May, Dr. Julie Nyquist, Dr. Chad Rasmussen, Dr. Pam Schaff, Kathryn Schaivone, Jacob Schreiber, Dr. Nadia Sellami, Dr. Franz Smith, Dr. Maureen Strohm, Dr. Peter Ureste, Dr. Kala Wong, and Dr. Stephanie Zia.

Thank you to the 71 reviewers of Innovations, Cool Ideas, and Workshop abstracts

Your hard work made this a selective and high-quality program.

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Keck School of Medicine of USC

◆ Course Overview and Objectives ◆

Innovations in Medical Education 2022 Online Conference

Course Description

The 19th annual Innovations in Medical Education (IME) Online Conference joins together a growing community of educators, leaders, scholars, and learners working together to promote change through innovation in health professions education. Our goal is to move education in the health professions towards high levels of excellence and wellbeing. We will provide a forum for sharing innovative ideas and educational innovations related to teaching and learning, leading, mentoring, and wellbeing within health professions education.

In 2022, we will be using Whova as our online conference event platform to provide access to sessions for registered attendees to pre-recorded video and Zoom live streams. The twenty-one interactive faculty development conference workshops are designed to enhance participant skills related to teaching, leadership, educational scholarship, professional development, and promotion of wellbeing. Multiple topical oral presentations and poster sessions will provide opportunities for dissemination of participant scholarly work, live question and answer sessions, and networking in a collaborative atmosphere.

All session recordings, handouts, slides, and posters will be available only to registrants throughout and after the conference. Our 2022 keynote speaker is Dr. Bridget C. O'Brien, Professor, Department of Medicine, and Education Scientist, Center for Faculty Educators, University of California San Francisco School of Medicine; Deputy editor for the journal *Academic Medicine*.

Conference Outcome Objectives

By the end of the conference, participants will be better able to —

1. Utilize evidence-based principles of teaching, leading, mentoring, and educational scholarship in their work within health professions' education.
2. Incorporate techniques for enhancing the learning environment and wellbeing for all participants within their educational setting.
3. Enhance the teaching and assessment of their learners in relation to the six ACGME Core Competencies by adapting the cool ideas and innovations learned about at IME.
4. Incorporate cool ideas and innovations into the development of curricula and teaching at all levels of health professions' education.

CME Accreditation Statement

The Keck School of Medicine of USC is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation

The Keck School of Medicine of the University of Southern California designates this live activity for a maximum of 14 AMA PRA Category 1 Credits™. Physicians should claim only the credits commensurate with the extent of their participation in the activity.

Keck School of Medicine of USC

◆ Core Competencies ◆

Innovations in Medical Education 2022 Online Conference

The American Board of Medical Specialties (ABMS) and the Accreditation Council of Graduate Medical Education (ACGME) have embarked on a joint initiative to quantify and evaluate a set of 6 physician core competencies by which the individual physician will be measured for Residency Certification, Board Certification and more recently, Maintenance of Certification (MOC).

It is the intent of the Office of Continuing Medical Education at the Keck School of Medicine of USC to develop our CME activities in the context of desirable physician attributes.

The following are a list of Core Competencies that will be covered in one or more of the presentations at this conference.

- **Patient Care** that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
- **Medical Knowledge** about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
- **Practice-Based Learning and Improvement** that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.
- **Interpersonal and Communication Skills** that result in effective information exchange and teaming with patients, their families, and other health professionals.
- **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- **Systems-Based Practice**, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

Keck School of Medicine of **USC**
Office of Continuing Medical Education

**CULTURAL AND LINGUISTIC COMPETENCY IN CONTINUING MEDICAL
EDUCATION POLICY**

INTRODUCTION:

The Accreditation Council of Continuing Medical Education (ACCME) expects accredited providers to operate business and management policies and procedures of their CME program so that their obligations and commitments are met. As part of this accreditation requirement, the ACCME expects that accredited providers located in California will be in compliance with all applicable California state laws regarding continuing medical education delivered in California. CA A.B. 1195 requires that cultural and linguistic competencies are incorporated into the formulation and planning of Continuing Medical Education (CME) programs.

The Keck School of Medicine of the University of Southern California Office of Continuing Medical Education incorporates cultural and linguistic competencies in the formulation and planning of Continuing Medical Education (CME) courses in order to maintain, develop, or increase the knowledge, skills, and professional performance that a physician uses to provide care, or improve the quality of care provided for patients.

POLICY:

Educational activities should include, but are not limited to, the following criteria:

1. Scientific or clinical content with direct bearing on the quality or cost-effective provision of patient care, community or public health, or preventive medicine;
2. Quality assurance or improvement, risk management, health facility standards, or the legal aspects of clinical medicine;
3. Bioethics or professional ethics;
4. Strategies to improve the physician-patient relationship.

A.B. 1195 provides for three ways to comply with the law:

1. Address cultural competency, a set of integrated attitudes, knowledge, and skills that enables a health care professional to care effectively for patients from diverse cultures, groups, and communities. Items to be addressed include linguistic skills, cultural information to establish therapeutic relationships, cultural data in diagnosis and treatment, and cultural and ethnic data applying to the process of clinical care. To comply with the cultural competency requirement, an activity should include one or more of the following:
 - a. applying linguistic skills to communicate effectively with the target population;
 - b. utilizing cultural information to establish therapeutic relationships;
 - c. eliciting and incorporating pertinent cultural data in diagnosis and treatment;
 - d. understanding and applying cultural and ethnic data to the process of clinical care.

2. Address linguistic competency, the ability of a physician to provide patients who do not speak English or who have limited ability to speak English with direct communication in the patient's primary language. To comply with the linguistic competency requirement, an activity may incorporate translation/interpretation resources and/or strategies into activity materials.
3. Provide review and explanation of relevant federal and state laws and regulations regarding linguistic access.

EXEMPTION:

At the activity site, KSOM OCME will provide supporting documents and resources to the physicians, including, but not limited to, handouts, websites, patient education, and local resources. Continuing medical education activities that are exempt from these requirements include those activities solely dedicated to research and other activities that do not contain patient care components (such as leadership).

IMPLEMENTATION / MONITORING:

Documentation of compliance will be presented on the application and/or planning form for the CME activity. This policy will be included in the planning packet for activity directors and faculty so that the program and presentations will comply with the law.

KECK SCHOOL OF MEDICINE OF THE UNIVERSITY OF SOUTHERN CALIFORNIA
OFFICE OF CONTINUING MEDICAL EDUCATION

Cultural and Linguistic Competence Resources for Health Care Providers

State and Federal Law

Federal Civil Rights Act: 42 U.S. Code § 1981 - Equal rights under the law

(a) Statement of equal rights. All persons within the jurisdiction of the United States shall have the same right in every State and Territory to make and enforce contracts, to sue, be parties, give evidence, and to the full and equal benefit of all laws and proceedings for the security of persons and property as is enjoyed by white citizens, and shall be subject to like punishment, pains, penalties, taxes, licenses, and exactions of every kind, and to no other.

(b) “Make and enforce contracts” defined. For purposes of this section, the term “make and enforce contracts” includes the making, performance, modification, and termination of contracts, and the enjoyment of all benefits, privileges, terms, and conditions of the contractual relationship.

(c) Protection against impairment. The rights protected by this section are protected against impairment by nongovernmental discrimination and impairment under color of State law

<https://www.law.cornell.edu/uscode/text/42/1981>

Executive Order 13166

On August 11, 2000, the President signed Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency". The Executive Order requires Federal agencies to examine the services they provide, identify any need for services to those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to them. It is expected that agency plans will provide for such meaningful access consistent with, and without unduly burdening, the fundamental mission of the agency. The Executive Order also requires that the Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

<http://www.justice.gov/crt/executive-order-13166>

Dymally-Alatorre Bilingual Services Act of California

The Dymally–Alatorre Bilingual Services Act (California Government Code Section 7290 et. Seq.) was signed into law in 1973, to eliminate language barriers that preclude people of our State, who either because they do not speak or write English or because their primary language is other than English, from having equal access to public services. This Act mandates that State and local agencies directly involved in the furnishing of information or the rendering of services to the public must in specifically prescribed situations employ a sufficient number of qualified bilingual persons in public contact positions to ensure the provision of information and services to the public in the language of the non-English speaking people.

<http://www.bsa.ca.gov/pdfs/reports/99110.pdf>

Cultural and Linguistic Competence

Center for Effective Collaboration and Practice

It is the mission of the Center for Effective Collaboration and Practice to support and promote a reoriented national preparedness to foster the development and the adjustment of children with

or at risk of developing serious emotional disturbance. To achieve that goal, the Center is dedicated to a policy of collaboration at Federal, state, and local levels that contributes to and facilitates the production, exchange, and use of knowledge about effective practices.

<http://cecp.air.org/>

National Center for Cultural Competence (NCCC)

The mission of the National Center for Cultural Competence (NCCC) is to increase the capacity of health and mental health programs to design, implement, and evaluate culturally and linguistically competent service delivery systems to address growing diversity, persistent disparities, and to promote health and mental health equity.

<http://nccc.georgetown.edu/index.html>

Limited English Proficiency (LEP)

Limited English Proficiency promotes a positive and cooperative understanding of the importance of language access to federally conducted and federally assisted programs. This site acts as a clearinghouse, providing and linking to information, tools, and technical assistance regarding limited English proficiency and language services for federal agencies, recipients of federal funds, users of federal programs and federally assisted programs, and other stakeholders. <http://www.lep.gov/>

DiversityRx

The purpose of DiversityRx is to improve the accessibility and quality of health care for minority, immigrant, and indigenous communities. We support those who develop and provide health services that are responsive to the cultural and linguistic differences presented by diverse populations. <http://www.diversityrx.org>

National Alliance for Hispanic Health

Mission is to improve the health and well being of Hispanics. The Alliance informs consumers, supports health and human service providers in the delivery of quality care, improves the science base for accurate decision making by promoting better and more inclusive research, promotes appropriate use of technology, insures accountability, advocates on behalf of Hispanics, and promotes philanthropy. <http://www.hispanichealth.org/>

National Center on Minority Health and Health Disparities

The mission is to promote minority health and to lead, coordinate, support, and assess the NIH effort to reduce and eliminate health disparities. NCMHD will conduct and support basic, clinical, social, and behavioral research, promote research infrastructure and training, foster emerging programs, disseminate information, and reach out to minority and other health disparity communities. <http://www.nih.gov/about/almanac/organization/NCMHD.htm>

National Council on Interpreting in Health Care

A multidisciplinary organization based in the United States whose mission is to promote culturally competent professional health care interpreting as a means to support equal access to health care for individuals with limited English proficiency. <http://www.ncihc.org/>

Think Cultural Health

The goal of Think Cultural Health is to Advance Health Equity at Every Point of Contact through the development and promotion of culturally and linguistically appropriate services. Think Cultural Health provides continuing education programs that are designed to help individuals at all levels and in all disciplines promote health and health equity.

<https://www.thinkculturalhealth.hhs.gov/content/continuinged.asp>

Cultural Guides and Assessment Tools

The Provider's Guide to Quality & Culture (not a U.S Website)

The quality of the patient-provider interaction has a profound impact on the ability of patients to communicate symptoms to their provider and to adhere to recommended treatment. It also has an impact on the patient's feelings about being respected (or disrespected) as an individual, a member of a family, and a member of a cultural group.

Cultural competence begins with an honest desire not to allow biases to keep us from treating every individual with respect. It requires an honest assessment of our positive and negative assumptions about others. An organization can help its health care professionals begin to gain cultural competence through formal training, but for most people cultural competence takes consistent individual practice over time.

<http://erc.msh.org/mainpage.cfm?file=4.0.htm&module=provider&language=English&ggroup=&mgroup=>

Guide to Culturally Competent Health Care

Be prepared for the culturally rich and diverse world of healthcare. This concise, easy-to read handbook prepares you to relate to individuals from different cultures. This guide explores 34 different cultures and the issues to be sensitive to; including cultural variations regarding personal space, dietary preferences, communication, symptom management, activities of daily living, and religious and health practices.

<http://site.ebrary.com/lib/uscisd/reader.action?docID=10865357&ppg=1>

Assessing Change: Evaluating Cultural Competence Education and Training

The AAMC commissioned an expert panel to review cultural competence studies that measured learner changes in attitudes, knowledge, and skills. This guide, which is based on the panel's findings, provides these resources for educators and researchers an inventory of the research studies that assess the outcomes of cultural competence education and training, four recommended strategies to advance the research and evaluation, a Cultural Competence Assessment Tool Checklist, along with a guide to using the tool, to help educators and research measure facets of cultural competence in published assessment tools and an overview of three evaluation approaches for curriculum development and evaluation. [Assessing Change: Evaluating Cultural Competence Education and Training](#)

AAMC Tool for Assessing Cultural Competence Training

With increasing diversity in the U.S. population and strong evidence of disparities in health care, it is critically important that health care professionals are specifically educated on how their own and their patients' demographic (e.g., gender, income, race and ethnicity, etc.) and cultural (e.g., language, religion, etc.) factors influence health, health care delivery and health behaviors. In 2000, the Liaison Committee on Medical Education (LCME) introduced two standards about cultural competence that inspired medical schools to introduce cultural competence education into the undergraduate curriculum. TACCT will help in that effort.

TACCT is a self-administered assessment tool that can be used by medical schools to examine all components of the entire medical school curriculum. TACCT enables schools to identify gaps and redundancies in their curricula, which will enable schools to make the best use of opportunities and resources. The TACCT can be used for both traditional and problem-based curricula.

[Tool for Assessing Cultural Competence Training \(TACCT\) - PDF Version](#)

Health Disparities

AMA Racial/Ethnic Health Care Disparities

Recent studies have shown that despite the steady improvements in the overall health of the United States, racial and ethnic minorities experience a lower quality of health services and are less likely to receive routine medical procedures and have higher rates of morbidity and mortality than non-minorities. Disparities in health care exist even when controlling for gender, condition, age and socio-economic status. The American Medical Association provides links for activities to eliminate health disparities, commission to end health care disparities, and research finding and recommendations. As well as an inspirational program for new generation of physicians called Doctors Back to School. <http://www.ama-assn.org/ama/pub/physician-resources/public-health/eliminating-health-disparities.page>

Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care

The Institute of Medicine researched the extent of disparities in the types and quality of health services received by U.S. racial and ethnic minorities and non-minorities; explore factors that may contribute to inequities in care; and recommend policies and practices to eliminate these inequities. The report from that study, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, found that a consistent body of research demonstrates significant variation in the rates of medical procedures by race, even when insurance status, income, age, and severity of conditions are comparable. [IOM Treatment](#)

OMH Minority Population Health Statistics

The Office of Minority Health is dedicated to improving the health of racial and ethnic minority populations through the development of health policies and programs that will help eliminate health disparities. Supported by the U.S. Department of Health and Human Services, OMH provides detailed demographic, language fluency (where relevant), education, economic, insurance coverage and health status information, as well as full census reports on Black/African American Health, American Indian/Alaskan Native Health, Asian American Health, Hispanic/Latino Health and Native Hawaiian & Pacific Islander Health.

[OMH Minority Population Health Statistics](#)

CDC Race & Ethnic Minority Populations and Health Disparities & Inequalities Report 2013

Centers for Disease Control and Prevention's Office of Minority Health and Health Equity (OMHHE) mission is to advance health equity and women's health issues across the nation through CDC's science and programs, and increase CDC's capacity to leverage its diverse workforce and engage stakeholders toward this end. Goals are in health equity, women's health, diversity & inclusion, organizational capacity. Plus visions of a world where all people have the opportunity to attain the best health possible.

<http://www.cdc.gov/minorityhealth/populations.html>

[CDC Health Disparities and Inequalities Report – United States, 2013](#)

HHS Action Plan to Reduce Racial and Ethnic Health Disparities

The *HHS Action Plan to Reduce Racial and Ethnic Health Disparities* outlines goals and actions HHS will take to reduce health disparities among racial and ethnic minorities. With the HHS Disparities Action Plan, the Department commits to continuously assessing the impact of all policies and programs on racial and ethnic health disparities. It will promote integrated approaches, evidence-based programs and best practices to reduce these disparities. The HHS Action Plan builds on the strong foundation of the Affordable Care Act and is aligned with programs and initiatives such as Healthy People 2020, the First Lady's *Let's Move* initiative and the President's National HIV/AIDS Strategy.

[HHS Action Plan to Reduce Racial and Ethnic Health Disparities](#)

Cultural Knowledge/ Language – Specific Sites

Ethnomed

EthnoMed contains information about cultural beliefs, medical issues and related topics pertinent to the health care of immigrants to Seattle or the US, many of whom are refugees fleeing war-torn parts of the world. <http://ethnomed.org/ethnomed>

The Cross Cultural Health Care Program

The mission of The Cross Cultural Health Care Program is to serve as a bridge between communities and health care institutions to advance access to quality health care that is culturally and linguistically appropriate. We provide resources and training for individuals and institutions with the goal of systems change and a vision that *Healthcare in every Community, every Community in Healthcare*. <http://xculture.org/>

Black/African American Health

Traditional Beliefs: Cultural Competency

http://etl2.library.musc.edu/cultural/traditional/traditional_2.php

OMH Minority Populations: African American Profile

<http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=61>

American Indian/Alaska Native/Native Hawaii

Alaska Native Knowledge Network

ANKN is a resource for compiling and exchanging information related to Alaska Native knowledge systems and ways of knowing. ANKN creates and distributes a variety of publications that assist Native people, government agencies, educators and the general public in gaining access to the knowledge base that Alaska Natives have acquired through cumulative experience over millennia.

<http://www.ankn.uaf.edu/Publications/Knowledge.html>

OMH Minority Populations: American Indian/Alaska Native Profile

<http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=62>

Asian American/Pacific Islander

Provider's Guide to Quality & Culture Asian American and Pacific Islander Seminars (Not a US Government web site) <http://erc.msh.org/aapi/index.html>

OMH Minority Populations: Asian American Profile

<http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=63>

OMH Minority Populations: Native Hawaiians and Pacific Islanders

<http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=65>

Hispanic/Latino/Spanish

USA-Mexico Border Health Cultural Competency Page (HRSA grantee Web site)

<https://www.raconline.org/topics/border-health?topic=cultural%20competency>

The Provider's Guide to Quality and Culture

Designed to assist healthcare organizations throughout the United States in providing high quality, culturally competent services to multi-ethnic populations.

Sponsoring organization: Health Resources and Services Administration.

<http://erc.msh.org/mainpage.cfm?file=1.0.htm&module=provider&language=English>

Traditional Beliefs: Cultural Competency

http://etl2.library.musc.edu/cultural/traditional/traditional_12.php

Hablamos Juntos: Basic Building Blocks of Translation

http://www.hablamosjuntos.org/sm/default.translation_basics.asp

Hablamos Juntos: Interpreter Services

<http://www.hablamosjuntos.org/is/default.index.asp>

Quality & Culture Topic: Working with an Interpreter

<http://erc.msh.org/mainpage.cfm?file=4.5.0.htm&module=provider&language=English>

Quality & Culture Topic: Non-Verbal Communication

<http://erc.msh.org/mainpage.cfm?file=4.6.0.htm&module=provider&language=English>

Legal Mandates for Interpreter Services

http://etl2.library.musc.edu/cultural/interpreters/interpreters_3.php