Innovations in Medical Education
Transforming Health Professions Education through Innovation

Friday and Saturday, February 23 and 24, 2018

Hilton San Gabriel
225 West Valley Boulevard
San Gabriel, California, CA 91776

Presented by: Department of Medical Education and USC Office of Continuing Medical Education
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## IME 2018 Conference Schedule
Friday-Saturday, February 23-24, 2018

### FRIDAY, FEBRUARY 23, 2018

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:30 am - 9 am</td>
<td>Registration and Continental Breakfast (Pre-Conference Session only) – Foyer</td>
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<tr>
<td>9 am - 11:30 am</td>
<td><strong>PRE-CONFERENCE WORKSHOP (Fee: $40)</strong></td>
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<tr>
<td></td>
<td><strong>A Toolbox for Teaching Empathy to Millennials</strong></td>
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<td></td>
<td><em>Dale Vincent, MD, Program Director [1]; Jessica L. Bunin, MD, Associate Program Director [1]; Holly Olson, MD [2]; Judy Vincent, MD</em></td>
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<tr>
<td></td>
<td>1) Tripler Army Medical Center, HI; 2) University of Hawaii John A. Burns School of Medicine</td>
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<td></td>
<td>This workshop will introduce participants to a new lexicon for empathy and give you a toolbox you can use to teach learners how to quickly establish empathic relationships. Surveys indicate that medical students wish they were taught more about empathy. Approximately 20% of employers in the US now offer empathy training, and healthcare institutions like to hire empathetic providers because they have higher patient satisfaction scores. Some people seem to be naturally empathic, and others not. Social science research suggests that there has been a fall in empathy among millennials. How good would you be at describing empathy to a group of learners, and giving them some tools to quickly establish an empathic relationship? We can help you!</td>
<td>San Francisco Conference Room</td>
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<tr>
<td>10:15 am - 11:30 am</td>
<td>Registration and Lunch – Foyer</td>
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<tr>
<td>11:30 am - 11:45 am</td>
<td><strong>WELCOME</strong></td>
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<td><em>Conference Chair: Julie Nyquist, PhD; Conference Co-Chair: Cha-Chi Fung, PhD</em></td>
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<tr>
<td>11:45 am - 12:45 pm</td>
<td><strong>IME 2018 KEYNOTE ADDRESS</strong></td>
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<td></td>
<td><em>The Positive Power of Resiliency – Making Successful Healthcare Providers Even More Successful</em></td>
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<td></td>
<td><em>Karen Garman, EdD, MAPP, PCC</em></td>
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<td></td>
<td>Regional Director, Graduate Medical Education, Kaiser Permanente Southern California; Managing Consultant, Healthcare Education, Leadership &amp; Performance</td>
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<tr>
<td></td>
<td>By the end of the session, healthcare providers will be able to:</td>
<td></td>
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<tr>
<td></td>
<td>• Identify the three major components of resiliency</td>
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<td></td>
<td>• Describe the difference between grit and resiliency</td>
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<td></td>
<td>• Begin to build their resiliency through the mindset of awareness and engagement</td>
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<td></td>
<td>• Plan five ways to develop a growth mindset using resiliency and grit</td>
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<td><em>Ballroom B2-C</em></td>
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<tr>
<td>Time</td>
<td>Ballroom B2-C</td>
<td>Santa Barbara Conference Room</td>
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<tr>
<td>12:45 pm - 1 pm</td>
<td><strong>Break</strong></td>
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</table>
| 1 pm - 2:30 pm | **Presentations of Innovations: Graduate Medical Education**  
Moderator: Yuya Hagiwara, MD, MACM  
1. Take Two: Matching the PGY1 Resident without a PGY2 Position. Diez, Caroline  
2. Perceptions of Wellbeing Across Sources: Towards a Better Understanding. Scielzo, Shannon A.; Weigle, David C.  
3. The Teaching Handoff: A Better Way to Evaluate, Assess and Give Feedback to Residents. McAlister, Rebecca  
Dixie Fisher, PhD; Gail Rice, PhD  
Why lecture? The traditional lecture pours content from the lectern of the teacher to the notebooks of the learner, without either the learner or the lecturer knowing whether the material is understood or remembered until exam day. This workshop will provide an empowering lecture format that greatly improves student learning during the lecture, and also makes lecturing more enjoyable for the faculty member. | **Conference Workshop: The Art of Communication: Tips and Tricks for Teaching and Assessing Patient-Centered Communication**  
Allyson McDermott; Melanie Rudnick; Kira Molas-Torreblanca; Grant Christian; Rajesh R. Donthi; Jennifer Maniscalco  
Have you ever witnessed a learner struggle to find the right words to ensure a patient understands, or evaluated a student as “nice”? In this workshop, we will provide you with tools to teach and assess patient-centered communication skills in any level of learner. In small group activities, you will practice using these tools to teach what to say and how to say it, to evaluate communication skills more objectively, and learn how to integrate these tools into your daily clinical practice. | **Conference Workshop: Interprofessional Education Using Narrative Medicine in a Context of Aging and End of Life**  
Mark Nathanson; Nelly Edmondson Gupta  
This workshop merges topics in Interprofessional education and narrative medicine techniques of close readings and shared writing assignments of poetry, short stories and use of video materials using aging and end of life topics as a framework to educate and develop relationships in the care and treatment of multidisciplinary teams. The workshop emphasizes contributions of Narrative Medicine methods to the development of trusting interprofessional learning and better clinical understanding. |
| 2:30 pm - 2:45 pm | **Break**    |                               |                               |                            |
| 2:45 pm - 4:15 pm | **Presentations of Innovations: Undergraduate Medical Education**  
Moderator: Cynthia DeTata, MD, MACM  
1. Clinical Distinction: A Learner Centered 3rd Year Course to | **FIME Certificate Workshop: Item-Writing Made Easier**  
Cha-Chi Fung, PhD  
This hands-on workshop will use clinical vignettes and practical examples to | **Conference Workshop: You had me at 3D: An Innovative Low Budget Hands-On Workshop**  
Dylan Denault; Mohammad Khan; Victoria Lee;  
**Special Poster Session: Wellbeing, Culture, Community, and Communication Skills**  
Moderator: Maureen Strohm, MD |
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Description</th>
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<td>induce participants’ deeper understanding of the construction of good exam item that adheres to the standards established by the National Board of Medical Examiners (NBME).</td>
<td>Melissa Russell; Chaya Prasad Join us on our journey from the physical to the virtual as we go from gross pathology specimen to an accurate, transportable virtual 3D image with just your laptop and cell phone. The Digital Age has ushered in a new era of collaborative, technology savvy students looking for ways to learn more efficiently. We’ll give you the tools to facilitate their independent learning and show you how to give them on demand access to innovative learning material. Bring your phone and be part of the magic.</td>
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**4:15 pm - 4:30 pm**  
**Snack (Foyer) and Poster Set-Up**

**4:30 pm - 6 pm**  
**LARGE POSTER SESSION 1 AND FRIDAY AWARDS**  
These two poster sessions organize posters by topics to facilitate attendees’ journey throughout the room: cool ideas, exemplar curricula, works in progress, and completed studies. The topics are arranged alphabetically with the first half in the session on Friday and the second portion in the session on Saturday.  
*Ballroom A-B1*

**SATURDAY, FEBRUARY 24, 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Moderator</th>
<th>Presentations</th>
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<tbody>
<tr>
<td>7:30 am - 8 am</td>
<td>Registration and Continental Breakfast – Foyer</td>
<td>Foyer</td>
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| 8 am - 9:30 am | **Ballroom C**  
Presentations of Innovations: Communication, Culture, and Professional Development  
**Moderator:** Kathleen Besinque, MD  
1. Bad News or Life Altering Diagnoses? Julie Nyquist, PhD; Cynthia DeTata, MD, MACM | San Diego Conference Room       | Conference Workshop: Medical Improv – Enhancing Clinicians’ Communication Through Play  
Anees Benferhat; Elaina DellaCava |  
**Santa Barbara Conference Room**  
FIME Certificate Workshop: Motivation and Learning in Clinical Settings – Mindset, Modeling and Engagement  
Julie Nyquist, PhD; Cynthia DeTata, MD, MACM | San Francisco Conference Room | Curricular Exemplars  
**Moderator:** Win May, MD, PhD  
1. Facilitating Student Pharmacists’ Personal and Professional Development in a 3-Year Course Series. Truong, Julie. |
| Learners in clinical settings often appear to lack motivation to learn or can lose motivation across time. Low motivation can interfere with learning and performance. This interactive workshop focuses on what you, as the clinical instructor can do to better influence “what the learner does to learn.” You will get helpful hints and have time to practice them. | Come discover through play how improv uses the same skills needed in clinical encounters, e.g. adaptability, listening skills, creativity, and emotional intelligence. We will use the same exercises already used to teach medical students at the Albert Einstein College of Medicine. Discussion will focus on skill building and applications in education. All participants welcome. A handout will be provided to empower motivated participants to teach at least one exercise at their home institutions. |

| 9:30 am - 9:45 am | Break |

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<tr>
<th>Ballroom C</th>
<th>Santa Barbara Conference Room</th>
<th>San Francisco Conference Room</th>
<th>San Diego Conference Room</th>
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</thead>
<tbody>
<tr>
<td>Moderator: Maurice Clifton, MD, MSEd</td>
<td>Win May, MD, PhD; Dixie Fisher, PhD</td>
<td>Nicole Koethner; Larissa Hul-Galasek; Ken Saffier</td>
<td>Joan Noelker; Kristin Koehn</td>
</tr>
<tr>
<td>1. Educational Course to Improve Sleep and Well-Being in Students at Bravo Medical. Colt, Alexandra.</td>
<td>Participants attending the workshop will be able to recognize that there are different theoretical model of emotional intelligence (EI). They will discuss how differences in EI can affect outcomes through example in academia, an intentionally use emotional intelligence abilities when interacting with others.</td>
<td>Expressive arts exercises are offered to staff at retreats and department meetings to explore how we can reconnect with our senses and feelings to become more centered and sensitive to our and our patients’ needs. In this interactive workshop we include movement, poetry, music, drawing and writing to foster innovative thinking, reflection, collaboration,</td>
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<td>2. Creation of a Cancer Survivorship Curriculum for Pediatric Resident Physicians. Schwartz, Lindsay.</td>
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<td>This workshop session is designed for junior level faculty members interested in demystifying the promotions process and clinical educator's portfolio (CEP). We will be utilizing a combination of interactive elements including didactics and small and large group exercises. Your individual curriculum vitae will be converted into a CEP draft framework that can be used to critically assess academic efforts and</td>
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<tr>
<td>3. Predicting Medical Student Self-Reliance in Three-Year Medical Degree Programs. Treat, Robert.</td>
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<td>4. Rising M-1 Medical Student Anxiety: Six Years Later with a New Curriculum and Generation of Students. Treat, Robert.</td>
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5. Sling Health:
Bringing Biomedical Entrepreneurship to Medical Education.
Morrison, Alexander; Appukutty, Abhinav.

We will explore the learning principles illustrated by these experiential exercises that can enhance our teaching.

promote timeline as well as the first step to a completed CEP.

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<tr>
<th>Time</th>
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<tr>
<td>11:15 am - 11:30 am</td>
<td>Lunch (Foyer) and Poster Set-Up (Ballroom A-B)</td>
</tr>
<tr>
<td>11:30 am - 1:00 pm</td>
<td><strong>LARGE POSTER SESSION 2 AND SATURDAY AWARDS</strong></td>
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<td>These two poster sessions organize posters by topics to facilitate attendees’ journey throughout the room: cool ideas, exemplar curricula, works in progress, and completed studies. The topics are arranged alphabetically with the first half in the session on Friday and the second portion in the session on Saturday.</td>
</tr>
<tr>
<td></td>
<td><strong>Ballroom A-B</strong></td>
</tr>
<tr>
<td>1:00 pm - 1:15 pm</td>
<td>Break</td>
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</tbody>
</table>
| 1:15 pm - 2:45 pm | **Ballroom C**               **Santa Barbara Conference Room**    **San Francisco Conference Room**   **San Diego Conference Room**   **Conference Workshop:** “Is that your final answer?” How to Develop, Implement, and Tailor an Exciting Game Show Program
 | Presentations of the Best of Cool Ideas: Undergraduate Medical Education | ACIME Certificate Workshop: Situational Leadership | Conference Workshop: Care for the Educator: Faculty Wellbeing and Vitality | Erica Chou; Sara Lauck |
| Moderator: Shara Steiner, DO, MACM | Samuel Yanofsky, MD, MEd; Julie Nyquist, PhD | Jeffrey Ring | Through playing games such as Family Feud®, Cranium®, Minute to Win It®, and more, we will share our game show teaching expertise that is a veritable “wheel of fortune.” This workshop aims to provide you with the skills and excitement to design and implement your own game show sessions. And that is our “final answer.” |
| 1. From Civilian to Physician: Professional Identity Formation of Medical Students in the 21st Century. Collins, Sarah; Abraham, Reeni. | Effective leaders adapt their leadership style to the needs of their followers. Learn how to diagnose “follower” readiness and select the style of leadership that matches each stage. Enjoy the discussion and games as you learn how to better lead your “followers.” |
| 2. Merit Badges: A Para-curriculum to Develop In-Depth Clinical Skills during Medical School. Tawfik, Huda. | | This interactive and participatory workshop will explore the components of medical educator vitality as well as potential threats to wellness and life balance. More specifically, participants will explore the dimensions of meaning, mindfulness, healthy collaboration and cynicism reduction. Activities will incorporate humanities, self-reflection and mindfulness approaches. |
| 3. Caring for Children with Medical Complexities; An Introductory Curriculum for Medical Students. Barqadle, Fatuma. | | | |
| 5. Telemedicine Clinic for Medical Students during Neurology Clerkship: The present | | | |
2:45 pm - 3 pm  |  Break  
---|---
**Ballroom C**  
Presentations of the Best of Cool Ideas: Graduate Medical Education  
*Moderator: Julie Nyquist, PhD*

1. **S.A.L.T. (Situation Awareness Leadership Teamwork) Training for Pediatric Residents.** Ostrom, Kathleen.  
2. **Using Interactive Fiction to Teach Pediatric Residents about Child Abuse.** Christman, Grant.  
4. **Working Together: An interprofessional Objective Structured Clinical Encounter (iOSCE).** Milanes, Liana.  
5. **A Longitudinal, Systems-Focused Morbidity and Mortality Curriculum for Emergency Medicine Residents.** Zarzar, Rochelle.

Santa Barbara Conference Room  
**ACIME Certificate Workshop: Qualitative Data Analysis: An Introduction**  
*Anne Vo, PhD*

This hands-on workshop offers participants an opportunity to practice analyzing qualitative data that are collected using surveys. Activities will be integrated throughout the session to build participants’ analytic tool kit. Practice data will be provided. Participants need to bring a laptop or mobile device with MS Excel preinstalled.

San Francisco Conference Room  
**Conference Workshop: How to Effectively Teach Team Building in Medicine: A Hands On, Evidence Based Model**  
*Anmu Vijay; Paul Alvarez; Laura Derry; Katie Zurales*

Physicians are automatically leaders of their teams, but medical school curricula are lacking in ways to teach skills related to team building and leadership. This workshop will use fun, easy activities to effectively build leadership attitudes and skills as it relates to team building. Participants will leave with an evidence-based model for team development and a concrete method to improve team building skills for their home institutions.

San Diego Conference Room  
**Discussion: Breaking Barriers to Advancement and Promotion of Women in Medicine**  
*Kimberly Pierre, DM; Shara Steiner, DO*

This facilitator-led open discussion will explore both the barriers and successful strategies used to attract, retain, and promote women in academic medicine. The session is designed for participants at all levels of experience within academic medicine who wish to appreciate and share personal narratives as well as brainstorm proactive, growth mindset-focused strategies to further the advancement and parity of women in medicine. The ultimate goal of this open discussion is to identify a generalizable set of best practices that can be implemented by women in academic medicine.

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For more information, visit keck.usc.edu/medical-education/ime-conference-2018/

FIME = Fundamentals in Medical Education; ACIME = Advanced Concepts in Medical Education  
(Attendance at 6 FIME or 6 ACIME workshops over up to three years leads to a conference certificate.)

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.

PRE-CONFERENCE WORKSHOP CREDIT DESIGNATION: The Keck School of Medicine of the University of Southern California designates this live activity for a maximum of 2.5 AMA PRA Category 1 Credits™. Physicians should claim only the credits commensurate with the extent of their participation in the activity.

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 13.5 AMA PRA Category 1 Credits™. Physicians should claim only the credits commensurate with the extent of their participation in the activity.
Keynote Speaker

Karen Garman, EdD, MAPP, PCC, is currently the regional director for graduate medical education for Kaiser Permanente Southern California responsible for the well-being of over 400 residents in 33 programs in ten Southern California medical centers. She is also the medical education consultant for the newly started Kaiser Permanente School of Medicine slated to open in September 2019. Dr. Garman has a doctorate from the University of Southern California in medical education, a masters in positive psychology from the University of Pennsylvania, and has over 35 years of experience in the delivery of a variety of professional development training programs to public and private healthcare organizations. As one of the few specialists in positive psychology and healthcare, she recently was the co-director of a NIH consortium of sixteen academic medical centers around the country that are currently addressing the cultural changes and interprofessional education that are required to positively implement professional change as part of the country’s ever changing healthcare systems. She is also a certified physician coach, and professionally coaches physicians on how to become better leaders, and clinicians at the local, state and national healthcare levels. Her goal is to help organizations invest in the well-being of all healthcare professionals by making successful practitioners more successful.
The Positive Power of Resiliency –
Making Successful Healthcare Providers Even More Successful

Friday, February 23, 2018 • 11:45 am – 12:45 pm

Karen Garman, EdD, MAPP, PCC
Regional Director, Graduate Medical Education, Kaiser Permanente Southern California; Managing Consultant, Healthcare Education, Leadership & Performance

Why do we care about resilience in physician education today? With physician burnout at 54.4 nationwide, according to the most recent Mayo Clinic study on burnout in specialties, the medical world needs solutions now. Resilience combats emotional exhaustion and negative job stress — main factors predicting burnout. Resilience will never change external stressors, but it allows us to move on despite real or apparent difficulties. Resilience allows us to look at stressors as a challenge rather as an immobilizing threat and resilient people are better able to successfully identify and access social, psychological, and physical resources that help sustain their well-being.

Through the science of positive psychology, we have learned that resiliency is a skill set that can be learned and cultivated. In coaching physicians how to be more resilient, the power comes in their new found self-awareness and being able to be aware of a situation, recognize that setbacks are part of their career, identify as a survivor rather than a victim, embrace change, and nurture themselves, by taking time to work on their personal skills. This presentation will outline how to begin that work and why.

By the end of the session, healthcare providers will be able to:

- Identify the three major components of resiliency
- Describe the difference between grit and resiliency
- Begin to build their resiliency through the mindset of awareness and engagement
- Plan five ways to develop a growth mindset using resiliency and grit
Welcome to the 2018 Innovations in Medical Education Conference

The USC Registration Desk will be located in the San Gabriel Ballroom foyer. The registration desk is open all day starting at 8:30 am on Friday, February 23, 2018 and 7:30 am on Saturday, February 24, 2018.

Continental breakfast is provided on Friday, February 23rd in the San Gabriel Ballroom Foyer for Pre-Conference Workshop attendees only.

Lunch is provided on Friday, February 23rd in the San Gabriel Ballroom Foyer.

Continental breakfast and lunch are also provided on Saturday, February 24th in the San Gabriel Ballroom Foyer for all registered attendees.

For those attendees who have paid the additional fee for CME Credit for this conference, an email will be sent the week following the conference with instructions to complete your CME evaluation form and print your CME certificate.

A course evaluation questionnaire is provided at each session that we would appreciate you completing prior to your departure. This will help us plan future meetings.

Please place cell phones and beepers on vibrate and take any calls outside the meeting room.

Guidebook

The 2018 Innovations in Medical Education is offering attendees access to a mobile online guide. We strongly encourage you to download our mobile guide to enhance your experience. You’ll be able to plan your day with a personalized schedule, maps and general event info. On your smart device, download the Guidebook Inc. app using your Apple App Store or Android Marketplace. Once Guidebook Inc. is downloaded, click on passphrase. Once the passphrase box appears on the screen, enter the passphrase code 2018inno to access the guide. In addition to the native mobile app, your guide is also available through any modern web/mobile browser at http://guidebook.com/guide/122387. Enter passphrase code 2018inno to view online.
Acknowledges Exhibit Support for the 2018 Innovations in Medical Education Conference

Cardinal Level
U.S. Navy
The Keck School of Medicine of USC takes responsibility for the content, quality and scientific integrity of this CME activity.

As part of the new commercial guidelines, we are required to disclose any real or apparent commercial conflict(s) of interest (COI) of all persons in control of educational content for this activity, specifically, but not limited to: faculty/presenters, CME committee members and/or planners. Any disclosed real or apparent commercial conflict(s) of interest (COI) have been resolved through a conflict resolution process prior to the beginning of this activity.

The Keck School of Medicine further requires that, if applicable, faculty/presenters disclose to the audience their intention to discuss the off label and/or investigational (not yet approved for any purpose) use of pharmaceuticals or medical devices at the beginning of their presentation.

### COURSE DIRECTORS DISCLOSURE

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<thead>
<tr>
<th>Faculty Member</th>
<th>Commercial Interest</th>
<th>Conflict/Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cha Chi Fung, PhD</td>
<td>I do not have any relevant financial relationships with any commercial interests</td>
<td>None</td>
</tr>
<tr>
<td>Julie Nyquist, PhD</td>
<td>I do not have any relevant financial relationships with any commercial interests</td>
<td>None</td>
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### CONFERENCE FACULTY WITH DISCLOSURE

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<th>Faculty Member</th>
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<th>Conflict/Resolution</th>
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<tbody>
<tr>
<td>Jeff Ring, PhD</td>
<td>I am on the speaker’s bureau with Merck Pharmaceuticals</td>
<td>Attestation on File No Conflict Noted</td>
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### CME PLANNERS, MODERATORS, FACULTY & POSTER PRESENTERS

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<tr>
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<th>Commercial Interest</th>
<th>Conflict/Resolution</th>
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<tbody>
<tr>
<td>All CME planners, moderators, workshop &amp; poster presenters</td>
<td>The CME planners, moderators, workshop and poster presenters have no relevant financial relationships with any commercial interests</td>
<td>None</td>
</tr>
<tr>
<td>Time</td>
<td>Room</td>
<td>Session</td>
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<tr>
<td>9:00 - 11:30 AM</td>
<td>San Francisco</td>
<td>Pre-Conference Workshop</td>
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<tr>
<td>1:00 - 2:30 PM</td>
<td>Ballroom B2-C</td>
<td>Oral Presentations of Innovations</td>
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### Abstracts for Saturday, February 24, 2018

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<td>Ballroom C</td>
<td>Oral Presentations of Innovations</td>
<td>Communication, Culture, and Professional Development</td>
<td>Bad News or Life Altering Diagnoses? A Randomized National Needs Assessment in Canada</td>
<td>Hodgson, Carol S.; Bell, Catherine; Miyasaki, Janis</td>
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<td>Elghafri, Amani; Stewart, Renee; Sampath, Ramya; Kesselheim, Jennifer; Green, Michael K.</td>
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<td>Motivation and Learning in Clinical Settings – Mindset, Modeling and Engagement</td>
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<td>Facilitating student pharmacists’ personal and professional development in a 3-year course series</td>
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<td>Predicting Medical Student Self-Reliance in Three-Year Medical Degree Programs</td>
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<td>Rising M-1 Medical Student Anxiety: Six Years Later with a New Curriculum and Generation of Students</td>
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<td>Phenotype: Crowdsourcing Phenotypic Data for Rare Diseases using Web-Based Classroom Exercises</td>
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<td>Syung Min Jung, MD, FACP, Moshen Saadat, DO, FACP, Pamir Mateen, MD, Palvasha Shah MD</td>
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<td>Promoting Innovation: Enhancing Transdisciplinary Opportunities for Medical and Engineering Students</td>
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<td>Leadership (UME)</td>
<td>Steenbergh, Kylie, BS; Zurales, Katie, BS; Saltzman, Hanna, BA; Plakas, Maria, BS; Pitkin, Julia, BA; Mokshagundam, Shilpa, BS; Thomas, Chris, BS; Tsai, Tony, MBA; Mangruilkar, Rajesh, MD</td>
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<td>Student-Led Conference on Leadership: Challenging the Assumption of the Role of Medical Students</td>
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<td>Zurales, Katie, BS; Saltzman, Hanna, BA; Moryman, Evan, BS; Steenbergh, Kylie, BS; Plakas, Maria, BS; Tsai, Tony, MBA; Mangruilkar, Rajesh, MD</td>
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<td>Meded Impact Challenge: Advancing Leadership through Innovation in Medical Education</td>
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<td>Patient Education (GME)</td>
<td>DyBuncio, Christina; Reid, Jessica; Phung, Kevin</td>
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<td>Patients' Perceived Knowledge of and Interest In Women's Health: A Study to Guide Patient Education</td>
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<td>Professional Development (GME)</td>
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<td>ELEVATE-ing Residents as Teachers Curriculum</td>
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<td>Professional Development: Coaching (GME)</td>
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<td>The Professional Development Coach: A Novel Resource for Assisting Struggling Residents</td>
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<td>Professional Development: Peer Feedback (GME)</td>
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<td>Preparing Medical Students to Teach: The Role of Peer-peer Feedback</td>
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<td>Professionalism (UME)</td>
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<td>Professionalism: How do participants describe the why of a case?</td>
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<td>Professionalism: Ethics (UME)</td>
<td>Merkulova, Yekaterina; Hessburg, John; Stomel, Zev; Powderly, Kathleen</td>
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<td>Quality Improvement (Faculty/Staff Development)</td>
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<td>Don't Drop the Baton – How to Improve Patient Handoff between the Emergency Room and Critical Care</td>
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<td>Health Systems Science in Community Oriented Primary Care (COPC)</td>
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<td>A Needs Assessment to Reduce Childhood Obesity and Increase Compliance with Recommended Management</td>
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<td>Evaluation of Adherence to Guidelines for Pediatric Acute Asthma Management by ED Setting</td>
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<td>Use of Lean Six Sigma (LSS) to Prepare Family Medicine Residents for Practice in the 21st Century</td>
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<td>Quality Improvement (GME)</td>
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<td>Improving the Management of Adults with HTN in Clinic</td>
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<td>A Novel Approach to Increase Housestaff Incident Reporting</td>
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<td>Sala, Feliz; Banuelos, Emilio; Mota, Andrea; Perdomo, Jennifer; Solorzano, Walter; Solis, Joel; Hochman, Michael; Reilly, Jo Marie</td>
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<td>Identifying Barriers and Solutions to Improve Medication Adherence For Latino Underserved Diabetics</td>
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<td>Nieto-Rodriguez, Angelina; Gonzalez, Cesar; Zaks, Camilo, MD; Zamudio, Anthony, PhD; Reilly, Jo Marie, MD</td>
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<td>Diabetes Management Education Effects on Hispanic Patient Outcomes</td>
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<td>Quality Improvement/Patient Safety (GME)</td>
<td>First year resident performance of enhanced contact precautions eight months after hands-on training</td>
<td>Dixon, Lisa R., MD; Meyer, Lynne, PhD; MPH; Stalvey, Carolyn, MD</td>
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<td>Scholarship (GME)</td>
<td>A Stepwise Approach to Increasing Scholarly Activity During Residency</td>
<td>Sigman, Lauren; Tabatabai, Ramin</td>
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<td>Scholarship (GME)</td>
<td>Increasing Interest among Residents in Medical Education. An Informal Approach to Making Change</td>
<td>Messman, Anne; Olsen, Erik; Pearson, Claire</td>
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<td>Scholarship (Pre-Medical Education)</td>
<td>Summer Studentships: Who with, How many, and When?</td>
<td>Vohra, Mohit; Birkman, Clair; Hodgson, Carol S</td>
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<td>Scholarship (UME)</td>
<td>Mentoring Medical Students in Obstetrics/Gynecology and Otolaryngology Research: A Novel Program</td>
<td>Diaz, Lucero, BA; Anderson, Mitchell, MS; Poceta, Joanna, BA; Nguyen, Nancy T., MD; Ritterman Weintraub, Miranda L., PhD, MPH; Liang, Jonathan, MD, FARS; Zaritsky, Eve, MD</td>
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<td>Scholarship (UME)</td>
<td>Preparing Medical Student for Participation in Bench Research</td>
<td>Win, Sandra</td>
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<td>Scholarship (UME)</td>
<td>Importance of Longitudinal Scholarly Concentrations within Medical School Curricula</td>
<td>Alvarez, Paul; Vijay, Ammu</td>
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<td>Scholarship (UME)</td>
<td>Librarians Flip Out: Leveraging Librarians’ Skills to Teach Self-Directed Learning Competencies.</td>
<td>Tagge, Natalie; Pierce, Jenny</td>
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<td>Scholarship (UME-Pharmacy)</td>
<td>Bibliographic Coding and Integration of a Librarian into Pharmaceutics Course Content</td>
<td>Chatfield, Amy J.; Romero, Rebecca M.; Folchman-Wagner, Zoë; Haworth, Ian S</td>
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<td>Service Learning (UME)</td>
<td>Proposal for Funded, Summer Service-Learning Opportunities for First-Year University of Southern California Medical Students</td>
<td>Hsiao, Victor; Reilly, Jo Marie</td>
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<td>Simulation (GME)</td>
<td>Developing a 3d Anatomically Realistic Model for Neonatal Chest Tube Insertion</td>
<td>Mele, Patricia; Cavanaugh, Sean; Whiting, Annemarie; Sridhar, Shanthy</td>
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<td>Simulation (GME)</td>
<td>Surgical Mentorship: Does a Focused Mentorship Program Improve Resident Skill Acquisition</td>
<td>Phung, Kevin; Danz, Christina;</td>
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<td>Simulation (GME)</td>
<td>Analysis of Simulated Patient Interviews as a Teaching and Resident Assessment Tool</td>
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<td>Simulation (GME)</td>
<td>Keep it S.I.M.P.L.E.: Simulation in Medical Pediatrics for Learning Enhancement</td>
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<td>Simulation (Pre-Medical Education)</td>
<td>A Curriculum for Personalized Medicine: Cardiac Tissue Engineering on 3D CAD Printed Substrates</td>
<td>Shoji, Ryan; Chavez, Natali; LaBoy, Melony; Tran, Tiffany; Solinap, Valerie; Lyons, Brandon; Ceron-Espinosa, Brian; Aguilar, Marcel; Miller, Justin; James Harber, PhD</td>
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<td>Simulation (UME)</td>
<td>Simulation-Based Training for MSIV Medical Students to Build Skills in Documentation and Coding</td>
<td>Sokol, Kimberly; McCoy, Christopher; Chakravarthy, Bharath; Langdorf, Mark; Lottipour, Shahram; Anderson, Craig</td>
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<td>Skills Training (UME-PA)</td>
<td>Implementation of Training and Skills Competency Assessment for Medical Assistants in an FP Clinic</td>
<td>Lopez, Maria Cynthia; Alvarado, Maritza</td>
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<td>1:15 - 2:45 PM</td>
<td>Ballroom C</td>
<td>Best of Cool Ideas</td>
<td>Undergraduate Medical Education</td>
<td>From Civilian to Physician: Professional Identity Formation of Medical Students in the 21st Century</td>
<td>Collins, Sarah, MBA PhD; Nyquist, Julie, PhD; Abraham, Reeni A., MD</td>
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<td>1:15 - 2:45 PM</td>
<td>Ballroom C</td>
<td>Best of Cool Ideas</td>
<td>Merit Badges: A Para-Curriculum to Develop In-Depth Clinical Skills during Medical School</td>
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<td>Payne, Anthony; Wood, Elena; Pettigrew, David; Tawilk, Huda; Spartz, Helena; Wallach, Paul</td>
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<td>Ballroom C</td>
<td>Best of Cool Ideas</td>
<td>Undergraduate Medical Education</td>
<td>Caring for Children with Medical Complexities; An Introductory Curriculum for Medical Students</td>
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<td>Bargadlé, Fatuma; Gay, Anna; Trost, Margaret</td>
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<td>Ballroom C</td>
<td>Best of Cool Ideas</td>
<td>Undergraduate Medical Education</td>
<td>Community Resources for the Pediatric Clerkship Student: One Case at a Time!</td>
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<td>Best of Cool Ideas</td>
<td>Undergraduate Medical Education</td>
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A Toolbox for Teaching Empathy to Millennials

Vincent, Dale, MD; Vincent, Judy, MD; Bunin, Jessica L., MD; Olson, Holly, MD
[1] Tripler Army Medical Center, HI; [2] University of Hawaii John A. Burns School of Medicine

Workshop Description:
This workshop will introduce participants to a new vocabulary for empathy, and to give participants a toolbox for teaching millennials (and others) how to quickly establish an empathic relationship.

Workshop Rationale:
Surveys indicate that medical students wish they were taught more about empathy. Approximately 20% of employers in the US now offer empathy training, and healthcare institutions like to hire empathetic providers because they have higher patient satisfaction scores. Some people seem to be naturally empathic, and others not. Social science research suggests that there has been a fall in empathy among millennials. If empathy is important, can it be taught? How good would you be at describing empathy to a group of learners, and giving them some tools to quickly establish an empathic relationship?

This workshop will introduce participants to a new lexicon for empathy, and give them a toolbox that they can use to teach learners how to quickly establish empathic relationships.

Learner outcome objectives:
After participating in this workshop, participants will be able to:
1) Use four metaphors to describe an empathic relationship.
2) Remember two simple scripts (four words total!) that can quickly establish an empathic relationship.
3) Discuss empathic care, empathic distress, and empathic joy.
4) Describe the pros and cons of empathy in a healthcare setting: its relationship to compassion, justice, and burnout.
5) Be familiar with recent research in tele-empathy, and the neurobiological basis of empathy.

Intended workshop participants:
Program Directors and Key Faculty
Medical Educators
Healthcare providers and students

Activity Timeline:
• Introduction (5 minutes)
• Group Polling using Poll Everywhere (10 minutes). How important is empathy to healthcare professionals? Can it be taught? Can it be taught by non-experts? [participants will use SMS polling from their laptops or mobile devices]
• Trigger Video (5 minutes). Participants will watch a silent movie designed to elicit empathy in observers, in preparation for the small group activity.
• Small group activity (20 minutes): Participants will use Empathy Cards to initiate conversations using seven empathy archetypes.
• Trigger video (5 minutes). Participants will watch a short video clip that highlights a simple three-word script that can quickly establish empathy.
• Mini-lecture (15 minutes). Workshop facilitators will discuss empathic distress, empathic care, and empathic joy. They will also show examples of empathy in the animal kingdom, the role of empathy in pain management, and the results of empathy research using fMRI.
• Large Group Discussion (15 minutes). Participants will be asked to give examples from their own experience of exercises and settings in which they have successfully taught empathy, using techniques such as role play, medical theater, and art appreciation.
• Commitment to action (10 minutes). Facilitators will explore ways that participants see themselves using workshop themes and tools in their own academic or clinical settings.
• Workshop evaluation (5 minutes)

Take-home tools:
Annotated bibliography
Empathy scripts
Empathy lexicon
References:
4) Provocations for Applied Empathy. Seed Communications LLC.
The Positive Power of Resiliency –
Making Successful Healthcare Providers Even More Successful
Garman, Karen, EdD, MAPP, PCC
Kaiser Permanente Southern California; Healthcare Education, Leadership & Performance

Workshop Description:
Why do we care about resilience in physician education today? With physician burnout at 54.4 nationwide, according to the most recent Mayo Clinic study on burnout in specialties, the medical world needs solutions now. Resilience combats emotional exhaustion and negative job stress — main factors predicting burnout. Resilience will never change external stressors, but it allows us to move on despite real or apparent difficulties. Resilience allows us to look at stressors as a challenge rather as an immobilizing threat and resilient people are better able to successfully identify and access social, psychological, and physical resources that help sustain their well-being.

Through the science of positive psychology, we have learned that resiliency is a skill set that can be learned and cultivated. In coaching physicians how to be more resilient, the power comes in their new found self-awareness and being able to be aware of a situation, recognize that setbacks are part of their career, identify as a survivor rather than a victim, embrace change, and nurture themselves, by taking time to work on their personal skills. This presentation will outline how to begin that work and why.

Learner outcome objectives:
By the end of the session, healthcare providers will be able to:
1) Identify the three major components of resiliency
2) Describe the difference between grit and resiliency
3) Begin to build their resiliency through the mindset of awareness and engagement
4) Plan five ways to develop a growth mindset using resiliency and grit
Take Two: Matching the PGY1 Resident without a PGY2 Position
Diez, Caroline; Nambudiri, Vinod
Grand Strand Medical Center

Idea/Problem Statement: Unmatched interns pose specific challenges in a second Match. Currently, there are limited resources to help program leadership guide them.

Rationale/Need: Even after participating in the NRMP Main Match and SOAP, increasing numbers of medical students are not able to secure both preliminary and advanced residency positions in the same recruitment cycle. Unmatched interns often turn to their program leadership for assistance. Currently, limited resources exist to help program leadership provide guidance. Our Transitional Year Residency program received initial ACGME approval in January 2016, recruiting our first class within two months. In the first class, 4 of the 12 residents were unmatched for an advanced or categorical position. Unmatched PGY1 residents pose specific challenges to overcome during a second Match process. It was our goal to establish strategies to increase resident interview invitations and ensure a successful match for unmatched residents, while ensuring PGY1 requirements were accomplished and the interns progressed appropriately across the Transitional Year Milestones.

Methods: Early in the year, we met with each intern individually to discuss the original barrier(s) during the initial match cycle; we set specific goals and explored all options with them. We also reviewed the administrative timeline to ensure all PGY1 requirements were met while allowing sufficient time away for interviews. We identified online resources available to unmatched residents. Prior to the ERAS opening date, we worked with each intern to improve and update their applications. The Program Director provided a new letter of recommendation for each intern to validate early successes during the first months of residency. We advocated an early test date for their USMLE/COMLEX Step 3 Exam to demonstrate academic competence. To increase interview invitations, we ensured that the interns remained in contact with their medical schools, away rotation programs, and places where they had conducted research. Program leadership also leveraged personal networks at academic medical centers. We then worked individually on interview preparation and conducted several "mock" interviews. It was important to respond honestly but thoroughly when asked "Why didn’t you match?" or "How has your application improved?" We also encouraged them to attend every pre-interview dinner, particularly when interviewing at smaller institutions. Additionally, regardless of specialty interest we had each resident complete the Internal Medicine In-Training Exam.

Results: Under this plan, we were 100% successful and all four unmatched Transitional Year Residents successfully obtained positions for 2017-2018 academic year. They each opted out of taking a "gap year," which would have been required to accept advanced positions in categorical programs, and they all entered in the NRMP Main Match. All obtained multiple interviews during the re-application process, ranging from 3 to 12 interviews. One resident matched into a PGY1 spot in Family Medicine, one into a PGY1 spot in Emergency Medicine, and two matched into PGY1 spots in Internal Medicine.

Potential Impact/Lessons Learned: As the Graduate Medical Education community struggles to have enough spots for medical school graduates, our approach and focused method can be used to assist Program Leaders in guiding their unmatched PGY1 residents.

References:
Perceptions of Well-being Across Sources: Towards a Better Understanding  
Scielzo, Shannon A.; Weigle, David C.  
University of Texas Southwestern, Department of Internal Medicine/Graduate Medical Education; University of Texas Southwestern, Graduate Medical Education

Idea/Problem Statement: This research seeks to further our understanding of resident well-being assessment, specifically examining the correspondence across sources.

Rationale/Need: Numerous studies have demonstrated that well-being issues in residency are prevalent. Previous meta-analytic research has found that between 20.9 and 43.2% of residents have reported depressive symptoms1. Another study found that 53% of residents indicated well-being issues. However, there are several potential concerns that limit collection of well-being information. For example, length of scales and practicality of administration may be inhibiting factors. Many assessments have costs that may be prohibitive. Concerns regarding perceived negative stigma with self-reporting, coupled with concerns about the psychometrics of given measurements further limit the utility of many assessments2. In an attempt to address these issues, we have created a series of assessments and have been extensively validating and monitoring their effectiveness. For the current effort, we were interested in understanding the similarity of perceptions of faculty, peer, and resident self-reported well-being.

Methods: Over the course of one academic year, we collected weekly self-reports of well-being using a well-being fuel gauge3. We also collected faculty and peer assessments of well-being (per rotation, or self-initiated) and the reports of peers given by residents. The weekly self-reports completely voluntary (with over a 50% response rate average). Faculty and peer well-being items were embedded in the normally distributed performance assessments. This research has been approved by our IRB. Of 163 possible residents in an Internal Medicine program, 127 (78%) agreed to participate. Reports were categorized by week, and faculty or peer reports that were not completed with 1 week of the rotation were discarded (as memory may be limited coupled with well-being changing over time). Reliability was examined with intraclass correlations. We examined within source reliability (e.g., two different peers gave a score within a given week) with ICC(1,2), whereas across source (e.g., faculty and self) was examined with ICC(3,2). The first two scores for a given type in a given week were used to retain larger sample sizes. Hierarchical linear modeling was used to examine the variance accounted for by rotations, week, peer and faculty. Non-responder data was generated by dichotomizing the scale (0 = no response, 1= responded) and also computing the predicted non-responder scores (regression used with rotation and week as predictors). All analyses were conducted in SPSS v.24.

Results: Rater reliability was high for both peer and faculty reports (e.g., two faculty members working with a resident will likely agree on his/her wellbeing). Moreover, self-reports were very consistent within 7 day blocks (due to our indexing method, multiple observations could occur with a week). This suggests that well-being reports are relatively stable (individuals will report similar scores) across up to a week period. We examined reliability across sources, and found that faculty and peer ratings of residents were strongly related. However neither faculty nor peer ratings related to self-ratings. This suggests that despite the reliability of the assessment and the agreement of faculty and peers, individual levels of well-being are not accurately perceived by others (possible confounds of resident self-monitoring behaviors, compensation with skills or personality, etc.). Additional analyses found that the rotations alone accounts for 13% of the variation in self-report scores. Peers within the same rotations shared 30% of variation in their self-reports (so, if one resident is low on a particular rotation, his peers are also likely low). Predicted scores for ‘non-responders’ were compared to their response status (completed/did not complete). There was a significant, but very small, effect for the relation of response/non response and predicted score. Results suggest that non-responders are doing slightly better. *Stats will be provided in presentation/poster.

Potential Impact/Lessons Learned: Faculty and peers make similar inferences when evaluating resident well-being (across and w/i sources). However, these inferences do not relate well to self-reports. Reported well-being within a rotation was also highly related. Much more detail will be discussed in the presentation.

References:
The Teaching Handoff: a better way to evaluate, assess and give feedback to residents
McAlister, Rebecca; Sonn, Tammy; Dufault, Carolyn
Washington University School of Medicine

Idea/Problem Statement: Clinical teaching is often fragmented and largely unplanned. Residents may have unrecognized gaps and redundancies in clinical skill training.

Rationale/Need: Educational literature describes the use of scaffolding by teachers to attain mastery. This occurs primarily in primary and secondary schools with limited use in medical education. Supervising attendings may be unaware of residents’ individual skill levels and relay on expectations by year of training to assign tasks and set performance expectations. Evaluations are completed with limited background using personal experiences of a single attending during their service week. This limits attendings’ ability to provide personalized teaching and scaffolding of residents to the next level of clinical competency. The Accreditation Council for Graduate Medical Education created Milestones as competency-based developmental outcomes reflecting progression throughout residency. This represents a nationally vetted blueprint for resident learning and skill acquisition. We therefore used Milestones to enhance attending teaching and evaluation and provide a more balanced ward learning experience.

Methods: Faculty on the Gynecology service completed a pre-survey then received training on the concept of scaffolding and an electronic Milestone-based teaching handoff evaluation form used for weekly evaluation of each resident. At the beginning of each week of a six week block, the service attending received a notice that they could review resident records. All block attendings could view each resident’s most recent Milestones and all other evaluations in the block. Verbal mid-rotation feedback was given by the service attending in the fourth week. Written evaluations were to be completed at the end of each service week citing specific examples of resident performance and suggested next steps. After approximately one academic year of this intervention, faculty completed a post-survey.

Results: Pre and post surveys were compared. P values were based on the McNemar test. At total of 13 attendings were surveyed twice with 12 and 10 responding. No questions reached statistical significance but trends were seen. Attendings rarely reviewed the residents’ written skill assessments at the beginning of the service week. Review of recent Milestones was less useful than expected but viewing evaluations of prior attendings was as useful as expected. Although attendings’ understanding of clinical examples of Milestones remained the same, they ultimately could more easily recognize examples in residents’ work to assign Milestone levels. In the post survey, fewer attendings reported assuming a resident’s level of competence based on PGY level. Attendings initially underestimated the amount of time needed to give mid-rotation feedback and ultimately fewer than before felt these sessions were worth the time and effort required. The teaching handoff focused their teaching as well as expected and more than expected felt it increased their comfort in giving feedback.

Potential Impact/Lessons Learned: Faculty felt the teaching handoff was helpful but time consuming. They were not committed to reviewing prior assessments at the beginning of the week limiting prospective plans for teaching. The unstructured culture of ward teaching may be resistant to efforts to impose formal educational concepts.
Evaluating the Impact of InterACT: A Longitudinal Integrated Clerkship
Rhee, John Yohan [1]; Joe-Ann Moser [1]; Prioleau, Phoebe [2]; Meah, Yasmin [1]; Gault, Allison [1]
[1] Medical Education, Icahn School of Medicine at Mount Sinai, New York, NY;
[2] University Hospitals Rainbow Babies & Children’s Hospital

Idea/Problem Statement: To determine the impact of InterACT on career choice and patient population served for medical students who have participated in the program.

Rationale/Need: The Interclerkship Ambulatory Care Tract (InterACT) is a multidisciplinary ambulatory care third-year clerkship in which a select group of students apply evidence-based medicine and chronic care model principles to outpatient longitudinal care. Applying for InterACT is a competitive process, and approximately 8 to 12 students are chosen each year. Similar programs nationally have shown an increase in graduates entering PC residencies. (Kost et al, 2014) Though other longitudinal care clerkships have shown improvements in professional performance and satisfaction, few have increased the proportion of students deciding to go into primary care or to work with underserved populations. (Bell et al, 2008)

Methods: A mixed methods questionnaire containing both quantitative and qualitative open-ended questions was developed and distributed to past InterACT participants. Quantitative questions were on a Likert scale from strongly agree to strongly disagree. The survey was sent to alumni who participated in the clerkship from 2009-2016 via SurveyMonkey. Descriptive and thematic analyses from the qualitative responses were performed using a constant comparative approach.

Results: A majority (80%; 49/61) of alumni responded; 10% were medical students, 71% were residents/fellows, and 18% were attendings. Of the 44 physicians who responded, 75% indicated current specialties of pediatrics, family medicine, or internal medicine; with an additional 18% practicing in oby/gyn, psychiatry or emergency medicine. The majority of respondents (89%) reported that they care for patients considered to be medically underserved. A majority (90%; 44) felt that the clerkship greatly impacted how they practice medicine, 69% (34) felt the clerkship impacted their specialty choice, and 80% felt InterACT impacted the population of patients they chose to take care of. Themes from the open-ended questions included importance of the clerkship in confirming choice in PC and working with underserved populations. Respondents highlighted the most important aspects of the clerkship as including a deeper understanding of social-determinants of health, clinical mentorship, and longitudinal patient care. Respondents stressed the importance of an outpatient-intensive rotation in solidifying choice of specialty, and the important role of mentors in their career choice, giving them a PC outlook even when PC was not chosen.

Potential Impact/Lessons Learned: An intensive outpatient longitudinal clerkship with strong PC mentors may impact specialty choice in PC and may be a means to increase the number of future PC physicians or specialists with a PC approach as well as physicians working with underserved populations.

References:
An Integrated Curriculum for Geriatric Medicine and Geriatric Psychiatry Fellows
Scalmati, Alessandra; Malik, Rubina; Ceide, Mirnova; Greenberg, Debra
Albert Einstein College of Medicine, Montefiore Medical Center, Moses campus

Idea/Problem Statement: Though there is a well-documented shortage of geriatric specialists, medicine and psychiatry fellows are not trained in integrated care settings.

Rationale/Need: Integrated care has been proposed as a solution to the problem of shortage of specialists in both geriatrics and behavioral health. Co-locating or integrating specialists in primary care settings can improve health access and outcomes. However, very little has been done to change the way trainees prepare for a changing world where fee for service is unlikely to be their future. Little research is available in the education literature, beside statements of need. A few exceptions exist in the fields of pediatric and mental health. Children and older adults are the two most vulnerable, and often underserved, populations; often affected by comorbid mental illness and substance abuse as well. Poor access to care could be remedied by training a transdisciplinary workforce: fellows working with other specialists, trained as part of multidisciplinary teams, and understand the integration of medical and psychosocial issues as a priority.

Methods: The Divisions of Geriatric Medicine and Geriatric Psychiatry have been providing joint care and training since the inception of their fellowship programs. The clinical supervision is consistent with a transdisciplinary approach. The main goals of our curriculum are: 1. to educate medicine trainees to be competent in screening and managing mental health problems as part of their primary care and consultant roles; and for psychiatry trainees to be competent in treating medically complex patients and to become team consultants; 2. to improve the competence of trainees in interdisciplinary team work. In this model academic, research, and QI projects integrate the two divisions. The trainees of both fellowship alternate presentations at joint sessions: journal club, case conferences, and academic seminars, covering ethics, palliative care and challenging scenarios, with dual mentors. There are shared clinical experiences in inpatient, outpatient (including home visits) and long term care settings with integrated consultation and supervision for trainees, including medical students. Multidisciplinary evaluations are completed on each trainee. In turn, trainees evaluate every session and conference and provide feedback for continuous improvements.

Results: Over the last 30 years we have revised and adjusted multiple components of the training program. Some sessions and conferences were modified in response to trainees' feedback. However, the overall structure of the program and its philosophical underpinning has been to enhance the training in a transdisciplinary approach. We will survey current and past fellows and faculty to inquire about their level of satisfaction with the program, and to assess which component of the training were useful in their professional career. We will ask about the goals of our curriculum which are the focus of our teaching model. The impact on professional identity of our training model is likely mediated by earlier experiences; given that our fellowships are just for one year. However, several of our graduates are part of our faculty, or have taken jobs in an integrated care setting indicating an increased ease with a transdisciplinary approach.

Potential Impact/Lessons Learned: The divisions of Geriatric Medicine and Geriatric Psychiatry have worked collaboratively providing training and clinical care. This model can be replicated and provide valuable training for both geriatric and geriatric psychiatry fellowships.

References:
**Hitting Pause Improves Learning**

Rice, Gail; Fisher, Dixie

*Loma Linda University; Keck School of Medicine of the University of Southern California*

**Workshop Description:** Why lecture? The traditional lecture pours content from the lectern of the teacher to the notebooks of the learner, without either the learner or the lecturer knowing whether the material is understood or remembered until exam day. This workshop will provide an empowering lecture format that greatly improves student learning during the lecture, and also makes lecturing more enjoyable for the faculty member.

**Workshop Rationale:**
Research is providing alternatives to the traditional lecture format that promise deeper student learning. One of these evidence-based alternatives is the deliberate insertion of pauses during the lecture. Pauses help students to reset attention, to clarify and question understanding, and to test their memory of the most important learning points.

**Learner Outcome Objectives:**
By the end of this workshop, participants will be better able to:
1) Describe theory of why lecture pauses improve learning and reduce faculty stress
2) Plan a 50-minute lecture that includes opening, middle, and closing pauses
3) Measure the effectiveness of adding pauses to a lecture

**Intended Participants:**
This session is planned for teaching faculty who would like to design a lecture that 1) engages students during the lecture, 2) improves student retention, and 3) is less stressful for the lecturer to deliver. The workshop will be limited to 48 participants sitting at six round tables in groups of 8 people.

**Methods:**
During this 80-minute workshop, workshop faculty will model the methods taught during the workshop, starting with an opening pause to gain attention. Additional opening pauses will be introduced, along with a template for organizing a typical 50-minute lecture. Additional pause procedures will be introduced during the workshop, as well as theories to support the recommended methods. Participants will be able to analyze pause procedures for supplementing their teaching and will learn how to design evaluation procedures to measure the effect of changing a lecture from didactic to one that includes pauses.

**Take home tool:**
Lecture template and handout with pauses
The Art of Communication:

Tips and Tricks for Teaching and Assessing Patient-Centered Communication

McDermott, Allyson; Rudnick, Melanie; Molas-Torreblanca, Kira; Christman, Grant; Donthi, Rajesh R.; Maniscalco, Jennifer

Children’s Hospital Los Angeles, Keck School of Medicine of the University of Southern California

Workshop Description: Have you ever witnessed a learner struggle to find the right words to ensure a patient understands, or evaluated a student as “nice”? In this workshop, we will provide you with tools to teach and assess patient-centered communication skills in any level of learner. In small-group activities, you will practice using these tools to teach what to say and how to say it, to evaluate communication skills more objectively, and learn how to integrate these tools into your daily clinical practice.

Workshop Rationale:
Clinicians communicate most effectively when given repeated exposure to experiential, interpersonal skills training. Recognizing the importance of good communication in the provision of healthcare, the LCME and ACGME mandate that educational institutions evaluate the interpersonal communication skills of their learners. Historically, this has been difficult to define and objectively evaluate. This workshop provides an opportunity for hands-on practice with patient-centered communication tools that can be easily integrated into daily medical practice to teach and assess these essential skills for learners of all levels of training.

Learner Outcome Objectives:
By the end of the session, participants will be able to:
1) Utilize case examples to teach learners to translate medical jargon into lay-terms
2) Assess patient-provider communication interaction using the teach-back framework
3) Formulate a plan for yourself and to aid learners in approaching difficult conversations using the LEARN-Confirm and STICC models

Intended Participants:
healthcare providers, students, residents, fellows, medical educators

Methods:
Facilitators will be assigned to one of three small-group activities outlined below, providing a focused didactic presentation on the specific topic and instructions for the related activity. Facilitators will guide the group through the activity, utilizing a specific assessment tool for each activity. They will end with a short debrief. Facilitators will then rotate to the next group.

Activity Outline:
• Participants will be provided a written history and physical of a hypothetical patient. The group will work together to translate specific medical jargon into lay terms. Three volunteers will be asked to then simulate a discussion of this patient’s medical condition at the bedside as patient, provider, and evaluator.
• Participants will view a video-taped hypothetical patient-provider interaction and assess the provider using a checklist of teach-back principles. A debrief of the interaction will follow as participants share their perspectives and evaluations with the small-group.
• Participants will be given scenarios of challenging conversations, and will explore the appropriate model of communication to use: LEARN-Confirm or the STICC model. They will then formulate a plan to approach the conversation, and justify their choice of models to the group.

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<td>2-8 minutes</td>
<td>Think-Pair-Share: Challenges in teaching/assessing communication</td>
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<td>9-15 minutes</td>
<td>Overview: Importance of patient-centered communication; milestones; patient outcomes</td>
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<td>Brief didactics: Family Centered Rounds; SOS-REACH evaluation tool</td>
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<td>Activity 1</td>
<td>Translating medical jargon into lay terms; simulate patient presentation at the bedside; assessment form</td>
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<td>36-55 minutes</td>
<td>Brief didactics: Teach-back principles; assessment form</td>
</tr>
<tr>
<td>Activity 2</td>
<td>Patient-provider interaction video; complete teach-back assessment; sample feedback for provider</td>
</tr>
<tr>
<td>56-75 minutes</td>
<td>Brief Didactics: LEARN-Confirm and STICC models of communication</td>
</tr>
<tr>
<td>Activity 3</td>
<td>Review scenario; plan to approach the challenge; justify choice</td>
</tr>
</tbody>
</table>
76-85 minutes  
Large group wrap up; elicit learning points; answer questions
86-90 minutes  
Commitment to act; session evaluation

**Take Home Tools:**
SOS-REACH evaluation form
Teach-back evaluation form
LEARN-Confirm and STICC models of communication
Interprofessional Education Using Narrative Medicine in a Context of Aging and End of Life
Nathanson, Mark; Edmonson Gupta, Nelly
Columbia University, NY

Workshop Description: This workshop merges topics in Interprofessional education and narrative medicine techniques of close readings and shared writing assignments of poetry, short stories and use of video materials using aging and end of life topics as a framework to educate and develop relationships in the care and treatment of multidisciplinary teams. The workshop emphasizes contributions of Narrative Medicine methods to the development of trusting interprofessional learning and better clinical understanding.

Workshop Plan: The core concepts of the program will be outlined and the syllabus of the 14-week course will be reviewed

The workshop opens with Dr. Nathanson introducing himself and discussing the purpose and overview of the workshop, our goals and objectives. The participants introduce themselves, their interest and disciplines and a briefly comment about why they are here. Narrative Medicine is described as a tool to further health professional understanding, cooperation with colleagues and fostering Interprofessional education. 10 minutes

1) Workshop participants are divided into small groups at tables of 4-5 persons of mixed Interprofessional disciplines as available from the registration materials

2) The initial narrative medicine exercise will be a response to this prompt: “Write the story of your name”
   • Participants have 5 minute to complete this exercise by themselves
   • In pairs they act as readers and careful listeners, and then, reverse the process
   • All members of each small group then shares their experience, what is felt like to share and listen
   • Dr. Nathanson reconvenes the large group and leads a discussion focused on the value of sharing intimate stories and acting as a careful listener.
   20 minutes

3) The poem “The Old Fools” by Philip Larkin is the reading for this session.
   • All participants have a copy in their workshop materials. The poem is read aloud twice by 2 volunteers
   • Participants read the poem to themselves five minutes to read through the piece, and participant to read the piece aloud to the group
   • A writing prompt based on the Larkin poem will be given to the group “Write about an old fool that you know “and they will write for 5 minutes. The goal of this is to use the poem as a stimulus to allow each participant to share some personal reactions to the material.
   • The participants will then pair up as listeners and readers and alternate reading their words to their partner. This will take another 10 minutes. Then all members of the small groups will share their thoughts and reactions
   • We then return to the seminar format. Each group of 4-5 people will present their thoughts and feelings to the entire group
   30 minutes (10 minute break)

4) The process of choosing a narrative, developing a prompt to stimulate the writing and the utility and outcome of the exercise will be reviewed to encourage the participant to go back to their institutions to use this technique to foster Interprofessional education. Final 20 minutes to review the experience and highlight the importance of narrative medicine in Interprofessional education.
Clinical Distinction: a learner centered 3rd year course to develop EPAs and Competencies

[1] Academic Affairs, Touro University College of Osteopathic Medicine;
[2] Clinical Education Department, Touro University College of Osteopathic Medicine

Idea/Problem Statement: Opportunities for 3rd year students to design their own distinctive paths to competence and entrustability for entering residency are often limited.

Rationale/Need: Medical School Performance Evaluations (MSPEs) require student learning to be framed in terms of competencies, but the new AAMC MSPE template discourages open-ended narrative descriptions of how a student has developed competency and entrustability (e.g., the former Unique Characteristics section). The typical Year 3 required clerkship curriculum also limits the amount of time that students can devote to self-directing their development. Clinical Distinction replaces some elective clerkship time with a student-driven contract of learning that focuses on competencies and EPAs pertinent to individual interests and needs. Students must set a level of attainment in one or more EPAs as criteria for passing the course, self-reflect, and be evaluated by a faculty sponsor. As a requirement it both ensures that each student fulfills a contract for gaining entrustability and it enables a narrative evaluation of their growth for inclusion in the MSPE alongside other clerkship evaluations.

Methods: Beginning with the Class of 2018 Touro University College of Osteopathic Medicine implemented a two rotation Year 3 course series called Clinical Distinction. Students can design their own patient care or other core competency experience, choose a pre-defined track, do a traditional elective type rotation, or focus on the Medical Knowledge competency (via a Board Study contract). Each option requires a learning contract approved by a regular or adjunct faculty sponsor, including defined criteria for evaluation, learning resources, and a description of how their planned activities would help develop one or more core competencies and entrustability. Depending on the chosen path, students complete a self-evaluation to which faculty members add their own comments and render a pass/fail judgment. Depending upon the student’s preference and creativity the two course periods of 4-weeks each could be combined into a single 8-week theme of distinction, two separate themes, or combined with core clerkships to form a longitudinal plan of building competency and entrustability. Faculty members further select from a list of adjectives all words that they felt describe the student project, and these are rendered as a wordcloud where size and centrality denote frequency of selection. Students and faculty are provided with a published rubric of entrustability to describe learning goals and attainment. Self and faculty evaluations are excerpted for publication in the MSPE.

Results: Of the 262 Clinical Distinction experiences completed to date, 38% have been in Specialty tracks that either are student-designed or customized by volunteer Clinical Distinction faculty, 28% have been Board Study, 22% have been a traditional Clinical Clerkship (enhanced by a learning contract), and 6% have been Research. Preliminary results indicate a 97% pass rate on COMLEX Level 1 for students who performed a contract for Board Study, compared to historical pass rates of 91-92% for the class as a whole between 2013-2017. For students designing their own learning experience or choosing a customized experience preliminary data indicate that they emphasized a relatively even distribution of core competencies to develop (80% Medical Knowledge, 80% Patient Care, 70% Interpersonal and Communication Skills, 70% Professionalism, 40% or less Practice-Based Learning and Improvement, Systems Based Practice, and Osteopathic Principles and Practices). A word-cloud was generated to show the range and frequency of adjectives faculty selected to describe student learning and effort. The choices included 15 positive, 15 neutral and 6 negative descriptors. The most common word selected was “Competent” (45% of all evaluations), and four other words were selected on more than 30% of all evaluations (“Professional”, “On-Track”, “Focused” and “Knowledgeable”).

Potential Impact/Lessons Learned: Allowing students to design entrustability for residency improves learning of competencies and EPAs because it involves self-reflection and contract fulfillment. Faculty volunteer to participate and in an environment of burnout having faculty excited to work more can be seen as a success.
Helping Students to Evaluate Their Learning – There Are Apps for That
Hortsch, Michael
Departments of Cell and Developmental Biology and of Learning Health Sciences,
University of Michigan Medical School, Ann Arbor, MI

Idea/Problem Statement: Students’ need for resources to prepare for examinations is universal. However, few effective self-assess tools exist to test their exam preparedness.

Rationale/Need: Students always want to know whether they are prepared to do well in the next examination. However, most review resources just provide additional examination-type questions, rather than allowing students to self-assess their knowledge, skill level, and ability of scientific analysis. As electronic learning tools are increasingly popular with today’s students, this abstract describes a blueprint for a new electronic self-assessment tool that provides students with a time efficient way to test their knowledge and recognition skills before examinations [1]. SecondLook™ resources are available to University of Michigan (U-M) students in three different formats, as a series of PowerPoint files, as an Internet website, and also as mobile applications for smartphones and computer tablets. This allows students a maximum of flexibility to use this resource in the best way suiting their individual learning needs and the electronic devices available to them.

Methods: SecondLook™ resources are initially created as simple PowerPoint files, each covering a topic on 10 to 35 slides [1]. The questions on each page are asked in a logical succession usually one question building on the answer to the previous. This guides students’ thought process in a logical progression, linking seemingly distinct facts into a coherent network. The questions use a variety of formats, avoiding a “select-the-best-answer” MCQ design. Each file takes 10-15 minutes, enabling students to quickly uncover deficiencies in their knowledge and allowing them to target these gaps. Many students use these original PowerPoint files. In addition, these files can easily be transformed into an interactive website or into mobile applications. These alternative formats add additional features, specifically the ability to randomize the order of the pages and to combine different topics into a personalized review. Although the SecondLook™ concept was originally designed for a subject represented largely by visual material, it can easily be adapted to other topics. Besides Histology, SecondLook™ series for Neuroanatomy, Gross Anatomy, and Oral, as well as Basic Medical Radiology have been completed. The development of new SecondLook™ tools is now often student-initiated with more senior students working under supervision of faculty content experts. This introduces a second mode of learning, for more advanced students in creating learning resources for their junior peers.

Results: The SecondLook™ review resource is now the most popular study resource for students learning Histology at the University of Michigan. When surveyed about their use of learning tools, 95 to 97% of Histology learners said that they “always” or “frequently” use SecondLook™, usually in preparation for upcoming examinations [2,3]. Many medical and dental students also later reuse the SecondLook™ tool during their preparation for a professional board examination (USMLE® or NBDE Part 1). Students praise this resource for making their learning more efficient by providing a quick self-review tool and for giving them a better idea about intended learning objectives. A former University of Michigan medical student describes the SecondLook™ resource as follows: “…I think why students are so drawn to them is because they actually make us ‘think’. I think students appreciate the interactive elements. The SecondLook ppts highlight important concepts, and links identification with higher order knowledge of function and organization.” The SecondLook™ mobile apps have received an equally positive response at the app stores where they have been downloaded over 27,500 times from over 160 countries. The SecondLook™ concept can easily be transferred to many other subjects, including clinical applications. The creation of simple SecondLook™-like tools in a PowerPoint format does not require special technical expertise and can be adapted to local curricular needs.

Potential Impact/Lessons Learned: Creating new SecondLook™ tools will encourage students to apply a scientific approach to learning and integrate the Socratic process into clinical problem solving. SecondLook™ provides an active learning strategy in an electronic format, a combination that is commonly embraced by today’s students.

References:
How Do First-Year Medical Students Study? Investigating an Institutional E-Learning Initiative
Nguyen BS, Agam M, Nelson A, Nguyen D, Stoneburner J, Shah I, Vo A
Keck School of Medicine of USC

Idea/Problem Statement: To analyze study methods used by first-year medical students and evaluate the effectiveness of an institution-wide e-learning tool.

Rationale/Need: The Keck Online Learning Initiative (KOLI) was established to support medical student academic performance through the usage of memorization aid programs (MAPs). MAPs are tools designed to facilitate learning and retention based on the principles of spaced repetition and active retrieval practice. KOLI consists of second-year medical students creating online MAPs for first-year students based on first-year lectures. Some literature suggests that using active retrieval practice (e.g. digital flashcards) leads to better performance on examinations. Aside from a study on a database of flashcards built at John Hopkins University School of Medicine, there is minimal literature on institution-wide MAP development. Through our program, we aim to analyze which study methods are most popular among medical students, reveal how study habits change over the course of the first year curriculum, and evaluate the educational utility of our new learning tool.

Methods: Study Sample and Design. Descriptive and exploratory analyses were conducted on Keck SOM’s 2019 de-identified class administrative data (gender, pre-medical GPA and MCAT scores, and FMS1, FMS2, FMS3, and GI/Liver block exam scores), post-exam surveys concerning study methods, and MAP usage (FMS2, FMS3, and GI/Liver). A respective 55%, 65%, and 53% of the 186 medical students voluntarily responded to the three post-exam surveys. A post-only study design was used. Tools and Procedures. Student study methods were assessed using multiple choice and free response survey questions. Study method options included: attending live lectures, webcasting lectures, reading lecture Powerpoint slides and handouts, personal notes, textbooks, MAPs, test preparation sources, online references, and online videos. Respondents were queried on their usage of KOLI-created Memorang study sets (“yes”, “no”, or “tried but stopped”). Students reported weekly study method use via a 5-point Likert scale (1=never, 5=regularly) and exam satisfaction on a 5-point Likert scale (1=very dissatisfied, 5=very satisfied). Analysis. Descriptive analyses were conducted to determine data distribution. Non-parametric testing was used to determine associations between study method and exam score. Bivariate Pearson correlations are described according to polarity (positive or negative) and strength.

Results: Preliminary results showed that students consistently used the same study method across different curriculum blocks. The primary study methods across blocks were as follows: attending live lectures (rFMS2 x FMS3=0.817, p<0.01; rFMS3 x GI=0.836, p<0.01), MAPs including KOLI (rFMS2 x FMS3=0.748, p<0.01; rFMS3 x GI=0.711, p<0.01), and webcasting lectures (rFMS2 x FMS3= 0.823, p<0.01; rFMS3 x GI= 0.814, p< 0.01). In regards to KOLI specifically, results showed a positive correlation of KOLI usage across the different blocks (rFMS2 x FMS3=0.597, p<0.01; rFMS3 x GI=0.595, p<0.01). Consistency of KOLI use as a study resource was assessed with the number of Memorang facts studied (rFMS2 x FMS3=0.766, p<0.01; rFMS3 x GI=0.665, p< 0.01). Use of other MAPs was also consistent across blocks (rFMS2 x FMS3=0.817, p<0.01; rFMS3 x GI=0.667, p<0.01). There was a weak negative correlation between FMS2 KOLI use and undergraduate GPA (r=−0.214, p <0.05), and in FMS2, KOLI users scored lower on average than non-KOLI users in an independent samples t-test (82.58% vs. 86.28%; p=0.003). However, KOLI and non-KOLI users did not have significantly different exam scores in either FMS3 (85.14% vs. 87.62%; p=0.119) or GI/Liver (83.95% vs. 84.38%; p=0.721) blocks.

Potential Impact/Lessons Learned: Students find and commit to their preferred study methods early in medical school. While early KOLI use was associated with lower undergraduate GPA and FMS2 scores, the gap in exam scores between KOLI and non-KOLI users narrowed in subsequent blocks, suggesting KOLI may be a useful learning tool.

References:
A Multifaceted Program Model for Giving Preclinical Students Early Patient Interaction  
Castaneda, Peris; Lourie, Michael  
University of Michigan Medical School

Idea/Problem Statement: As healthcare becomes more integrated and patient-centered, medical students require early direct exposure to team-based patient care.

Rationale/Need: Patient-centered care (PCC) and shared decision making (SDM) have become paradigms of good clinical practice. (1) The advancement of these paradigms to the next generation of doctors requires that medical students be taught in an environment that explicitly values PCC and SDM. Several medical schools, recognizing that early patient encounters help students develop empathy and patient-centeredness, have introduced programs for preclinical patient contact. (2) Evidence suggests that preclinical students receive different benefits depending on the nature of patient interaction. (3) Therefore, an effective and comprehensive preclinical program in patient-centeredness should be multi-dimensional.

Methods: The University of Michigan Medical School structures into its preclinical curriculum multiple and varied opportunities for patient interaction. Three programs engage patients as partners in different contexts, providing students with several lenses through which to view the patient experience. 1. Doctoring Families: Students are paired with a patient who has a chronic illness. Throughout the year, the student visits the patient in their home and accompanies them to one clinic appointment. This experience allows students to consider chronic illness outside of a hospital setting, creating an opportunity to explore the personal and social impact of disease. 2. Interprofessional Clinical Experience (ICE): Students shadow multiple healthcare roles (e.g. nurses, physicians, social workers) in outpatient and inpatient settings. This program builds student understanding of the patient experience at different points of care and demonstrates the importance of an interdisciplinary team in continuity of care. 3. Multidisciplinary Care Patient Panels: Patients and families share personal stories about a disease relevant to students’ current scientific coursework. Aligning these stories with didactics reinforces the connection between basic science and patient experience.

Results: Each curricular components is evaluated by students at multiple points across the year, and the data retrieved is used to analyze the efficacy of the programs and direct possible opportunities for improvement. Key quantitative and qualitative data regarding the above programs are presented here. All the data reported are from the 2016-2017 school year evaluations. Doctoring Families: 114/160 (71.3%) of students agree or strongly agree that the family visits contributed to their learning. Student quote: "The family home/clinic visits allow us to develop a longitudinal patient-student relationship and a stronger understanding of the patient perspective." Interprofessional Clinical Experience: 86 of 131 students (65.6%) agree or strongly agree that the ICE course improves their ability to work on an interprofessional team. 98 of 130 students (75.4%) rate the quality of the course as good, very good, or excellent. Student quote: "I have gotten a really good understanding and appreciation of what the other members of the health care team do and ways we can interact and help each other in my future practice." Multidisciplinary Care Patient Panels: Of the fourteen patient panels evaluated by students, thirteen were evaluated as very good or excellent. Student quote: "The case presentation was a unique way to show how a disease can shape someone's life as well as how a physician can use their own life experiences to connect with their patients."

Potential Impact/Lessons Learned: Each of these courses offers first year medical students a unique source of information on the patient experience. Together, the courses help students to construct a dynamic understanding of the relationships patients build with the health care system.

References:
Evaluation of a Trans-disciplinary Introduction to Clinical Medicine (ICM) Course
Trost, Margaret; Vo, Anne; Afari, Nadine; Akan, Dennis; Harlan, Greg; Tolomiczenko, George
University of Southern California

Idea/Problem Statement: The Health, Technology, and Engineering (HTE) program joins MD and PhD students together for ICM; quality of the experience lacks formal evaluation.

Rationale/Need: The complexity of modern medical research has encouraged a shift towards collaborative “team science”[1]. Several institutions have developed trans-disciplinary programs to train future physician-scientists[2]. However, each program is unique, innovative, and often lacking in curricular guidelines or published evaluations. The USC schools of medicine and engineering started HTE in 2011. As one component of HTE, PhD student participants take ICM (required of all 1st-year MD students) to identify needs that could be addressed by medical engineering products, build communication skills, and learn collaboration[3]. ICM is a longitudinal once-weekly small group course; students interact with real patients to develop clinical interviewing, physical exam skills, and professional identity formation. Although an evaluation for the overall HTE program is administered, it does not specifically address ICM. Therefore we conducted a qualitative assessment of the HTE-ICM experience.

Methods: We conducted a series of HTE-ICM stakeholder focus groups. Subjects were recruited via email from the pool of participants on a voluntary basis; participation of students was encouraged by providing food and faculty groups were conducted by web-conference to allow for more flexibility. ICM groups that include HTE students are generally led by the same small pool of 10 instructors, because 2 authors of this study (M.T. & D.A.) are instructors they were excluded from participation. An information sheet was provided and participants filled out a demographic questionnaire; all study procedures were approved by the USC IRB. Five 60-minute group interviews were led by one author who is not a member of HTE-ICM (A.V.) until thematic saturation was reached; interviews were professionally transcribed. Questions centered on course experience, goals, and specifically addressed if those differed between MD and PhD students. Transcripts will be reviewed to identify themes using thematic analysis.

Results: Of 63 total student participants since HTE inception, 21 (33.3%, 18 MD and 3 PhD candidates) participated in the focus groups. Most students were finishing their first year in the program but 6 (28.5%) entered the program 2 - 6 years prior. The student participants were 80.9% male, had an average age of 24.4 years, and 30% self-identified as White/Caucasian. Nine faculty members participated; 2 (22.2%) were ICM instructors and the remainder (77.8%, n=7) were HTE faculty with awareness of but no direct involvement in ICM. We are currently reviewing transcripts and further results should be available by the time of the IME conference.

Potential Impact/Lessons Learned: Final results of the thematic analysis will highlight barriers and successes in a trans-disciplinary course that can be used to both enhance our local experience and guide development of similar programs at other institutions.

References:
1) Cooke NJ, Hilton ML. Enhancing the Effectiveness of Team Science. Committee on the Science of Team Science, Board on Behavioral, Cognitive, and Sensory Sciences, Division of Behavioral and Social Sciences and Education, National Research Council.
Item Writing Made Easier
Fung, Cha-Chi, PhD
Keck School of Medicine of the University of Southern California

Workshop Description: This hands-on workshop will use clinical vignettes and practical examples to induce participants’ deeper understanding of the construction of good exam items that adhere to the standards established by the National Board of Medical Examiners (NBME).

Workshop Rationale:
Faculty often struggle with writing valid and reliable examination items that test learners’ knowledge of the medical sciences. This task became even more daunting as the item types became more complex. This hands-on workshop will use clinical vignettes and practical examples to induce participants’ deeper understanding of the construction of good exam item that adheres to the standards established by the National Board of Medical Examiners (NBME).

Intended workshop participants:
This session is intended for participants who wish to construct NBME style multiple choice exam (MCQ) items in the health professions education.

Learner outcome objectives:
By the end of the workshop, participants will be better able to
1) identify appropriate objectives for the content area to be tested using MCQ style items
2) complete the exam item blue print used to develop new exam items.
3) Construct MCQ items that adhere to the NBME standards using the item template.

Instructional methods/content, activities, schedule:
Session facilitator will use a number of different pedagogical approaches throughout the workshop to help participants attain the learning objectives.

Getting to know you (large group discussion) – 10 minutes.
Exam blueprint principles (lecture) – 10 minutes.
Filling out the exam blue print (individual activity) – 15 minutes.
Sharing examples of the blue print (large group discussion) – 10 minutes.
Item structures and principles of good item writing (lecture) – 15 minutes.
Item writing exercise (individual work) – 10 minutes.
Pair-Share the items and critique (group work) – 10 minutes.
Large group sharing of the examples – 5 minutes.
Session wrap up/summary – 5 minutes.
Workshop Description: Join us on our journey from the physical to the virtual as we go from gross pathology specimen to an accurate, transportable virtual 3D image with just your laptop and cell phone. The Digital Age has ushered in a new era of collaborative, technology savvy students looking for ways to learn more efficiently. We'll give you the tools to facilitate their independent learning and show you how to give them on demand access to innovative learning material. Bring your phone and be part of the magic.

Workshop Rationale: Pathology specimens are critical for the teaching and learning of pathology, but formalin fixation renders specimens both hazardous and fragile. These specimens can only be stored and viewed by medical students in OSHA approved facilities. HIPAA regulations and storage limitations restrict acquisition of new specimens for educational purposes. Given the technological advancements in medical education, remote access to materials is in increasing demand. 3D imaging/modeling equipment has historically required complicated technology, considerable expertise, and a significant monetary investment with scanners starting at $20,000. We have identified a novel technique that allows for creating highly precise 3D virtual images of formalin fixed specimens using the camera on mobile devices. The next step is a physical 3D model, which provides a precise and accurate depiction of the patient’s specimen. We will demonstrate the ease of creating and sharing virtual images for educational purposes.

Learner Outcome Objectives: 1) A basic understanding of how to turn images taken from a mobile phone into an accessible, transportable 3D image 2) A better understanding of available 3D technology and current advantages and limitations 3) Insight into how 3D technology can further medical education and clinical practice of medicine

Intended Participants: Program directors, medical school faculty, and medical students

Methods: Using newer iPhones and Android devices, we photographed gross pathology specimens. Using Agisoft PhotoScan Professional and MeshLab, these images were fused, optimized, textured and exported, resulting in high resolution virtual images for use on any computer or web-enabled mobile device.

Activity Timeline: 1) Introduction (5min) 2) Group Polling Questions (10 min): Questions will include:
   - Presenters’ and attendees’ demographics – who are we?
   - What do you think today's students want in their education?
   - How are you engaging millennials?
   - Adapting in a Digital Age: Which of these technologies are you comfortable with?
   - How often do you integrate new technology into your teaching methods?
   - How expensive do you believe the equipment and software required for 3D imaging/modeling is?
  3) Brief demonstration by the presenters on the process of taking pictures (5 min) 4) Small Group Activity (30 min): Attendees will take pictures of household objects and process 3D images with supervision and assistance from presenters 5) Group Discussion (20 min): Attendees will discuss their experience with 3D imaging integration, its applications, and limitations 6) Mini lecture (20 min): Workshop facilitators will discuss the benefits of 3D imaging/modeling, its limitations, and its current applications in the practice of medicine 7) Workshop Evaluation (5 min)

Take Home Tools: References, online tutorials, and websites of available software. Description of techniques to improve 3D images/models.
Humanizing the EHR: Healthcare Impact of Integrating Patients’ Life Narratives into their EHR
Chou, Jonathan; Lam, Barbara; Ngo, Jacqueline; Walker, Tamar
Keck School of Medicine of USC; David Geffen School of Medicine at UCLA

Idea/Problem Statement: To assess the effectiveness and feasibility of incorporating patients’ life narratives into their electronic health records.

Rationale/Need: Multidisciplinary, team-based approaches to care leverage each healthcare professional’s area of expertise to ensure that providers are practicing to the full extent of their training and providing patients with comprehensive, whole-person care. Such approaches are especially important for patients for whom psychosocial factors play a significant role in determining health outcomes. For example, because highly active antiretroviral therapy (HAART) is lifelong and lapses may result in increased viral resistance, patient adherence to medication and follow-up are known to be an integral part of HIV care. In order for team-based approaches to care to be successful, providers must agree about each patient’s unique needs and problems. Protocols that increase transparency and communication between healthcare teams and their patients may improve quality of care and thus improve patient outcomes. The introduction of patients’ life narratives into their electronic health records (EHRs) is an innovative and even radical idea. Giving patients the means to create documents in the EHR may serve to increase patient buy-in and investment in care. For multidisciplinary healthcare teams, these life narratives may help providers understand their patients and arrive at mutually agreed upon assessments and plans. This study is an attempt to optimize the EHR for patient-centered, team-based care.

Methods: This study will take place at the Maternal Child Adolescent/Adult Center for Infectious Diseases and Virology (MCA) at Los Angeles County General (LAC+USC), a clinic that primarily serves patients living with HIV and their families. A minimum of 15 patients will be recruited. Each patient will be paired up with an investigator, who will be responsible for scheduling and conducting a life story interview with the patient, writing the patient’s life narrative, and scheduling follow-up sessions with the patient to review and revise their narrative. The life story interview will begin with the open-ended question, “What do you want your healthcare team to know about your life story?” Patients will be invited to speak broadly about their lives rather than strictly about their health or patient experiences. As much as possible, the investigators will use verbatim quotes to write the life narratives. Where this is not possible, they will attempt to adhere as closely as possible to the patient’s voice. During follow-up sessions, patients will have the opportunity to review and revise their narratives for accuracy in terms of content and voice. Once the patient is content with his or her narrative, it will be uploaded into the patient’s EHR. The narrative will appear under the Documentation tab of the patient’s EHR under the title, “Mr./Ms. [Patient’s Name]’s Life Narrative.”

Evaluation Plan: This study employs mixed qualitative-quantitative methods and will focus on both patient and provider perspectives. Qualitative methods include in-depth patient interviews, focus group interviews with providers, and open-ended surveys. In-depth interviews will explore patients’ experiences participating in the study. Focus group interviews will explore providers’ experiences reading patients’ life narratives in their EHRs. Quantitative methods will include pre- and post-intervention CD4+ levels and patient-provider relationship questionnaires. Qualitative data will be analyzed using grounded theory methods. Data triangulation will be achieved using interview transcripts, notes taken during the in-depth and focus group interviews, survey responses, and quantitative data analyses.

Potential Impact/Lessons Learned: Implementing this project can transform the EHR from a documentation tool into a creative, patient-centered platform leading to increased satisfaction, adherence, and improved coordination of healthcare teams.

References:
1) Genberg BL, Lee Y, Rogers WH. Four types of barriers to adherence of antiretroviral therapy are associated with decreased adherence over time. AIDS Behav. 2015;19:85–92.
From Tip to Tail: Interprofessional Simulation Training of Critical Care Transport Teams
Mitchell, Diana L., MD; White, Jannie, RN, BSN, CFRN
The University of Chicago Comer Children's Hospital; The University of Chicago Aeronautical Network

Idea/Problem Statement: Interprofessional simulation training can improve team communication and medical management during transport of critically ill pediatric patients.

Rationale/Need: Transport of critically ill pediatric patients requires effective communication between multiple care providers in addition to understanding complex pathophysiology in a dynamic environment. Transport teams consist of flight physicians and highly skilled critical care flight nurses. Receiving Pediatric Intensive Care Unit (PICU) teams consists of critical care fellows, nurses, and attendings that are responsible for both close communication with the outside hospital and flight crew and assumption of care of transported patients upon arrival to the PICU. The AAP endorses training including simulation to optimize team interaction and medical management (1). Team training opportunities and curricula are not commonly discussed in transport medicine literature despite knowledge that specialized transport teams improve patient outcomes (2). Given the high stakes of caring for critically ill pediatric patients and lack of institutional or national curricula, we implemented an Interprofessional simulation curriculum in July 2016 for critical care flight nurses, pediatric ICU fellows and nurses with the goal of providing opportunities for practicing clear phone communication and sign-off of patients throughout the entire transport process. Our curriculum is based on the principles that simulation based medical education provides the opportunity for repetitive practice, mastery learning, and improvement in downstream translational outcomes including improved patient safety (3).

Methods: The intervention focuses on 9 critical care fellows, 10 critical care flight nurses, and over 60 PICU nurses and takes place quarterly on a continuing basis as of July 2016. Each simulation training session runs for approximately two hours. We use pediatric and infant computerized mannequins with wireless capabilities that allow high fidelity realism throughout the entire scenario. The format of the session exactly mimics our institutions’ actual transport process from start to finish. The scenario starts with a phone call from the outside physician (Confederate) to the PICU fellow stationed in the PICU. The transport nurses and flight crew listen to the triage phone call and the simulation then proceeds in real time from pick up of simulated patient (in our simulation center), to transport in our critical care helicopter (simulated flight on helipad), to transport from helipad to PICU, and finally with hand-off of the simulated patient to the PICU team located in our in situ simulation room (PICU). At the conclusion of the simulation scenario, a group debriefing occurs with all participants facilitated by faculty experts (DM, JW). To aid in the delivery of our educational goals both video and audio tapes are used in the group debrief. Debriefing focuses on two main topics (1) provision of clear and concise phone communication among team members and, (2) improved sign out of patient information on the arrival of the patient to the PICU.

Evaluation Plan: Thus far, we have had 6 simulation training sessions. At the completion of each session, a curriculum evaluation is completed by each participant. Flight nurses have described the chance to work in an interprofessional capacity as an excellent opportunity to practice both phone communication and in-person communication of key information during patient hand off with the receiving PICU team. The PICU team has found the simulation valuable in the areas of effective phone triage and communication of medical management over the phone, understanding risks and potential complications during transport, and learning how to effectively coordinate hand off within the PICU. All participants found the training highly realistic. We identified critical systems-related issues and have made changes to our practice including a more methodical triage process; ensuring a more formalized patient hand-off, and addition of antibiotics to the flight team medical supply packs as to not delay administration.

Potential Impact/Lessons Learned: Creation and implementation of an interprofessional transport medicine simulation curriculum is feasible and can lead to significant improvement in team communication and medical management of critically ill patients.

References:
UMMS Communication Collaborative Elective
Fischer, Ilana; Kokkinos, Erika
University of Michigan

Idea/Problem Statement: Student-run course that promotes clear communication by providing forums for students to practice public speaking with their peers.

Rationale/Need: Proficiency in communication, presentation, and didactic instruction are critical for all physicians, especially those in academic medicine, and this elective provides a unique opportunity for students to develop these skills. The Collaborative model is easily generalizable to other medical schools, where it could benefit students with minimal financial or administrative burden.

Methods: The Communication Collaborative Elective, a student-designed course for fourth year medical students, includes both an initial intensive segment and a year-long longitudinal component. The intensive portion teaches students the skills required for delivering and critiquing both short, research-focused presentations and longer, narrative-driven talks. Skills taught in the initial didactic portion of the course include an introduction to presentation structure, principles of public speaking, effective non-verbal communication, proposal evaluation, management, and points on how to deliver critical feedback to colleagues. This foundational material is disseminated in power points, manuals, and video content developed by students and available online. Students then practice the skills learned via online content in several class meetings of the Collaborative (alternatively, this can be done via video chat). In this pilot year, seven students enrolled in the elective and completed the intensive segment in June and July, all becoming Student Leaders (one of whom was selected to be Student Director) of the Collaborative for the Longitudinal, year-long segment. The Student Director and Student Leaders jointly manage activities of the Collaborative during the academic year, implementing skills learned during the intensive. This includes evaluation, selection, and presentation preparation for student speakers as well as event planning and coordination.

Evaluation Plan: Assessment of this program after completion of year one will survey students to assess their attitudes about and competence in public speaking, delivering critical feedback, academic review, and management before and after participation in the Collaborative.

Potential Impact/Lessons Learned: This elective provides exceptional professional development opportunities for enrolled fourth year Student Leaders, for participating speakers, and for the larger student body.
Professionalism and Leadership in Practice (PLP): a HRSA PCTE grant project

Ruddy, Meaghan

The Wright Center for GME

Idea/Problem Statement: In this era of practice transformation, residents, physicians, and other clinic members are being placed into team roles for which they have not been trained. This is leading to repeated challenges in professionalism, interpersonal dynamics and communication.

Rationale/Need: There is no perfect place to insert professionalism and leadership development in the medical education or health professions education continuum. For this reason, all levels of provider and staff are challenged by the need to develop interpersonal, communication, and professionalism skillsets that provide the psychological safety needed for effective change management. A solution to this challenge may be to incorporate such training into a framework of holistic organizational development of clinical learning environments toward preparation for ACGME CLER visits and substantial compliance with Single GME competency requirements.

Methods: A project in Professionalism and Leadership in Practice was developed to be facilitated for residents, faculty, and staff in a nationally distributed, 4-site THC GME Family Medicine residency program. The project content was divided into six months of training in three domains: Team Organization, Team Dynamics, and Teamwork. All content was mapped to ACGME, AOA, and IPEC2 competencies as well as the ACGME CLER pathways. The training consisted of 1-hour long facilitated sessions with actions steps tied to clinic and/or patient metrics and continuing conversations to take place at the local site and facilitated by the project leader via email and other contact options (phone, Gmail instant message, teleconference, SMS text). The project was initially rolled out in a 4-month pilot to one resident clinic then to the entire program network.

Results: Survey feedback from the pilot was very positive. Clinic communication improved and the environment has requested quarterly, facilitated follow-up. Impact on patient metrics is difficult to discern. Rollout to another environment was expanded to include 600+ members of a community health center. Due to scheduling challenges, rollout to the other 2 sites has been delayed and asynchronous course options are being developed. The PLP project has been incorporated into resident didactic sessions to ensure resident exposure to content. Qualitative feedback from larger rollout has been positive.

Potential Impact/Lessons Learned: Training in situ for clinic learning environments is challenged by productivity demands. Clinics that prioritize developing as a learning environment are likely to respond more positively to such educational interventions. Contribution analysis may be utilized to determine how engaging in a project like the PLP may influence specific metrics.

References:


It’s Not Just a Sports Physical! Adapting Annual PPES to Improve Adolescent Health Literacy
Shaban, Amerah, MD [1]; Carillo, Zulay [2]; Garcia, Lizette, MS [1, 3]; Becker, Carlee, MS [2, 3]; Shalikar, Hamed, MD [4]

Idea/Problem Statement: Improving health literacy during sports physicals for up to 30 million adolescent athletes through sports-related educational stations.

Rationale/Need: Approximately 30 million adolescent athletes participate in sports and require pre-participation examination exams, which tend to focus on musculoskeletal and cardiac pathologies (1). Though tragic, only 1 in 80,000 youths experience sudden cardiac death and a case series displayed that PPEs effectiveness in preventing those events are incredibly rare (1). This begs the question, can we provide more beneficial outcome by reaching for low-lying fruits? 30% of these adolescents only contact with a healthcare professionals for the entire year is during their PPE. This fact coupled with the natural occurrence of children interacting less with than adults. This lack of exposure to HCP creates a health knowledge gap during the adolescents’ development when skills for lifelong use are nurtured (2). Additionally, Nutbeam suggests that adolescents may benefits from even informal interactions with professionals (3). Reviewing trends from Boyle Heights, Los Angeles, California reinforces this concept of a knowledge gap. In this community, adolescents utilize the ED and consume fast-food and sodas at higher rates than the rest of California. In addition, 50% of teens are overweight or obese. Adapting PPEs to include stations to discuss topics such as proper hydration and healthy snacking in a sports context addresses the need to bridge health literacy gaps that exist in many communities.

Methods: The proposed method to incorporate health literacy in PPE was implemented at White Memorial Medical Center with adolescent football pre-participation physicals with success. The importance of pre-planning with interdisciplinary groups composed of coaches, physicians, medical assistants, and participants’ families cannot be overstated. Variations will be dictated on facility size and number of volunteers and athletes. The adolescent athletes will be divided into three groups with arrival times based on age. Then the three groups will operate simultaneously and rotate every 15-20 minutes. The rotations at 15-20 minute intervals are key, as the pre-participation physical station will be the rate-limiting step. The 3 simultaneous stations: PPEs- this is the step that most adolescents currently recieve and will remain in its same format. The length of rotation time should be set on the time it takes for 1-2 patients to be examined. Nutrition- interactive small-group discussions regarding nutrition in athletes through sports-related topics. For example, discussion about sugar revolve around sports/energy drinks and hydration. Physicians, medical students, and/or dieticians can lead this section. Exercise- The group will discuss the importance of exercise via injury identification and prevention. In order to optimize the learning and discussion, topics should be sport, age, and gender specific. Physicians and athletic trainers can lead this portion. Parents and welcomed.

Evaluation Plan: The evaluation process will aim to capture the health knowledge component of health literacy as described by Nutbeam(3). It will not rely on general health literacy questionnaires but rather will be context specific. Adolescent’s knowledge will be assed via a comparison of pre-test and post-test of the topics discussed in each session. Statistical analysis between the two tests will aim to elucidate changes in health literacy. Health outcomes will not be directly evaluated. However the possibility for future cohorts studies exists. In addition, survey evaluations regarding the sessions will be collected. A Likert scale will be employed to evaluate the student’s opinions, as well as to measure parents’ feedback on the appropriateness of the content. Open-ended questions will be asked to gauge adolescents’ responses with respect to future events and fields of interest. Consent will be obtained and all responses will be anonymous. Participants will have the option to opt out.

Potential Impact/Lessons Learned: This study has potential to reconsider how 30 million adolescents’ pre-participation exams are formatted. The model also presents the opportunity to provide young athletes with knowledge to improve health outcomes through an existing contact point with the medical system.

References:
Doctors of Tomorrow: Empowering High School Students in Detroit to Become Agents of Change Today  

Advani, Raina, BA [1]; Kana, Lulia, BS [1]; Diamond, Sarah, BS [1]; Steenbergh, Kylie, BS [1]; Ross, Paula, PhD [1]; Sandhu, Gurjit, PhD [2]; Finks, Jonathan, MD [2]  


Idea/Problem Statement: To empower students at Cass Technical High School in Detroit to explore public health issues in their communities and become agents of change.

Rationale/Need: Doctors of Tomorrow (DoT) is a partnership between the University of Michigan Medical School (UMMS) and Cass Technical High School in Detroit, Michigan. The program serves as a pipeline to inspire and prepare high school students from underrepresented communities to pursue careers in healthcare. Each month, DoT students come to UMMS to work alongside their medical student mentors and engage in programming that provides hands-on exposure to various sectors within the healthcare field. Studies indicate that in underrepresented populations, there is low awareness of health disparities that affect their own communities (1). Further, high school students particularly lack access to the knowledge and resources necessary to create solutions to public health challenges facing underserved communities. To address this, the program developed an initiative called the Community Health Capstone Project, which engages DoT students in grassroots work within their communities. The capstone projects were created to promote development of skills and knowledge needed when addressing health disparities. The main goal was to facilitate high school students’ awareness of their ability to be change agents within their communities. We wanted to help students grow their awareness of public health issues, give them resources and mentorship to implement student-led projects, and provide them a space to further develop their professional and leadership skills.

Methods: A series of longitudinal capstone project development sessions were created for DoT students. In Fall 2016, 36 high school students were divided into the following capstone groups: Youth Violence, Wellness, Vulnerable Populations, Nutrition, Health Inequity, and Community Violence. Each group had two medical student capstone leaders, medical student mentors, 6 DoT Students and an assigned community partner. During the monthly visits to UMMS, capstone leaders worked with the students to develop leadership and critical thinking skills. Throughout the year, DoT high school students worked alongside their peers and mentors to conduct research on their topics, develop a viable student-led action plan, and finally apply newly learned skills to execute their proposed solutions. Prior to implementation of their proposed solution, capstone groups visited their corresponding community organizations. In the Spring of 2017, the capstone groups led interventions within their Cass Technical High School community. Examples of some of the projects included distributing school wide surveys, conducting a movie screening and collecting reflections, running a drive for feminine products, and hosting a taste test to promote healthy eating habits. While working on their capstone projects, students also utilized the professional skills they had learned throughout the program by preparing a poster and oral presentation for the annual DoT capstone symposium.

Evaluation Plan: The annual capstone symposium serves as the primary evaluation tool for the capstone program. Through their poster and oral presentations, students share with families and community members the public health issue their partner organization seeks to address and the methods they utilized to complete their projects. During the presentations, students demonstrated improvement in their professional and leadership skills, including public speaking. Poster presentations clearly documented the stepwise approach each capstone group took toward completing their projects. In general, the DoT programs are evaluated using mixed methods, including program evaluation surveys and focus groups. DoT students consistently speak to the value to medical student mentors in their development. In focus group sessions with 10th-12th grade students, the majority of students expressed a desire to conduct additional capstone projects and felt an obligation to continue to serve their community.

Potential Impact/Lessons Learned: Through the Community Health Capstone Project, DoT students gained a better understanding of health issues disproportionately affecting their communities. DoT students also developed professional and leadership skills that will help them address disparities now and in their future careers.

References:
Idea/Problem Statement: Family medicine residency programs have limited training for screening and managing patients who are survivors of intimate partner violence (IPV).

Rationale/Need: The prevalence of IPV is great enough that physicians will encounter patients who are survivors of IPV. Family medicine physicians, at the forefront, serve as a conduit for linking survivors of IPV to the appropriate resources. However, IPV training during residency is limited. Surveys of practicing physicians showed the majority do not screen their patients for domestic violence or lack fundamental knowledge about issues surrounding IPV (1,2). Most cited lack of education and training in abuse as their rationale for not screening. Therefore, training related to IPV during residency is important so residents are comfortable with screening and prepared to offer appropriate treatment and resources to their patients who are survivors of IPV, especially because 73% of women and men on average will disclose their abuse to a person they know, but only 13% will disclose their experience of abuse to a medical professional (3).

Methods: Our residency program developed a curriculum for IPV training, which consisted of didactic lectures and an onsite rotation at a local domestic violence shelter for women where the residents spent one afternoon each week, over a 4-week block. Residents led short interactive health-related educational sessions followed by an active discussion, under the supervision of a Licensed Clinical Social Worker. After the educational sessions, the residents provided basic health services at the onsite clinic we created for the shelter with support from a Licensed Vocational Nurse, under the supervision of a faculty physician. Residents’ comfort level with caring for IPV survivors and knowledge regarding IPV were assessed by completing a comfort level survey and knowledge test before and after their 4-week rotation at the domestic violence shelter. The comfort level survey had the residents mark on a line how comfortable they felt about IPV related issues, such as dealing with strong emotions, discussing violence with patients, and reporting violence to law enforcement. The knowledge test had a combination of multiple choice and true/false questions about their knowledge of concepts related to IPV. Additionally, the residents completed a Suspicious Injury Report, the reporting requirement for suspected physical IPV (CA Penal Code Section 11160), based on a vignette of an abused patient presenting to their clinic.

Results: Paired sample t-tests were used to analyze the data. For the comfort level survey, there was a significant increase with providing medical services to the women; discussing their social situations; discussing abuse-related injuries; notifying law enforcement of abuse for women and children; and discussing IPV resources and next steps following abuse (p > 0.001). The average overall score on the IPV knowledge test increased significantly from 27 to 31 out of 35 (p > 0.001). The greatest increase in knowledge was for survivors being able to make appropriate choices regarding their relationships and social situations; family counseling not being helpful; and family members not being present at the exam.

Potential Impact/Lessons Learned: We found a deficit in knowledge among our residents that was addressed by the curriculum. Programs should incorporate IPV training into their curriculum because acquiring skills to identify and provide resources for patients who are survivors of IPV will be important in residents’ future practice.

References:
1) Falsetti SA. Screening and responding to family and intimate partner violence in the primary care setting. Prim Care. 2007 Sep;34(3):641-57.
**Introduction of Family Medicine Resident Physicians to Pain Management Resources**

Kang, Jonathan  
*Adventist Health, White Memorial Medical Center*

**Idea/Problem Statement:** A pain clinic model to help family medicine residents gain skills in utilizing multidisciplinary resources to help patients manage chronic pain.

**Rationale/Need:** Chronic pain and its resultant opioid dependence have been recently deemed an epidemic in the United States. Primary care providers (PCPs), specifically Family Medicine physicians, are on the frontline. From a nation survey of providers for pain patients, PCPs treated approximately 52% of chronic pain patients.1 Despite this “epidemic”, primary care providers often lack the skills and comfort required to treating chronic pain patients.2 Our goal with the establishment of a pain clinic is to introduce methodical chronic pain management to all our Family Medicine resident physicians in hopes of developing confidence in these doctors to manage chronic pain patients in their future practices. The structure will be based on AAFP Chronic Pain Management recommended curriculum guidelines. Equipping family medicine doctors with the confidence to help pain patients may ease the burden of opioid prescribing and frequent visits to emergency departments and urgent cares. 1. Breuer B, Cruciani R, Portenoy RK. Pain management by primary care physicians, pain physicians, chiropractors, and acupuncturists: a national survey. South Med J 2010;103(8): 738-47. 2. Upshur CC, Luckmann RS, Savageau JA. Primary care provider concerns about management of chronic pain in community clinic populations. J Gen Intern Med 2006;21(6): 652-5.

**Methods:** This intervention will be focused on pain management education of Family Medicine resident physicians in their second and third years of training (n=14) within a teaching clinic in an urban hospital serving a predominantly low health-literacy Latino population. In this pilot, the clinic will meet once a month from October 2017 to May 2017. Each resident will participate in the pain clinic at least once during this time. In this model, a multi-disciplinary team of private practice providers will join the residents to assist residents in build skills need for helping their patients with chronic pain. The team will include pain management specialists from anesthesiology, psychology/psychiatry, chiropractic, massage therapy, physical therapy, occupational therapy, acupuncture, and yoga/mindfulness meditation. Each resident will bring two of their patients to the clinic to be discussed in “team rounds” with the opportunity for the resident observe the care provided by other members of the team. The goal is for each resident to gain more knowledge and comfort utilizing a variety of providers and to help them gain skills in working with a pain care team.

**Evaluation Plan:** This innovation will be assessed utilizing four approaches. First, we will assess logistics by tracking the number of number of residents that participated (target is 14) and the number of patients (target is 28). Second, all residents will participate in a pre-post assignment of knowledge and attitudes in relation to pain management and the use of multi-disciplinary providers. Third, we will track referrals of clinic patients to multi-disciplinary providers from October through May to track trends. Finally, we will gather satisfaction data from all groups participating in this pilot set of clinics – residents and patients. The residents can also aid us in assessing what additional resources might help us better meet the needs of our pain patients.

**Potential Impact/Lessons Learned:** If this model is effective, we believe that other primary care residency programs could adopt it to enhance their own training of residents and care for patients.

**References:**

Implementing a Competency-Based Spiritual Care Curriculum into Pediatric Residency Training at CHLA
Stevens, Paige; White, Travus
Children’s Hospital Los Angeles, Keck School of Medicine of USC

Idea/Problem Statement: Implement a spiritual care curriculum that teaches residents how to address religious and spiritual beliefs and needs with their pediatric patients.

Rationale/Need: The World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." An important aspect of caring for the biopsychosocial needs of patients is addressing their spirituality, and it has been shown that the majority of patients would welcome their physician’s inquiry regarding their spiritual needs. Moreover, it has been shown that the majority of pediatricians feel that faith plays an important role in healing. Despite this, large review studies have shown that physicians infrequently address the spiritual needs of their patients and that the largest barriers reported are lack of time and lack of training as to how to approach this topic with their patients. Recent changes in ACGME curricula have emphasized training physicians to address the biopsychosocial aspects of a patient’s health through new competency-directed curricula that address interpersonal communication skills. However, few curricula have been developed to teach physicians how to successfully incorporate spiritual care into their practice and no spiritual care curriculum has ever been a part of the residency training program at CHLA.

Methods: Literature search revealed that one of the primary barriers to physicians addressing spirituality with their patients is lack of training, and this was confirmed on a needs assessment survey of pediatric residents at CHLA. The literature also emphasizes the following as being important in successfully providing spiritual care: 1) Understanding the differences between how each individual interprets spirituality within the cultural constructs of different world religions. 2) Utilizing a standardized method for taking a spiritual history. 3) Incorporating an interdisciplinary approach to spiritual care. Our curriculum was designed to address these topics and consists of a three-part series of interactive sessions that are being implemented into the required educational conferences for pediatric residents at CHLA during the 2017-2018 academic year. Session one offers an evidence-based introduction to the importance of spiritual care in medicine, and also introduces the basic tenets of five common world religions represented at CHLA by means of a curriculum that was developed in conjunction with the spiritual care department at CHLA. Session two is a case-based conference that teaches residents how to take a spiritual history through use of an evidence-based spiritual assessment tool—the HOPE model. Session three brings together physicians, nurses, chaplains, and social workers to teach each team member’s role in the interdisciplinary approach to spiritual care.

Evaluation Plan: Pre and post curriculum implementation surveys will be utilized to assess residents’ knowledge of spiritual care and its effect on health, residents’ attitude regarding the importance of spiritual care in medicine and, ultimately, residents’ ability to implement spiritual care into their daily clinical practice. Surveys will be analyzed based on quantitative data provided on a likert scale and will be assessed for statistically significant trends. In the future, chart review will be utilized to analyze trends in electronic documentation of the spiritual history which would become the gold standard by which success of the curriculum to introduce change in clinical practice would be measured.

Potential Impact/Lessons Learned: Few curricula exist to train medical professionals in how to provide spiritual care. This curriculum could be utilized by other residency programs or medical schools across the country to improve understanding and implementation of spiritual care into clinical practice.

References:
Faculty Development Guide for Resident/Faculty Well-Being  
Jerng, Diane  
*Kaiser Permanente, Orange County*

**Idea/Problem Statement:** The emphasis on professional and personal growth and development for faculty is intended to contribute to the promotion of well-being for residents.

**Rationale/Need:** The "Faculty Development Guide for Resident Well-Being" complements the "Resident Physician Guide Book: Created for Resident Well-Being and Life Skills Development" by Dr. Sabrina Cooley-Wilder. This guide focuses on areas for faculty development that directly affect the quality of relationships between faculty and residents. Improving the quality of these relationships will directly increase the efficacy of faculty teaching and mentoring efforts. This Faculty Development Guide for Resident Well-Being provides an outline for faculty development sessions to be conducted by Residency Program faculty. Faculty can exercise creativity in developing faculty development sessions tailored for individual program needs. Many sessions will require resident input. Just as constructive feedback is essential for resident skills improvement, constructive feedback for faculty with input from residents is also vital to promoting effective faculty development. This "Faculty Development Guide for Resident Well-Being", not only supports resident well-being, but, it is hoped, will create greater faculty satisfaction, building resilience against common faculty burn-out. One will discover insights and motivation to promote faculty experience, and find renewed career satisfaction by optimizing well-being for both residents and faculty.

**Methods:** Small faculty group discussions will be conducted in a 1 to 2-hour time frame on a flexible schedule to address the 12 Faculty Development Topics. For example, in our pilot project, using two of the Faculty Guidebook topics at our Fall Residency retreat 2016, I introduced the importance of an effective relationship between faculty and residents through “My Nanny Story.” We then proceeded with a faculty development exercise called “BEST TEACHING PRACTICES STICKER EXERCISE FOR PERSONAL DEVELOPMENT,” adopted from my previous USC Faculty Development Master’s program (1) and guided by resident feedback and input. We concluded with a faculty development exercise called “BEST TEACHING PRACTICES FOR FACULTY DEVELOPMENT” to reflect on the collective best teaching practices of our faculty, also guided by resident feedback and input. The faculty felt that the faculty development exercises were personally insightful, and increased awareness of effective teaching traits. Faculty Development Topics: 1. Your Personal Philosophy In Teaching; 2. The Power Of Unconditional Love; 3. The Power Of Role-Modeling; 4. Finding Your Passion In Teaching; 5. Know Who You Are; 6. Best Teaching Practices For Personal Development; 7. Best Teaching Practices For Faculty Development; 8. Know Your Learners - Their Personality And Learning Preferences; 9. Mentoring Through Learning Contracts; 10. Helping Residents Through Struggles; 11. Faculty Well-Being; 12. Meta-Evaluation.

**Evaluation Plan:** Annual meta-evaluation surveys of both faculty and residents will be used to continually revise and improve this curricular faculty development process.

**Potential Impact/Lessons Learned:** 1) EQ skills of self-awareness and self-regulation; 2) Optimize faculty-resident relationships for teaching efficacy; 3) Deeply understand learners to effectively problem-solve learner struggles; 4) Effective mentoring to support resident well-being; 5) Optimize faculty career satisfaction/longevity.

**References:**
1) Lamkin, B, Mygdal WK, Hitchcock M. Perceptions of the Ideal Clinical Teacher: Views of Family Medicine Educators. Family Practice Faculty Development Center of Texas, Vol 4, No. 1, August, 1983.  
Anesthesiology Resident and Fellow Wellness and Burnout Assessment
Nguyen, Wendy; Konia, Mojca; Fromer, Ilana
University of Minnesota School of Medicine

Idea/Problem Statement: To assess the stressors perceived by anesthesiology trainees and implement ways to increase wellness and reduce burnout.

Rationale/Need: Anesthesiology residents are routinely exposed to stress in the work environment (1). The prevalence of burnout is highest among trainees than it is among medical students, physicians and the general U.S. population (2). A recent survey indicated that 41% of U.S. anesthesiology residents were at high risk for burnout and 22% were likely to have depression. Approximately one-third of residents at high risk for burnout and depression reported more medication errors than residents who were deemed low risk (2). Additionally, anesthesiologists have a higher rate of substance abuse than any other specialty. A study by Gallegos et al, (3) showed anesthesiologists have the highest rate of narcotics and IV drug use of any medical specialty. Like any occupation, efficiency, productivity, error rates and burnout are affected by stress. The longer-term effects of stress may include depression, emotional exhaustion, resentment, and alcohol and substance abuse. In order to promote worksite wellness in this unique field, the associated pressures must be recognized before they can be managed.

Methods: We created an brief 10 minute anonymous online survey of 30 questions including both Likert scale and a,b,c,d format answers, to be completed by University of Minnesota anesthesiology residents and fellows. The link to the online survey was emailed out by the program coordinator. The trainees had a 4 week period to answer the questions and 2 follow-up emails were sent during this time encouraging participation. The first half of the questions were created to first assess the demographics of our anesthesia trainee population such as age, PGY level, marital status, and gender and then to assess relative stressors in life and work including but not limited to commute time, children at home, average hours of sleep, as well as healthy and unhealthy habits – smoking, drinking, exercising. The second half of the survey was a means of evaluating how stressed the trainees feel and if there were any coping mechanisms or implementations they would be interested in utilizing during their training such as counseling, meditation sessions, dedicated relaxation room etc. In addition, we will assess trainee’s sleepiness using the Epworth Sleepiness Scale. Finally, we will assess the trainee’s level of burnout using the Maslach Burnout Inventory.

Evaluation Plan: The response rate for the wellness and sleepiness survey was 88% (30/34). The data for the Maslach Burnout Inventory is pending. The data is currently being analyzed, but preliminary results show that although individual reasons for resident stress and burnout are varying, in general, trainees often feel stressed from work and would benefit from more wellness activities to help reduce stress and prevent burnout. Trainees indicated that they would most likely utilize a nap room, relaxation, or exercise room. They would least likely utilize yoga or a spiritual room. Midway through the year, an intervention will be implemented and the trainees will be re-assessed for sleepiness and burnout. Six months from the intervention, the trainees will be re-surveyed to determine if that intervention made a difference in their sense of burnout or sleepiness.

Potential Impact/Lessons Learned: Our residents often feel stressed while at work and the majority struggle to find enough hours outside of work to incorporate sleep, exercise, and family/social time. In accordance with this a majority of the residents also showed a great interest in both a nap room and and exercise room.

References:
A Prospective Study to Evaluate the Impact of a Wellness Curriculum on Resident Wellness
Eng, Victoria; Waldron, Doris
Kaiser Permanente Los Angeles Medical Center

Idea/Problem Statement: Implementation of a Wellness Curriculum will minimize the increase in burnout in pediatric residents as compared to a historical cohort who did not.

Rationale/Need: Intern wellness has been described as being significantly affected by burnout. Burnout has been defined as a state of mental and physical exhaustion related to work or caregiving activities, as well as a triad of emotional exhaustion, reduced accomplishment and depersonalization (1). The association of burnout with intern depression, suicide and future cardiovascular disease, as well as with increased medical errors, suggests that this phenomenon significantly influences the overall wellbeing of interns and patients (1). It is likely that different populations of residents, including different centers and different specialties, have varying rates of burnout, so it is imperative to uncover how Kaiser Permanente Southern California (KPSC) residents are affected by burnout in order to specifically tailor programs to improve wellness in our population (2). In the future, this data can be used to best implement formal wellness programs, as these programs have shown to be beneficial in improving wellness (3).

Methods: This is a survey-based prospective study to analyze the effect of a Wellness Curriculum on resident wellness.

Evaluation Plan: A baseline voluntary self-administered Maslach Burnout Inventory survey will be conducted in person at the beginning of the 2017-2018 residency year to all pediatrics residents at KP LAMC. Survey confidentiality will be maintained by using numerical codes to keep track of participants without personal identifiers. The primary researchers will not be exposed to the surveys until the demographics page is detached and separated. A Wellness Curriculum will be implemented within the Pediatrics Residency Program from July 2017 through April 2018, consisting of a modified educational experience every other month. The follow-up survey will be in April 2018. Survey data will be analyzed to measure changes in burnout over time after implementation of the Wellness Curriculum and compared to a historical cohort from a previous Quality Improvement project that demonstrated an increase in burnout over time in KPSC interns.

Potential Impact/Lessons Learned: The implementation of a Wellness Curriculum will minimize the increase in burnout in Pediatric residents who received the Wellness Curriculum as compared to a historical cohort who did not receive the curriculum.

References:
Medical Students’ Lifestyle Behaviors, Knowledge, and Attitude Towards Nutrition
Memel, Zoe; Fung, Cha-Chi; Harlan, Gregory
Keck School of Medicine of USC; Keck School of Medicine of USC, Department of Medical Education; Keck School of Medicine of USC, Department of Medical Education, Department of Pediatrics

Idea/Problem Statement: The lack of nutrition education within medical schools has resulted in students that do not feel confident in counseling patients on dietary changes.

Rationale/Need: Medical students’ lack of confidence in nutrition counseling translates into less education and preventative services for patients, with only 14% of surveyed residents feeling prepared to provide nutrition education to patients (1). Several studies have reported associations between doctors who eat healthier and their increased frequency of nutrition counseling, however, there is little data on the relationship between medical student’s healthy choices and their confidence and knowledge in nutrition counseling (2). This study aimed to examine the relationship between students’ attitudes and knowledge in nutrition and how they related to their personal health behaviors. The secondary goal was to describe any changes in students’ nutrition knowledge and attitudes towards the importance of nutrition in patient care as they matured in training. Additionally, we measured students’ current satisfaction with the available nutrition resources and previous exposure to nutrition.

Methods: Medical students at the Keck School of Medicine from all four classes (n=753) were asked to participate in this voluntary, anonymous survey. Hard copies of the survey were distributed before the beginning of each class years’ lectures and were re-collected and manually input into the Qualtrics software. All active, registered medical students at the Keck School of Medicine were eligible for the study. The survey was divided into three main sections: attitudes, knowledge, and demographics. We adapted the survey used by Walsh et al from their 2011 study of student’s nutrition attitudes and knowledge at Harvard Medical School. All of the attitude questions are rated on a 5-point Likert scale. The first half of the attitudes section came from an existing Nutrition in Patient Care Survey (NIPS) that was developed to assess students’ perceived opinions about the importance of nutrition in patient care. The second half focused on questions related to student’s satisfaction with their medical school nutrition education as well as questions relating to students’ personal health behaviors. The knowledge section contained 21 multiple choice questions that were taken from Walsh’s study and originated from an online curriculum, designed by the nutrition faculty at the University of North Carolina. In order to identify any significant differences between class years, descriptive statistics, ANOVAs and Pearson analyses were conducted.

Results: Overall, 235 students (31% response rate) submitted the survey of which 198 completed both the “attitudes and knowledge” sections (MSI 67, MSII 72, MSIII 53, MSIV 7). The mean knowledge score for all class years was 58.6% (range = 23.8 to 90.5). An ANOVA was performed to compare the three classes (Years 1, 2, 3) knowledge scores and found a significant difference between class year and knowledge scores (F (2,187)=21.801, p < 0.01) with higher class years achieving higher scores. No significant association was found between student’s perceived confidence in nutrition counseling and their knowledge score (R=.15 (p < 0.01)). The majority of students were dissatisfied with both the quality (61%) and quantity (66%) of nutrition education. Despite 55% of students reporting eating at least 3 servings of fruit/vegetables a day and 60% exercising 5 days a week for 30+ minutes, only 36% of students felt confident discussing meal plans and dietary interventions with patients and 49% of students had counseled a patient on lifestyle recommendations. Additionally, no relationship was found between a student’s health behaviors and NIPS attitude score (R=.15 (p < 0.01) and no significant correlation was found between students’ class year and knowledge about nutrition or students’ attitudes toward nutrition in patient care. The only variable that significantly correlated with attitudes in nutrition was students’ level of satisfaction with the nutrition curriculum (r=-.23, p < .01).

Potential Impact/Lessons Learned: The results of this study suggest that future interventions with a hands-on nutrition curriculum would help bridge the gap between student’s personal health practices and their ability to translate the fundamentals of nutrition into practical, healthy lifestyle advice for their patients.

References:
The association of students’ circadian rhythms with perceived stress level and academic performance

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Trinity School of Medicine, Saint Vincent and the Grenadines

Idea/Problem Statement: Problem: to identify students with high perceived stress level and academic risk.

Rationale/Need: Several studies have shown that stress has negative effects on the physical and mental health of students and can affect concentration and academic performance (Liaghatdar et al., 2016). Chronotypes, which reflect circadian preference in students for activity at different times during the day, have been associated with many factors of student's life, such as sleep quality, human behavior, cognition, memory, depression, and perceived stress (Saper et al., 2005). As medical students confront many stressors, it is necessary to estimate their perceived stress level to understand and identify their needs. However, there is no information about how chronotypes are associated with the perceived stress level of students and their academic performance. In this study we examined the circadian rhythms of medical students, their perceived stress level and their academic performance.

Methods: The subjects were 77 medical students of Trinity School of Medicine (male =33 and female =44), mean age =24.7 years, SD =2.3. All students involved in this study had a similar academic load. Participation in the study was voluntary, and informed consent was obtained from all participants. Students were asked to answer the morningness-eveningness questionnaire (MEQ) and the perceived stress questionnaire (PSQ). The relationships between obtained data and academic performance were analyzed by linear regression.

Results: Chronotype distribution showed: 55% students with indifferent type, 22.5 % with moderate morning type, 12.5 % with moderate evening and 10 % with definite morning chronotype. The correlation (R=0.87) between chronotype and GPA was significant (P < 0.001), showing a higher GPA in students with morning chronotypes. The analysis of the perceived stress questionnaire showed the following distribution: 15.6% students had a low perceived stress level, 72.7 % students had a moderate stress level and 11.7% students with a high perceived stress level. Also we found that 87% of moderate evening chronotype students had high perceived stress level by contrast the majority of “morning” students (83.2%), had low perceived stress level. The correlation (R= -0.65) between the perceived stress level and MEQ was significant (p < 0.04).

Potential Impact/Lessons Learned: Students’ chronotypes are tightly associated with their perceived stress level, which has a negative effect on academic performance, especially for evening moderate chronotype. This information can be used by counseling centers as a guidance tool to improve student’s academic performance.

References:
A Story-Telling Workshop to Enhance Wellness for Physicians in Training
Cooley-Wilder, Sabrina
University of Southern California

Idea/Problem Statement: Enhance well-being of Family Medicine residents with a workshop using small group storytelling to focus on the role of emotions in well-being.

Rationale/Need: Burn-out is associated with decreased student well-being, decreased career satisfaction, and suboptimal patient care practice (1). Fifty-four percent of physicians will experience burn out; twice the rate of the general population with symptoms including loss of enthusiasm for their work and cynicism (2). In his 2017 commentary Ripp called for residencies to “cultivate the skills to sustain providers throughout their professional careers.” One conceptual model that can be used to help students flourish in residency and beyond uses the acronym PERMA (positive emotions, engagement, relationships, meaning, and achievement). The framework of this model has shown to help create a culture of concern, build resilience, and personal growth (3). Storytelling can foster a nurturing atmosphere where knowledge, experience, honesty, and vulnerability bring teachers and learners closer to a shared wisdom (William Ventres, MD. STFM. Oct 2016). The proposed intervention is a workshop that combine use of storytelling with exploration of the PERMA model to help residents build skills to prevent burnout and maintain a life of deep meaning and wellness.

Methods: The participants for this two-hour workshop will be 10 first year family medicine residents. Prior to the workshop all participants will be given time to complete the evidence-based tool, VIA Character Strengths Survey. In the workshop, the group will discuss personal/professional challenges and how to use our strengths to meet the good (challenges to do something at the edge of our skills), the bad (when we made a mistake or fail at something) and the ugly (when we are treated inappropriately); that is use of our strengths in a way to help us to flourish. Activities will include 1) establish ground rules for the session; 2) sharing of stories (published and personal), 3) brainstorming of challenges they have faced or are currently facing (good, bad and ugly), 4) learner selection of the challenges the group wishes to discuss, 5) discussion of how character strengths can be used to meet the selected challenges, 6) establish a set of personal well-being goals (personal next steps); and 7) review of the workshop by the learners (what liked best, what are the key takeaway points, what would make it even better next time). Objectives: On completion of this workshop, the participants should be able to: 1) display a deeper sense of personal awareness; 2) share a greater sense of connection with their peers; and 3) utilize the PERMA model to establish personal goals to help them flourish.

Evaluation Plan: The evaluation of the workshop will be in three parts: 1) the in-session review of the workshop will be used to gain insight into what the learners liked and did not like about the session (reaction), and what they are taking away as key points (learning), 2) the session evaluation to gain additional insight based on their personal reflection on their own learning along with ratings of quality of the teaching and how well it met its objectives; and 3) an interview with the program director of the residency program to discuss perceptions of resident usage of their personal plans, their VIA Character Strengths and strategies for flourishing discussed in the workshop.

Potential Impact/Lessons Learned: If the workshop proves valuable it is a model that is transferable to learners or practitioners within any health care profession.

References:
Partnerships and Possibilities in Paradise
Olson, Holly; Vincent, Dale
UH JABSOM Tripler Army Medical Center

Idea/Problem Statement: Develop a CME conference in Hawaii for GME leaders that would enhance their knowledge of developments in accreditation and best practices.

Rationale/Need: Hawaii has several major sponsoring Institutions for Graduate Medical Education (GME) to include Tripler Army Medical Center and the University of Hawaii John A. Burns School of Medicine. Due to changes in government travel policies as well as the high cost of travel to and from Hawaii, we sought to establish a local educational conference of high value topics for GME leaders in the state. The initial goals were to share best practices between our two sponsoring institutions who often shared trainees and to bring updates from the national ACGME meeting back to program directors who were unable to attend. Over the years we had dealt with similar issues and intended for this conference to become a forum in which graduate medical education in Hawaii could move forward through enhanced collaboration and knowledge about each Institution’s unique characteristics. We also sought to provide tools for program leadership to communicate with external stakeholders in GME.

Methods: A planning committee was formed with leaders from each sponsoring institution as well as leaders from the Hawaii Residency Programs, Inc., as the employer and the institutional GME coordinator. This group conducted a needs assessment and used that to develop a one day workshop for program directors and administrators. Speakers were recruited from each institution and the planning committee utilized the strengths of their various agencies to provide support for this event as well as to obtain CME credit for the attendees. The first event took place in March 2014 and has continued annually each spring. At the conclusion of each event, participant feedback was obtained via two methods, a handwritten form with a Likert scale and an electronic CME evaluation form. The planning committee then met to review feedback one to two months after each event. That post event session determined if support for the activity was sufficient to continue and assisted as part of the needs assessment for future events. There have been four events thus far and each year, the committee does through a deliberate needs assessment to ensure the event continues to meet the learning needs of both institutions.

Results: Over the past 4 years, 240 GME leaders attended this CME workshop to enhance their competence in management of their training programs. The post event survey return rate was 74% over all four years, with the highest return of 81% at the completion of the 2017 session. Of the surveys returned, the rate of respondents answering “Strongly agree” or “Agree” that the conference should continue was 71%. Over that same time, only 0.83% of respondents felt that the conference should not continue. Review of the comments over the years were largely positive with the majority noting that they would have preferred more time for networking with colleagues and that the conference rooms were too cold. Review of the electronic CME evaluation forms revealed similar positive results with confirmation that the learning objectives were achieved. The score of “good” or “excellent” for all categories was in the 90-95% range for all objectives.

Potential Impact/Lessons Learned: By combining resources of two sponsoring institutions, we have demonstrated that valuable educational opportunities can be provided in Hawaii that are relevant to GME leaders in both military and civilian training programs. Our program serves as a model to organizations facing constrained resources.

References:
Impact of Technology on Preceptor Recruitment: A Mixed Methods Study
D'Aquila, Mitzi; Lie, Desiree; Tramel, J.; Richter-Lagha, Regina
University of Southern California

Idea/Problem Statement: New approaches to preceptor recruitment beyond traditional methods are needed to grow and maintain the preceptor pipeline for clinical training.

Rationale/Need: Recruitment of primary care preceptors has been challenged by the primary care clinician shortage. Current strategies for preceptor recruitment include networking, phone calls, emails, in-person meetings and oral presentations. Main barriers to accepting students have been identified as poor understanding of program expectations and student needs, and inability to assess student performance. There is a need for new and efficient approaches to address the information gap about precepting clinical students. Recruitment tools should be easily accessible to busy clinicians in practice. Little is known about preceptor preferences for information delivery or the effectiveness of recruitment materials. We therefore developed an online informational video as a potential time-efficient and flexible preceptor recruitment tool. This video would serve as a replicable model for other programs seeking to boost their preceptor pool.

Methods: The primary aim was to examine the impact of the informational video on knowledge about, attitudes toward and willingness to accept Physician Assistant (PA) students. The secondary aim was to explore continuing barriers and facilitators to precepting and acceptability of the video format. Participants were practicing primary care clinicians. A 12-minute video was developed from a framework of analysis, development, implementation and evaluation, using a scripted storyboard with six topics: similarities and differences with other students, scope of practice, orienting a student, assessing and giving feedback, how a practice benefits from a student, and teaching interprofessional student teams. A 10-question pre-post survey explored attitude and knowledge change after viewing the video. Focus groups were used to elicit barriers and facilitators for precepting. We used descriptive statistics, paired samples t-tests, and independent samples t-tests to examine change in knowledge and attitudes. The study was powered to detect a medium-large effect (d = 0.67) with 80% power and alpha at .05. A question guide explored motivators and barriers and asked for suggestions to enhance the video presentation. Focus groups were moderated by an expert, audiotaped and transcripts coded for major themes using constant comparison analysis.

Results: Twenty-three clinician preceptors participated in three 45-minute video presentations. Seventeen (74%) represented the subspecialty of family medicine. 57% (13/23) were female and between 30-39 years old (13/23, 57%). The majority (13/23, 57%) had been in practice fewer than 5 years. Nineteen participated in four focus groups. Paired-sample t-test indicated statistically significant gains in knowledge or attitude in 7 of 10 questions. These were: knowledge about the scope of practice of PAs (Question 3), t(22) = 4.72, p < .005; awareness of the differences between precepting PA and medical students (question 4), t(22) = 5.60, p < .005; awareness of the differences between precepting PA and NP students (Question 5), t(22) = 4.64, p < .005; comfort giving feedback to PA students (Question 9); comfort precepting a student from a profession other than their own (Question 7), t(22) = 4.38, p < .005; comfort evaluating the clinical performance of a PA student (question 8), t(22) = 4.22, p < .005; and comfort precepting an interprofessional student team (Question 10), t(22) = 3.10, p = .005. The range of pre-to-post score change was 0.5 to 1.3 points on the 5-point scale. Major themes were: teaching is motivating for myself; I need clarity about PA students’ needs; I need time and administrative support to teach; I prefer in-person video presentation to an email link; the similarities with medical student teaching is positive.

Potential Impact/Lessons Learned: A brief in-person video presentation is acceptable to preceptors as a recruitment tool, and is associated with increased knowledge about PA student teaching and willingness to percept PA students. Clinicians are open to precepting students from outside their own practice scope.

References:
Keck Anatomy Mentorship Program: A Near-Peer Gross Anatomy Educational Experience
Kazerouni, Kayvan [1]; Pott, Emily [1]; Jalali, Omid [1]; Roy, Donovan [2]; Vo, Anne [3]

Idea/Problem Statement: To provide a model for establishing a near-peer mentorship program within the framework of a thriving gross anatomy curriculum.

Rationale/Need: Anatomy-based skills were ranked as being of high importance in clinical practice by consultants, junior doctors, and medical students. In fact, there is a general consensus that medical students definitely cannot do without anatomical knowledge. Despite the established importance of gross anatomy (GA), recently the anatomical knowledge of medical graduates has been nationally criticized by anatomists and surgeons. Our program, the Keck Anatomy Mentorship Program (KAMP) addressed this problem by providing a platform for face-to-face, small-group cadaveric teaching in the context of the Keck School of Medicine GA curriculum. Peer teaching is an advancing learning method in medical school curricula, having the potential to lead to positive outcomes for both student and mentor. Through KAMP, students have the opportunity to obtain tips, advice, and insight in a non-threatening environment, decreasing test anxiety and stress.

Methods: The intervention: KAMP was established in 2016. KAMP paired 21 MS1 students with 10 MS2 mentors identified based on their exemplary GA performance. A GA academic year encompasses four academic blocks (1. Thorax and Back, 2. Gastrointestinal Anatomy, 3. Neurological Anatomy, and 4. Reproductive Anatomy). KAMP took place over Blocks 1-3. Methods: We conducted a retrospective study of the class of 2020, stratifying the students into whether they participated in KAMP (n=21) or not (n=166). Our preliminary data includes GA practical exam scores. GA exams are standardized and contribute 20-35% of students’ total grade for an academic block. Both exam scores from individual academic blocks and average exam scores across academic blocks were compared between groups. Also, a model was created to assess how KAMP students were performing compared to their “expected” performance based on admitting college MCAT and GPA. To form one statistic, a composite score (i.e. the “LizzyM” score) was tabulated for each student using the formula (GPA x 10) + MCAT score. The model was created using data from previous students (Class of 2016-2019, n=736), correlating LizzyM with GA practical exam performance. Average distance from expected score (i.e. the residual) was calculated and these residuals were compared between KAMP vs. non-KAMP students. For continuous variables, an unpaired Student's t-test was used for comparisons. Statistical significance was denoted at a p-value of 0.05 or less.

Results: A significant positive correlation was found between incoming LizzyM scores and subsequent first year gross anatomy exam performance (r=0.26, p<0.001). KAMP students were found to have significantly lower LizzyM scores than their non-KAMP peers (64.6±2.9 vs. 72.1±2.9, p<0.001). Despite their lower Lizzy scores and the positive correlation found between LizzyM and subsequent gross anatomy exam performance, scores of KAMP students were significantly superior to those of non-KAMP students (86.6±5.6 vs. 83.9±6.6, p=0.03) when all four practical exam scores were averaged together. When gross anatomy practical exam performance across individual academic blocks was assessed, KAMP students had significantly superior scores than their non-KAMP peers in Block 1 (87.5±6.6 vs. 84.4±8.6, p=0.03), Block 2 (82.9±7.5 vs. 77.4±9.6, p=0.005), and Block 3 (90.3±6.3 vs. 88.2±7.6, p=0.04). Exam performance in Block 4 was not found to be significantly different between the two groups (84.8±7.7 vs. 86.2±6.7, p=0.23). When assessing the model of LizzyM vs. gross anatomy performance, KAMP students were found to have significantly higher residuals than non-KAMP students (6.9±5.3 vs. -0.8±5.6, p<0.001), indicating that these students were performing better than they would have been expected to perform based on their incoming GPA and MCAT score.

Potential Impact/Lessons Learned: KAMP was successful in promoting gross anatomy practical exam performance in a group of students who were at an initial academic disadvantage. This program has the potential to expand in hopes of improving gross anatomy enthusiasm and competency in medical school graduates.

References:
Rethinking Resident Recruitment: A Novel Regional Recruitment Roadshow
Diez, Caroline; Nambudiri, Vinod
Grand Strand Medical Center

Idea/Problem Statement: Residency recruitment is costly and complex. Our goal was to alleviate the applicant burden through implementation of a novel recruitment strategy.

Rationale/Need: Residency recruitment is a costly, complex enterprise with many applicant burdens. Applicants average 12.3 residency interviews and amass thousands of dollars in direct interview costs; indirect costs such as time away from educational activities are further burdens to consider. While alternatives have been trialed, they have yet to become widely-accepted standards. For applicants attempting to secure a Transitional Year (TY) Residency spot, the challenges are compounded, as applicants must interview for two residency positions simultaneously. The problem is particularly challenging for candidates in our region, given the paucity of TY spots; in a three state radius (Georgia, North Carolina, and South Carolina) there are 14 medical schools and only 50 ACGME-accredited TY positions. Our institution, Grand Strand Medical Center, hosts a 12-position TY residency program, accounting for 24% of the regional and 50% of state-wide spots.

Methods: We sought to alleviate the burden placed on TY residency applicants in the Southeast through implementation of a novel recruitment strategy. Additionally, we sought to provide applicants with an experience on-par with on-campus interviews by drawing upon the strengths of in-person interviews. We incorporated the program director, program coordinator, and resident interaction into each site visit. We began by using geographic filters to focus on applicants with ties to our three-state region. We then identified four regional cities that are home to academic medical centers (Augusta, Greenville/Spartanburg, Columbia and Charleston). Candidates were selected for individual days based on geographic proximity. The interview days were divided into morning and afternoon sessions to minimize candidate time away from campus. All informational materials presented to candidates were made available in electronic format on a customized USB-flash drive. The program director, program coordinator, and a resident representative with prior educational connections to the city-specific academic medical center traveled to each location. These sessions were held close to each academic medical center. Two additional on-campus interview days with associated “open houses” at our institution were offered for applicants who were unable to attend the regional interviews, or for those regional participants who wanted to additionally visit our institution in person.

Results: Overall, feedback was universally positive from all candidates. The greatest strengths noted were (a) the streamlined interview process and (b) time and money savings. The biggest weakness candidates noted was only meeting one resident and one faculty member. We interviewed 55 candidates across the four “Roadshow” dates. 90% of those candidates traveled less than 30 minutes for the interview. Of the 59 candidates interviewed regionally, 17 (29%) elected to attend our institution “open house” days. We interview an additional 32 candidates in Myrtle Beach. Our program matched in our top 50. Within that top 50, 29 candidates attended our regional interview days; while the remaining 21 were interviewed on-campus. Out of the 12 matched residents; 10 were matched from our original catchment area (Georgia, North Carolina, and South Carolina), with two residents coming from our “roadshow.” The additional cost to the program was not significant, the “roadshow” cost approximately $20 more candidate; but that figure does not account for clinical work cancellations by faculty, nor program coordinator time. Our program plans to use this approach again to conduct another successful recruitment season. Based on feedback and match data, we envision including stops in North Carolina, because we missed a large catchment area there (58% of our current class is from North Carolina). Additionally, we will increase resident/faculty participation and visibility.

Potential Impact/Lessons Learned: We believe that this approach is a strategy that other residency programs can emulate for successful regionally-targeted, candidate-centered recruitment. This approach reduces the applicant burden while providing in-person interactions with key program leadership and current residents.

References:
Evaluation of a Pilot: The Integration of a 3rd Party Vendor Resource into a Neuroscience Course
Saalman, Dustin; Haugh, Matt
Wayne State University School of Medicine

Idea/Problem Statement: An evaluation must be done following the completion of a pilot program to integrate a 3rd party vendor STEP preparation tool as a course resource.

Rationale/Need: WSU SOM is the largest single campus medical school in the United States, with roughly 290 students per class. This creates a demand to identify scalable student resources. External vendor remediation services are helpful but often are open ended and do not align with course content. Responsibilities placed on course director limits their availability to develop study and remediation aides for students. As a pilot, a collaboration was developed with a 3rd party vendor that provides a web-based STEP preparation program. The Year 1 Neuroscience course was identified to pilot the resource due to the timing of the course, the willingness of the course director to collaborate with the vendor, and the need for student resources. The content of the web-based resource was aligned to the learning objectives and content calendar of the course. Using the resource students accessed weekly practice quizzes, MC NBME style questions, and clinical vignettes which were aligned with the course.

Methods: The pilot program was assessed at three different levels: 1) Student Satisfaction, 2) Student Perceptions, and 3) Effect on Neuroscience NBME scores. Upon completion of the course, students were provided with a survey completed online through Qualtrics with fixed response questions that will be used to assess students overall satisfaction with the resource and how useful they perceived it to be in the Neuroscience course. Open-ended questions also were used to collect narrative responses on what they liked about using the tool or what merits they felt it had in the course as well as things that they did not like or ways in which they felt it negatively impacted their experience in the course. The narrative responses were analyzed for themes. To assess the effect on the Neuroscience NBME average scores, the class will be compared to average scores from the last two Neuroscience classes. Additionally, students’ level of activity was used to determine whether or not there was a correlation between the amount of use and performance on the NBME.

Results: The Survey was sent to students at the end of the course. 92 student responded, providing a 32% response rate. Overall sentiment of the students about their experience using the resource was 41.3% (n=38) liked the resource, 11.96% (n=11) indicated they disliked using the resource, and 46.74% (n=43) indicated that they had no strong feelings about it. 48.35% (n=44) of the respondents felt that the topics identified in the resource covered the same content that was presented in class lectures. 54.95% (n=50) respondents felt that the topics covered in the resource were aligned with the organization of the course materials. Ten themes were identified from the narrative responses indicating positive experiences with the resource. The themes occurring with highest frequency were the additional quiz questions, the practice exams, NBME style practice questions, the usability of the platform, and the use of the resource to pace themselves through the course. Nine themes were identified from the narrative responses indicating negative experiences with the resource. The themes occurring with highest frequency were that the content in the resource did not align with the course material, the resource material did not align with the exam, and the usability of the resource. The number flash card recalls were used as a proxy for the amount of effort students put into using the resource. When the effort was compared to scores on the NBME a low correlation existed (r = .08).

Potential Impact/Lessons Learned: Formal evaluations of resources are essential for data driven decision making. This separates students’ reports of liking the resource from what proves beneficial. Findings indicated low to no impact using the resource in the course. These findings will help drive future course resource decisions.

References:
Development of an Assessment Tool to Evaluate the Existing and Post-Intervention Feedback Culture

Marzan, Katherine; Stavroudis, Theodora; Ward, Marianne
Children's Hospital Los Angeles, Keck School of Medicine of USC

Idea/Problem Statement: The 1st step to an institutional culture of bidirectional feedback is an assessment tool to evaluate the current & post-intervention feedback culture.

Rationale/Need: In 1983, apart from some refinements through the years, Ende1 described what many ascribe to today as the optimum way to give feedback in clinical medical education. Decades later this feedback concept is still not being implemented. Current literature underscores the barriers that exist to achieving this ideal feedback culture and the importance of the development of bidirectional feedback. What is less clear is why despite this knowledge achieving optimal bidirectional feedback remains a challenge. ACGME surveys at our institution (CHLA) have consistently demonstrated resident and fellow trainee dissatisfaction with feedback. In addition the GME committee identified the development of bidirectional feedback as a key priority. The first step towards achieving bidirectional feedback at CHLA is the development of an assessment tool to review the existing feedback culture and serve as a needs assessment to identify areas for potential intervention. In addition this tool would be utilized to evaluate changes to the feedback culture and as metrics for the success of the interventions and programs.

Methods: The CHLA Feedback Collaborative Group was tasked with improving the feedback culture and fostering bidirectional feedback at CHLA. A comprehensive literature review did not find an existing assessment tool to evaluate feedback culture. The goal of bidirectional feedback prompted need for a single survey for physicians of all levels. The pillars of feedback proposed by Kost2 were identified as the conceptual framework with which to develop domains to formulate a survey. These included: Quality of Feedback, Characteristic of Feedback Deliverer, Characteristic of Feedback Recipient, Characteristic of Deliverer-Recipient relationship, and Organizational Culture. The initial questions for each domain were developed by modified Delphi technique and refinement of the questions will be in collaboration with a biostatistician. Prior to administering the survey, focus groups will be convened to assess the clarity, appropriateness and accuracy of the survey and to identify other emerging themes. Qualtrics software will be used to administer the survey to the residents, fellows and faculty. The refinement of the preliminary survey, completion of the focus groups and finalization of the survey will be done in 6 months. After the survey has been administered qualitative analysis will be done to improve the survey and identify target areas for intervention. The survey will then be re-administered at various intervals after a program has been implemented or intervention completed.

Evaluation Plan: After the survey has been administered qualitative analysis will be done to further improve the survey and identify target areas for feedback intervention. After each program or intervention is implemented the survey will again be administered, analyzed and compared to the initial survey to assess any changes in feedback, feedback culture and bi-directional feedback that may have resulted. A biostatistician with expertise in surveys will provide the qualitative analysis of the data. The ACGME survey will also be utilized as metric to assess changes in trainee satisfaction with feedback.

Potential Impact/Lessons Learned: This assessment tool will provide a means to evaluate the current needs of the trainees and faculty to achieve a culture of bidirectional feedback, to assess the impact of implemented programs and any cultural shifts. A validated tool can be utilized at other academic institutions.

References:
Are video and live in-room ratings of interprofessional team behaviors equivalent?

Lie, Desiree; Richter-Lagha, Regina; Ma, Sarah
University of Southern California

Idea/Problem Statement: In interprofessional education rating modality (live vs. video) is a potential source of bias in assessing student performance in patient encounters.

Rationale/Need: Assessment plays a vital role in competency-based education. Like the Objective Structured Clinical Examination (OSCE), the Team OSCE (TOSCE) uses standardized patient (SP) encounters to evaluate student behaviors and skills in teamwork during patient care. Faculty resources to conduct in-room rating of students in teams are limited, and video recordings are often used instead. While congruence has been reported between live and video faculty ratings for procedural skills such as joint examination, airway insertion and septic shock management, little is known about the equivalency of student performance scores using video-based compared with in-room live ratings for team behaviors. There is a need to address modality of rating as a potential source of bias in TOSCE ratings. We therefore conducted a pilot study to compare the equivalence of the two modalities for rating students in newly formed interprofessional teams during a patient encounter.

Methods: We compared live in-room and video-rated student performance scores in an interprofessional 2-station TOSCE, using a validated 3-point (below, at and above expected) scale assessing 6 competencies (the modified McMaster-Ottawa scale): communication, collaboration, roles and responsibilities, patient-centered approach, conflict management and teamwork, with an additional global score. Scale generalizability coefficient is .75. Students were assigned to new teams just before the TOSCE. For each station, the student team was instructed to assess the SP (physical examination not required) in readiness for presentation to an attending. The two stations (one a patient with diabetes, the other with chronic pulmonary disease) were at the same level of difficulty. Each station lasted 25 minutes: 5 minutes of pre-huddle. 15 minutes with the SP and 5 minutes for a post-huddle. Raters were present for all 25 minutes, with 5 minutes between stations to complete their rating forms. Scores for each student were derived from two in-room faculty and one faculty who viewed video recordings of the same team encounter from equivalent visual vantage points. All faculty raters received the same standardized one-hour rigorous rater training. Paired samples t-tests were used to compare individual student scores determined by in-room faculty with those of the faculty reviewing videos. McNemar’s test was used to compare student pass/fail rates to determine the impact of rating modality on performance.

Results: In-room and video student scores were captured for 12 novice teams, each consisting of 4 students from 4 professions (medicine, pharmacy, physician assistant, nursing) rated by 25 trained faculty raters. Video ratings produced lower student scores than live ratings for all scale items. Scale items with the largest difference in rating by modality included roles and responsibilities (mean score differences of 0.4 and 0.5 points for stations 1 and 2 respectively), and conflict management (mean score difference of 0.5 and 0.4 points for stations 1 and 2 respectively). Paired samples t-tests revealed statistically significant differences in student station scores between in-room and video ratings, including the calculated overall average student performance score across the two stations, t(54) = 6.6, p < .001. There was a mean difference of 0.3 points between the overall average score for in-room (mean score 2.1, SD 0.4) and video (mean score 1.7, SD 0.4) ratings. There was also a significant difference in pass/fail determination of overall TOSCE performance (passing at least 1 of 2 stations), p < .001. Using the criterion of an average score of 2 out of 3 for at least one station to pass the TOSCE overall, 56% of students passed when rated in-room, compared with 20% of students passing when rated by video.

Potential Impact/Lessons Learned: Our findings suggest that caution should be exercised when decisions are made about rating modality, in particular when multiple students are simultaneously assessed in a clinical encounter. We recommend that teamwork assessment be made in-person rather than by video.

References:
Evaluating Medical Spanish Proficiency: How Good Are Students at Self-Assessment?

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Idea/Problem Statement: It is unclear if students’ self-assessment of medical Spanish accurately reflects their proficiency for communicating with Spanish-speaking patients.

Rationale/Need: Spanish proficiency is a valuable skill for practice because in the US, Spanish is the most commonly spoken language after English. Medical language courses require significant resource commitment. Adding to the burden of offering curricula is the challenge of assessing student proficiency and course effectiveness. Scales for assessing Spanish language proficiency in clinical settings are available. The InterLanguage Roundtable (ILR) is a 6-level single-item scale with descriptors adapted for use in healthcare settings. Evidence about student self-assessment of language proficiency is scarce. There is no research on how well students assess their own Spanish language proficiency, or how well standardized patients (SPs) rate students’ language proficiency. If student self-ratings correlate well with expert faculty ratings, then students can reliably participate in interval assessment of their own proficiency. This has potential to reduce the burden of evaluating curricular impact.

Methods: Fifty-eight Physician Assistant (PA) students participated in a single-station Spanish Objective Structured Clinical Examination (OSCE) at the midpoint of a medical Spanish curriculum. Students were instructed to conduct a history and counsel the patient in Spanish. Student self-assessed and SP scores were compared with that of an expert faculty who viewed a video of each encounter, using the Interagency Language Roundtable (ILR) with levels defined as 0 (None, does not speak the language), 1 (Poor, satisfies elementary needs), 2 (Fair, meets basic conversational needs), 3 (Good, effective formal and informal conversations), 4 (Very good, able to use the language fluently and accurately), and 5 (Excellent, native or educated speaker). The faculty score was considered the ‘gold standard’. Each encounter was video-recorded, and the expert Spanish language-certified interpreter faculty used the ILR to rate each student’s performance on a one-time play of each video. The SPs and the faculty rater received the same rater training using audiotaped examples of different proficiency levels. Mean distributions of student, SP, and faculty ratings are reported using descriptive statistics. We used a Spearman rank correlation coefficient to compare ratings of performance between the student and the faculty and between the SP and the faculty. We used a paired samples t-test to compare student self-rated Spanish proficiency following the OSCE and retrospectively at program entry.

Results: The scores showed a normal distribution pattern, with the highest mean scores given by SPs (M=3.8; SD=0.9), followed by students (M=3.0, SD=0.9). The expert faculty was the ‘strictest’ with the lowest mean scores (M=2.5; SD=1.2). Spearman rank correlation coefficient indicated a strong, positive correlation between student and expert faculty (rs=.67, p < .001) and between SP and expert faculty (rs=.72, p < .001) scores. Further analysis revealed that for those students deemed to have low Spanish language proficiency (scoring 1-2 on the ILR, N=38) by the faculty, the relationship between the student and faculty scores was weak (rs=.22, p = .187). The relationship was strong and statistically significant (rs=.64, p =0.002) for those with higher levels of proficiency (faculty scores ranging from 2 to 5, N=20). An independent samples t-test indicated that students with low (score of 1-2) Spanish proficiency on average overestimated their abilities (Mdiff=0.8, SD=0.7) by nearly one level whereas those with higher (score of 3-5) Spanish proficiency underestimated their abilities (N=20, Mdiff=-1.0, SD=0.7) by an average one level, t(56)=4.37, p < .001. A paired samples t-test comparing student self-rated scores following the OSCE (M=3.0, SD=0.9) and retrospectively, at program entry (M=2.1, SD=1.1) showed a statistically significant mean score improvement in Spanish proficiency, t(57)=10.60, p < .001, with a mean improvement of one level on the ILR scale.

Potential Impact/Lessons Learned: PA students and SPs show good correlation with expert faculty in assessment of language proficiency. Lower proficiency students tend to overrate while high proficiency students tend to underrate themselves. The ILR has potential to track student progress during medical Spanish curricula.

References:
2) Diamond LC, Luft HS, Chung S, Jacobs EA. "Does this doctor speak my language?" Improving the characterization of physician non-English language skills, Adapted ILR Scale for Physicians). Health Serv Res. 2012;47(1 Pt 2):556-569.
Teaching medicine residents the evaluation of elevated liver chemistries using case based learning

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Idea/Problem Statement: Would a case based learning format be effective in teaching internal medicine residents the key concepts in evaluating elevated liver chemistries?

Rationale/Need: The Saint Louis University (SLU) Internal Medicine Residency Program is moving from a more traditional lectured based curriculum to a case based learning format. Traditional lecture based curriculum is quite common but places students in a passive role; active learning has found to be more engaging, more helpful and in certain studies to improve knowledge acquisition (Inra 2017, Thistlethwaite 2012). Case based learning is an example of active learning and its goal is to bridge the gap between memorizing key concepts and applying them in clinical practice. It has been around for a while and becoming more popular (Thistlethwaite 2012). As Gastroenterology (GI) fellows at SLU we were tasked with presenting the evaluation of liver chemistries in an interactive learning environment to IM residents. The case based learning format closely mimics clinical encounters residents see on a day-to-day basis.

Methods: Two SLU Gastroenterology fellows designed a case based learning session for IM residents regarding the approach to elevated liver chemistries. Teaching IM residents in a case based format makes use of their critical thinking and analytic skills as well as clinical knowledge. It not only requires participants attention but also an element of integration that is vital to build clinical reasoning. This format incorporates “desirable difficulties” into the learning experience which has been shown to improve transfer of information and “long-term retention” (Bjork 2006). We had two sessions with different residents where we discussed 2-3 cases addressing different patterns of abnormal liver chemistries. About 15-20 internal medicine and a few medical students participated in the interactive sessions; some residents could only be present for part of the session due to clinical duties. Each session lasted about 2-3 hours (the same cases with different residents). We started each session by defining liver chemistries and also briefly reviewing the two patterns of liver injury commonly encountered. After each case was presented, the group went through a set of questions focused on diagnosis and clinical management. Once case discussions were completed we had a brief wrap up period emphasizing key clinical concepts. Participants were also given a handout reviewing major concepts. After each session we used written surveys for feedback.

Results: Overall residents and students participated in the sessions voluntarily and were attentive during the discussion. A few of the residents expressed interest in an additional session on other Hepatology cases which was encouraging to us as instructors. We handed out a brief 5 question survey after the session and received 11 surveys back. The majority of the residents who participated in the session and returned surveys were senior residents (2 interns, 3 second years, 3 third years, 2 medical students, 1 survey without training level); this may have been due to senior residents’ having a less clinically demanding schedule. All participants found the session to be very useful (5 out of 5 on Likert scale). In terms of how engaging the conference was all participants except one found it to be very engaging (5 on Likert scale) and one noted that it was engaging (4 on Likert scale). 3 of the participants rated the case based format to be better than a traditional lecture (4 on Likert scale) and all other rated it superior (5 on Likert scale). All participants said they would like to discuss more liver cases in this format. (Currently we are planning another case based learning format to discuss more Hepatology cases.) Many participants liked that interactive nature of the session. One resident noted that it may have been useful to break up into smaller groups for the discussion. At this time, we are planning another session to discuss more Hepatology cases.

Potential Impact/Lessons Learned: We used case based learning to teach the evaluation of liver chemistries to keep learners engaged, motivate further study and improve knowledge acquisition as well as retention. While residents’ clinical/academic performance remains to be seen, our intervention delivered on the first two objectives.

References:
Preparing GI trainees for emergencies
Narayanan, Mey; Marsicano, Elizabeth
Saint Louis University

Idea/Problem Statement: How do we help novice GI trainees with the least exposure, but who tend to be the ‘boots on the ground’, in recognizing GI emergencies?

Rationale/Need: First year trainees (in Gastroenterology fellowship and other training programs) often have heavier clinical rotations and calls than their more senior counterparts (Adams 2014). That first year of training is often the most challenging with exposure to new clinical situations, procedures and institutional protocols. While some patients may present as if they have read the textbook most do not. Recognizing emergencies is the first and the most vital step to initiate the higher level of care required in these time sensitive situations. While new GI trainees have 4 years of medical school knowledge and 3 years of postgraduate experience, will they be able to recognize an emergency when it is not listed as a multiple-choice answer to a question? How do you teach new trainees to be aware of their limitations, to ask for help and to recognize what they don’t know?

Methods: While articles have discussed preparation for GI boards, the incorporation of GI guidelines in fellow education, and gastroenterologists acquisition of knowledge, little has been written about preparing new GI fellows for addressing GI emergencies. We approach this by giving a presentation on ‘GI Emergencies’ in the form of a PowerPoint, including GI bleeding, food impactions, acute liver failure, etc. As well as diagnosis and management of GI emergencies, we stressed the availability of more senior learners and faculty as support. A brief pretest assessed the baseline knowledge of common GI emergencies in our four new trainees, and a post-test followed the presentation as well. Another test was administered three weeks later to evaluate for retention of material and survey collected written feedback.

Results: There was about a 30% improvement in pretest and posttest score averages (66% on pretest [range 55 to 82%], 95% on posttest [range 91 to 100%]). Immediate verbal feedback was overall positive. When tested 3 weeks later with the same assessment, scores average showed a durable improvement of 20% from baseline (86%, range 82 to 91%). Written feedback regarding this novel lecture yielded additional insight. Several different topics were considered high yield by trainees based on their first few weeks of clinical and call duties. 3 of the 4 trainees rated the lecture very helpful and one rated it somewhat helpful. All four trainees stated they would be interested in helping prepare new trainees for GI emergencies next year. Our goal was to provide a concise and relevant roadmap for novice trainees to identify GI emergencies and to emphasize the social structure available to support them. In the future, we will work to present GI emergencies in a more active learning based curriculum as this has been found to be more engaging and to improve transmission of material. Examples of tools that can be used for active learning are pre-lecture test/post-lecture test (which we did include), material presented in a case-based manner [Inra 2017], and perhaps an online version that can be loaded onto a smartphone for quick retrieval on call. It will be exciting to see how involving senior trainees in this process would affect new trainees and their comfort level with emergencies.

Potential Impact/Lessons Learned: As trainees’ clinical exposure increases and knowledge grows they will become more adept in managing GI emergencies. We hope this curricular addition will help them navigate clinical experiences (especially overnight call), yield better patient outcomes, and improve interdisciplinary communication.

References:
The Lecture Feedback Pilot: Lessons learned from detailed student review of pre-clinical lectures

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University of Michigan

Idea/Problem Statement: Medical school faculty are highly specialized experts and may overestimate their student audience’s background knowledge, leading to gaps in learning.

Rationale/Need: Lectures are the cornerstone of pre-clinical medical education. At the University of Michigan Medical School (UMMS), the 15-20 hours of scheduled lectures each week easily eclipses the time allocated to all other instructional methods. To be effective, these lectures must (1) transmit relevant content in (2) a clear, easily followed format that is (3) appropriate for the audience’s baseline knowledge level. However, students often lament that the third point is not fully realized, leading to decreased clarity in the transmission of critical content. We believe that students can add value by helping to identify these gaps and communicating them back to lecturers in a systematic and thorough way.

Methods: Four students, working in teams two teams of two, reviewed between one and three lectures given by each of five faculty members. This allowed us to identify trends by lecturer. Before each lecture was presented we reviewed the lecturer’s slides and with faculty to discuss potential pitfalls. After watching the lecture, we provided standardized feedback with an assessment form using Likert scales to evaluate areas including: the extent to which students felt the presentation was contextualized within the organ sequence in which it was presented, and whether the material was explicitly connected to previous foundational knowledge. We also included open-ended response forms to highlight slides that introduced content significantly above student baseline level, indicate when titles or labels could be improved for clarity, and explore what contextualization or comparison could help bring students to understand challenging concepts. Unlike course or teacher evaluation surveys, this feedback was administered within days of the lecture, and gave detailed critique that was often useful to modifying immediately upcoming lectures.

Results: Observations gathered from lecture evaluations included the following trends: Lectures that began with a broad contextualization of the lecture topic within the organ system and how it related to previous lectures (whether or not they were delivered by the different faculty) were easier to comprehend; Lecturers who included audience participation questions caught gaps in comprehension; Inconsistent slide labeling (ie- using the same title on multiple slides that each covered different phases of a process OR using different titles on slides that all refer to the exact same process) contributed to student confusion; Outlines of the lecture organization were found to be very helpful, as were the inclusion of summary slides after each new concept; Clearly defining acronyms improved student comprehension. Feedback from a brief survey of five participating faculty members revealed the benefits of this program to improve lectures. 100% of faculty members (N=3) responded that they applied the feedback they received to improve that particular lecture and subsequent lectures. Notable quotes: “I found the student feedback useful to improve my lecture and slides. Sometimes lecturers are not aware of students' knowledge gaps," “Rarely do we get the opportunity to have really detailed feedback on our presentations from the primary recipient (the student); so this was really fantastic.”

Potential Impact/Lessons Learned: Student feedback can help faculty to deliver more effective lectures and teach student reviewers analytical and communication skills. Creating a standardized form for feedback would increase consistency and efficiency. Administrative support will be essential to operationalize this program broadly.

References:
Impact of and Lessons Learned from an Interprofessional Case-based Session for Pre-clinical Students
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Keck School of Medicine of USC, PA program

Idea/Problem Statement: This study examines learning outcomes of an interprofessional session, addressing competencies of roles and responsibilities and teamwork.

Rationale/Need: Interprofessional education (IPE) is defined by the World Health Organization (WHO) as education that occurs when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes. The accreditation standards of most US health professions programs include curricular requirements for IPE. We therefore created, implemented and evaluated a required case-based session for students from medicine, nursing, physician assistant studies, pharmacy, dentistry and occupational therapy to address two WHO competencies of roles and responsibilities, and teamwork.

Methods: Faculty from 4 professions received training to deliver a 2-hour problem and case-based session to groups of 24 to 26 students, starting with an ice-breaker activity, followed by intra- and inter-professional interactive small and large group discussions around multiple aspects of patient management. The case involved a head-injury patient in a rehabilitation setting. Our primary outcome was session effectiveness using a 5 statement 5-point Likert-scale (options from strongly agree to strongly disagree) post-session student survey (administered online by Qualtrix ®). Analysis was by descriptive statistics. We also conducted thematic analysis of student narrative responses to the trigger question “what was one learning you took away from this session?” to elicit qualitative information. Feedback from 23 faculty members was solicited to identify key ingredients contributing to session outcomes.

Results: Two cohorts of students participated over two years (2016, N=? students, N=? faculty; 2017, N=? students, N=? faculty). Student data were similar for the two years and analyzed in aggregate (N=444 students). Survey and narrative response rate was 91% (N=404). Agreed/strongly agreed response rates for each statement follow: “As a result of the IPE session I have reflected upon my future role in a healthcare team” (174, 43%); “I am able to correct my previous misperceptions about other professions” (166, 41%); “I am able to identify assumptions I had about other professions” (65, 16%); “the session was effective in promoting interprofessional learning” (272, 66%); “The faculty facilitators were effective in leading the session” (271, 67%). Three major themes emerged from 404 narratives of 10 to 40 words each: “Learning about own and other professions’ roles and responsibilities”, “importance of collaboration with other professions to manage patients well”, and “the case-based format was effective for learning”. Survey and qualitative findings did not differ by gender, profession or year. The faculty planning team identified facilitative factors for success as: interprofessional case development, shared logistical and administrative responsibility, effective faculty preparation with training guided by a script and video, involving students from similar phases of training (pre-clinical), and providing food.

Potential Impact/Lessons Learned: A case-based format to deliver small-group interactive IPE curriculum, with standardized faculty training, is effective and feasible to organize and deliver. Preclinical students identify IPE competencies of learning about roles and responsibilities and teamwork as major learning. IPE curriculum des

References:
Clinical Reasoning: Making the Invisible, Measurable
Clifton, Maurice; Calton, Rakesh
Saba University School of Medicine

Idea/Problem Statement: The effect of case-based exercises to teach medical students clinical reasoning skills in the 2nd year of medical school can be measured using MCQs.

Rationale/Need: Up to a third of patients have had a close experience with a medical error and misdiagnosis is often the greatest concern of patients seeing a physician. A common underlying cause of misdiagnosis has been found to be overconfidence due to the use of heuristics in the “synthesis” step where the clinician combines his/her medical knowledge with the patient’s history and physical findings.1 Students typically organize their clinical knowledge according to how they are taught. In an organ system-based curriculum, they will organize their knowledge by organ system, with cardiac knowledge separate from pulmonary knowledge. Students’ recall will then be triggered by questions or contexts related to individual organ systems. However, in the clinical setting, patients present with symptoms that are not specifically linked to an organ system, making it difficult for students to retrieve and organize their knowledge in a practical manner that leads to appropriately diagnosing a patient.2 Even within organ systems, previous studies have found that performance on individual patient problems do not generalize well from one problem to another.3 This may allow us to measure the effect of case-specific practice on medical students’ abilities to answer multiple choice questions (MCQs). Students may score higher on MCQs that are related to specific cases they have studied in class that on cases that they have not studied.

Methods: In order to make the process of developing clinical reasoning clearer to students, we developed a series of electronic clinical cases consisting of a history and physical exam that are delivered in an organ system-based curriculum. Students are arranged in small groups in our group learning facility which includes the infrastructure to allow individual student groups to present the contents of their computer screen to the entire room. Each session has two to four cases that correspond to the organ system the students are studying. During the Cardiology Clinical reasoning sessions, we gave four cases with clinical presentations suggestive of heart failure and acute myocardial infarction. For each case, student groups were randomly assigned a set of differential diagnoses (e.g. CHF, Systolic Dysfunction; CHF, Diastolic Dysfunction; Acute MI, etc.). Each group highlights sections of the case that are consistent with their assigned diagnosis in green and the sections of the case that are not consistent with the diagnosis in red. They insert a comment for each red section that describes a change that would make that section consistent with their diagnosis. These highlighted cases are projected to the rest of the class, and each group justifies both their green and red highlighted sections. Faculty members facilitate evidence based discussion that includes a diagnostic algorithm based on clinical presentation and pertinent investigations required to clinch the diagnosis.

Evaluation Plan: The effectiveness of the Clinical Reasoning sessions will be evaluated by formulating MCQs on the end of the course test that are directly related to cases they had worked on in class and other questions that are based on new cases. In particular, the utility of MCQs as a means of assessing the case-specific learning that occurred by students participating in a case-based clinical reasoning exercise will be addressed. We will have 5 questions related to previously seen cases and 5 questions related to new cases. All 10 questions will be in the same format, patterned after USMLE style questions with a clinical vignette, linked to a clinical question related to the diagnosis. We will also work to ensure that the questions are similar in difficulty. The performance of students on the two sets of questions will be evaluated using a paired t test.

Potential Impact/Lessons Learned: This program is designed to measure the extent that teaching students clinical reasoning explicitly in order to arrive at a diagnosis can improve their scores on MCQ tests, therefore providing a measure of the effectiveness of case-based exercises.

References:
Time For Respiratory Feud!: Acquiring Knowledge Through Game-Based Learning
Palmer, Brandon; Lauck, Sara; Treat, Robert; Chou, Erica
Medical College of Wisconsin and Affiliated Hospitals

Idea/Problem Statement: Game-based learning is incorporated into medical education but its impact on medical student knowledge acquisition and retention is not well studied.

Rationale/Need: Teaching medical students during clinical rotations in the M3 year is a vital part of preparing students for NBME examinations, the USMLE Step 2 exam, and for clinical practice. It has been well documented that students learn best via active learning, with learning strategies that are engaging, collaborative and interactive. Game-based learning (GBL) has been incorporated into adult learning in a variety of health professional fields. While GBL has been well studied in the nursing and pharmacy literature, there is limited information about the impact of GBL on medical student knowledge acquisition, retention and learner satisfaction. We hypothesized that teaching medical students about common pediatric respiratory disorders using a game-based format would lead to acquisition in medical knowledge, help prepare students for structured national examinations, and be preferred to didactic lectures.

Methods: From April-December 2016, 81 M3 medical students in a pediatrics clerkship participated in a game-based learning session using the Family Feud game show as an instructional technique to teach medical students about common pediatric respiratory disorders. We independently created an interactive template in PowerPoint using elements from the game show, Family Feud. The game-based module consists of six questions, each focused on a different pediatric respiratory topic – asthma, cystic fibrosis, community-acquired pneumonia, bronchiolitis, respiratory distress in the neonate, and acute stridor. Each clinical rotation block, 10-15 M3 students participated in the session, facilitated by a pediatric resident. Students completed pretest and posttest questions related to the session topic immediately before and after the session. Univariate analysis of variance assessed mean respiratory quiz scores across time. Dependent t-tests, Wilcoxon signed ranks tests, and McNemar tests assessed differences in pre-post quiz and five-point Likert-scale (1=strongly disagree/5=strongly agree) survey scores. Pearson (r) and Spearman correlations report relational strength between scores. IBM® SPSS® 24 was used for statistical analysis. This research was approved by the institution’s IRB.

Results: A statistically significant (p<.001) increase in overall pre-quiz scores (Mean (SD) = 3.2 (1.2)) to post-scores (5.4 (0.8)) was reported. There were statistically significant (all p≤.050) increases in correct responses for all six pre-post pairs of items which assessed knowledge of asthma, bronchiolitis, pneumonia, and croup. There was no significant difference across time of year for pre- (p<.152) or post-scores (p<.133). A significant increase (p<.001) in pre-survey scores (Median (IR) = 3.0 (1.0)) to post-scores (4.0 (0.0)) of student confidence in knowledge of pediatric disorders was reported. 94% indicated that they prefer a game show-based session over a didactic lecture to learn pediatric topics. 95% reported it was helpful for preparation of the USMLE Step 2-CK exam. There was a moderate correlation (r=.5, p<.001) between preferring a game show-based session and preparation for the Step 2-CK exam.

Potential Impact/Lessons Learned: Game-based learning sessions can be used to teach medical students about common pediatric disorders, leading to significant improvement in immediate knowledge acquisition. GBL sessions seem to be preferred to didactic lectures, and can be used to help students prepare for national examinations.

References:
Idea/Problem Statement: Though preclinical students may learn better from relatable teachers, clinical students as teachers remains an untapped resource in medical education.

Rationale/Need: Traditional models of teaching in the preclinical years focus on instruction led by faculty. Learning from peers provides complementary education that is more congruent with learning in the clinical environment, and may create a supportive atmosphere given the similarities between the teachers and learners [1,2]. To better utilize the potential of students as teachers, we developed a session focused on preparing preclinical students for the clinical environment, while simultaneously providing teaching opportunities for clinical students. The learning environment becomes a more comfortable setting when the student and teacher can connect on a personal level, ultimately allowing for a more engaging and effective experience [3].

Methods: An interactive fluids and electrolytes lecture with follow-up small group session was developed by clinical students based on a needs-assessment survey. On this survey, clinical students were asked “What do you wish you would have known prior to starting clinical rotations?”. The lecture consisted of high-yield information that clinical students identified as topics they struggled with on the wards, including general concepts and formulas. Faculty provided consultation to ensure accuracy of information presented. The small group session consisted of three cases reviewing the lecture content, focused on the principles of volume resuscitation, maintenance fluids, and special considerations for pediatric patients. Students were divided into groups of 6 preclinical and 6 clinical students. All clinical students taught during the session; however, one served as moderator to provide consistency. Additionally, all clinical students were provided scripts to guide their teaching.

Results: Students provided feedback by anonymous survey. On a Likert scale (range 1-5), the average session ratings were 4.31 (n=135) and 3.33 (n=140) for pre-clinical and clinical students, respectively. Feedback from pre-clinical students identified the sessions as a positive opportunity to learn from senior students, while easing the anxiety associated with transitioning to the clinical environment. Feedback from clinical students highlighted the value of gaining hands-on teaching experience that may prepare them for their future roles in sub-internships and residencies. Based on review of written comments, the lower ratings from clinical students likely reflected concerns about their perceived preparedness and expertise on the subject matter rather than value of the session. In the future, to better prepare clinical students for the teaching role, training in the form of workshops and co-planning lessons with faculty members will create a more organic learning environment. Furthermore, pre- and post-test quizzes will allow us to measure the impact of near-peer teaching on preclinical student outcomes, based on their level of engagement, amount of learned information, and future applications of newfound knowledge.

Potential Impact/Lessons Learned: Medical schools can improve vertical integration with near-peer teaching, fostering low-stress and inclusive educational environments. Benefits of near-peer teaching include the opportunity to close student-identified knowledge gaps while providing clinical students with teaching experience.

References:
A Relationship-Based Framework to Build Child Development Assessment Skills in Pediatric Residents
Regalado, Michael [1]; Duan, Lei [2]; Harada, Melissa [1]; Caselman, Nicholas [1]; Ragusa, Gisele [3]; Schneiderman, Janet U. [2]

Idea/Problem Statement: Employ an innovative organizational framework to guide first-year pediatric residents in building child development assessment skills

Rationale/Need: The clinical assessment of child development and behavior is fundamental to accurate identification of developmental, behavioral, and mental health problems whose numbers continue to rise.1 Studies document less than adequate competence among practicing pediatricians in this most basic of skills.2 Most developmental behavioral problems are not identified until after early childhood and there is well-documented discontent among pediatricians that their training does not prepare them adequately to evaluate and manage developmental, behavioral, and mental health problems in their practices.3 Many factors have been cited including lack of faculty, limited time, and lack of resources.3 Pediatric residents’ lack of any learning experiences in child development prior to residency training creates unique learning challenges beyond the logistical challenges of space, time, expertise, and money. The proposed curriculum addresses many of these challenges.

Methods: The intervention will target 15 first year pediatric residents during 2018-19. Each resident will spend a four-week rotation in behavioral pediatrics with 8 half-days of contact time with faculty each week. A new framework has been developed to optimize this brief experience. It organizes large amounts of basic child developmental information into an integrated, clinically relevant format. Similarly, two recommended health visit assessments - parent-child observation and developmental surveillance - were integrated into a single assessment with a brief interview and observations defined by the new framework. The rotation will be divided into two stages. First, lectures based on the new framework present basic knowledge that will be reviewed before and after each clinical encounter. Residents implementing the interviews will be guided in observation during the first half of the rotation. Over the second half of the rotation, a focus on interviewing skills will be added. Assessments will be observed with targeted feedback provided after each encounter. Each resident will have 40-50 direct observations. Expanded reviews of cases will be conducted weekly with oral simulations of doctor-patient interactions to explore the assessment process. Focus will be on the individual challenges faced by each resident. By the end of the rotation all residents should be able to demonstrate competence in conducting a pediatric behavioral and parent-child relationship assessment.

Evaluation Plan: In a pilot assessment of the framework, validity was explored by examining the agreement between resident assessment and standardized developmental testing. This demonstrated sensitivities of .72-.87 and specificities of .96-.98. Assessment efficiency was examined by timing residents’ who had done at least 50 assessments by the last week of the rotation. This demonstrated that assessments could be done in less than one minute with sufficient practice. In this full implementation, program evaluation will include: a) use of logs to document clinical encounters per resident by patient age, clinical setting, and diagnosis; b) use of a post-rotation evaluation to examine the residents’ reaction to the curriculum; c) use of a pre- and post-test and written exercises to assess learning; d) use of a follow-up questionnaire, 6 months after the rotation, to examine impact on resident behavior by querying their use of the interview and behavioral assessment method in their primary care clinics.

Potential Impact/Lessons Learned: This method has the potential to improve health outcomes for developmental, behavioral and mental health problems and to make care more patient-centered by providing the pediatrician with more accurate assessments of children’s development and behavior.

References:
Introducing Evidence Based Medicine into an Emergency Medicine Clerkship
Wald, David A.; Roepke, Clare; Fane, Kathleen; Barrett, Jeff
Lewis Katz School of Medicine, Temple University

Idea/Problem Statement: We developed an evidence based medicine (EBM) exercise and incorporated it into a required fourth year emergency medicine (EM) clerkship.

Rationale/Need: An EBM approach to learning has been incorporated into medical education for decades. However, a standardized approach and best practice as to how to incorporate this practice into clinical rotations does not exist. At our institution, all mandatory clinical rotations are expected to incorporate EBM, the specifics as to how this is accomplished is left up to the discretion of the clerkship leadership. In an attempt to provide a more uniform experience we developed a standardized EBM assignment for all students completing their required fourth year EM rotation. The standardized approach to this assignment also provides the faculty an opportunity to be more consistent in evaluating and grading the assignment and providing feedback to the student. The EBM assignment is worth 5% of the end of rotation grade and is evaluated based on promptness (on time completion) and content of the submission.

Methods: For this assignment, we developed case vignettes focusing on 4 clinical conditions; Case A-Cervical spine injury, Case B-Syncope, Case C-Community acquired pneumonia, Case D-Pulmonary embolism. When applicable, cases included laboratory data or diagnostic imaging. The clinical conditions for which vignettes were developed were identified by the authors because they were felt to be relevant to the practice of EM and because it would be possible to apply a validated clinical decision rule to help answer the question. Case vignettes were standardized in their format and ended with a dichotomous lead in question focusing on a single decision point, either the need for further diagnostic work up or the need for hospital admission. At the beginning of each rotation block, students were randomly assigned to one of the 4 cases and were responsible for submitting their assignment in a word document format by the middle of the 2nd week of the rotation. Specific guidelines and instructions for submitting the assignment were developed. The submission format was adopted from a previously published report.1

Results: From May – July, 2017, 44 students completed the EBM assignment, 4 students completed a 2nd elective in our system and completed a 2nd EBM assignment. All students correctly answered the clinical question associated with their case. An end of rotation questionnaire was completed by 39 (89%, n=44) students. Thirty six (92%) reported that their assigned case was very relevant to the practice of EM. Regarding the format of the EBM assignment, 17 (44%) rated it as excellent, 17 (44%) rated it as very good. In addition, 35 (90%) students prefer being assigned a clinical case and question rather than developing one on their own. All students agree that the EBM submission format was easy to follow (strongly agree-31, 79%, agree-8, 21%). Most (35, 90%) report learning something researching their EBM case that they were able to apply to the care of an emergency department (ED) case during the rotation. Most of these students (34, 97%) reported that participating in the EBM assignment was helpful in preparing them to care for a patient in the ED. About half the students (21, 54%) report reviewing other EBM submissions of cases that they were not assigned to, 19 students found reviewing the other case submissions helpful. Regarding time spent of the EBM assignment (researching, writing up and posting), students commonly spent 2-3 hours (14, 36%), 3-4 hours (9, 23%), 1-2 hours (9, 23%). No students reported spending more than 5 hours on the assignment.

Potential Impact/Lessons Learned: Our standardized approach to this assignment was viewed positively. The majority of students identified many of the same articles to answer their assigned clinical question. The time commitment for this assignment is minimal and the format for the submission appears to be easily followed.

References:
Improving the Quality of Feedback through the use of a Standardized Feedback Matrix

Stevens, Paige
Children's Hospital Los Angeles, Keck School of Medicine of USC

Idea/Problem Statement: Implement the use of a standardized feedback matrix to improve the quality of bi-directional feedback between faculty and residents/fellows at CHLA.

Rationale/Need: ACGME surveys have repeatedly shown resident and fellow dissatisfaction with the quality of feedback provided across numerous CHLA training programs as evidenced by satisfaction scores that frequently fall below national averages. Extensive medical literature exists endorsing the importance of feedback, but few studies have identified tools that provide structure to the feedback process in a way that allows educators and learners to track changes in knowledge, skills, and behavior in response to feedback. Based on preliminary discussion with program directors across several subspecialties at CHLA, there is need for institution of a formalized feedback process that ensures: timeliness of feedback, consistency and regularity of scheduled feedback, structured and goal-directed feedback, and a tool that will allow feedback recipients to track progress made toward goals based on feedback received.

Methods: Literature review demonstrates the absence of a standardized tool that can be utilized within medical education to provide goal-directed feedback and a means by which the learner is able to formally track progress made toward goals identified during a feedback session. A needs assessment will be distributed to residents, fellows and faculty at CHLA in order to assess the key elements of feedback that are currently lacking and prohibiting feedback from being satisfactory compared to national norms on ACGME surveys. Once this needs assessment is complete, a feedback matrix tool that incorporates those aspects noted as lacking on needs assessment will be implemented into routine feedback sessions. Moreover, the feedback matrix tool will emphasize rotation and learner-specific goals and will serve as a written document that will track weekly progress toward those goals as a rotation progresses. The Matrix will be completed weekly by both the learner and the educator such that both parties will be engaged in creating self-directed goals and in order to improve the bi-directionality of feedback between learner and educator. At the end of the rotation, the weekly feedback matrix will be utilized to fill out standardized feedback surveys through MyEvaluations and will provide concrete evidence of progress made by both the learner and the educator throughout the rotation.

Evaluation Plan: Post-feedback matrix implementation surveys will be distributed and compared to needs assessment surveys in order to gauge satisfaction with feedback amongst both learners and educators at CHLA. Moreover, ACGME surveys will be analyzed pre-and-post feedback matrix intervention in order to assess improvement in feedback satisfaction scores. Most notably, feedback matrix data will be analyzed and utilized to track changes in knowledge, skills, and behavior that are accomplished directly in response to feedback.

Potential Impact/Lessons Learned: The feedback matrix tool promises to be a widely applicable educational tool that will allow both educators and learners to formally track changes in knowledge, skills, and behavior that are accomplished directly in response to feedback.

References:
**5D Modeling of Competency-based Clinical Supervision in Health Professions**  
Zehra, Tabassum  
Aga Khan University

**Idea/Problem Statement:** Clinical supervision (CS) is diverse and multidimensional. What are the different dimensions to base today’s competency-based effective CS?

**Rationale/Need:** Effective clinical supervision is expected to result in competent healthcare providers resulting in provision of improved quality of healthcare. However, the competency-based supervisory models are vulnerable by the complexity of outcomes. Clinical Supervision is a vital and fundamental part of clinical professional residency training. There is a dearth of literature on residents’ perspectives regarding the roles of a clinical supervisor.

**Methods:** Competency based clinical supervision is attracting attention with more discussions around it. A study was conducted at Aga Khan University; Karachi, Pakistan that proposed a five dimensional model which can be used for competency based clinical supervision in health professions. This is based on Social-cognitive Learning Theory, Literature review and resident's perspectives. A mixed method approach was used; a quantitative cross-sectional survey and a qualitative focus group discussion, which were analysed descriptively and thematically coded, respectively. Exploratory Factor Analysis was done. The study explored the residents’ perspectives regarding their needs for the different roles of clinical supervision, to help develop a five dimensional model of clinical supervision for residency supervisors. The residents rated the clinical supervisor roles very highly (Mean=4.43-5.85, SD=1.21-1.86). Exploratory factor analysis yielded two factors; Factor1 related to specialist skills (clinical expert) and Factor2 related to role modeling. Four themes emerged after thematic FGD coding: supervision functions; process of supervision; supervisor’s attributes; and impact on residents. There was convergence of data between the first two themes and Factor1 “specialist skills”, and between the last two themes and Factor 2 “role modeling” factor. Residents’ perspective, aligned to literature, led to the development of skill based model and further CS modeling and it's dimensions.

**Evaluation Plan:** Another study is under way to determine the relationship of the factors that contribute to effective competency based clinical supervision in health professions. This further development is based on Kolb’s Experiential Learning, Gagne’s Learning Theory, Skinner Operant Condition Theory and Transformation Learning Theory. This study uses the five dimensions to build a theoretical based working model of competency-based clinical supervision in health professions.

**Potential Impact/Lessons Learned:** According to Proctor the 'one size fits all' approach is not applicable with regards to clinical supervision. CS models should be contextual, useful and practicable for better patient outcomes.

**References:**
Bad News Delivery Simulation; Evaluation, Education, Elucidation
Stavroudis, Theodora, MD; Khoshnood, Mellad, MD
Children’s Hospital Los Angeles, Keck School of Medicine of USC

Idea/Problem Statement: Educate and train general pediatric residents to be better capable of delivering bad news to patients/families through use of bad news simulations.

Rationale/Need: The ability to have rapport and communicate appropriately1 with those involved in a patient’s care is an essential skill, but one that is not often taught directly during residency training. Parents find that excellent communication skills are viewed to be extremely important to family members when being delivered bad news2. As a result, it would be appropriate to create a bad news simulation module for general pediatrics residents to ensure that the ACGME Communication and Interpersonal competencies1 are achieved and to ensure that regardless of the intended career path of the resident at hand, they are well-prepared and versed in the ways of delivering bad news.

Methods: Gather data on individual resident experiences with delivering bad news and communication skills for baseline assessment (where they trained, exposure to death, how many bad news discussions they’ve witnessed, etc). Create simulations based on real-life scenarios. Have residents participate in a mock code wherein the patient at hand does not survive or a significant medical error takes place. Identify for the resident at hand the nature of the patient’s death (medical error, non-accidental trauma, chronic illness exacerbation, etc) and then have the resident discuss the case with a standardized family member. Have this session recorded and videotaped, while being watched by a qualified provider. After this session, have an individualized feedback session followed by a group feedback session. Have a post-simulation evaluation to determine personal preparedness for delivering bad news in a real-world setting. Have repeat sessions with different cases each year to analyze improvement after each experience, while repeating surveys to determine residency experiences and how those may shape their capabilities.

Evaluation Plan: Acquire a pre-assessment survey of all residents as they enter the program with subsequent surveys each year for update on experiences and information. Provide feedback immediately after the simulation exercise is complete with personal critique of ones performance by way of watching a video and audio recording of the simulation. Consider bio-feedback for before, during, and immediately after the simulation is done (HR, BP, and RR). Have post-simulation surveys completed to determine how the individual residents felt they did and what concerns they had before, during, and then after the simulation. Perform these surveys and simulations each year for continued education and skill building.

Potential Impact/Lessons Learned: Integration of ACGME core competencies for pediatric residents, improved communication skills to ensure appropriate bad news delivery for patients and families.

References:
Simulated Patient Interviewing and the Non-Disclosing Patient
Spyrou, Peter
New York Medical College

Idea/Problem Statement: Training residents to rate resident empathy and case formulation skills in challenging Simulated Patient scenarios

Rationale/Need: Interviewing is a critical skill for both psychiatric and non-psychiatrist clinicians. Many patients fail to disclose important information, due to shame, fear of the interviewer’s response, secondary gain, or a variety of other factors. Our current findings indicate that beginning interviewers tend to have difficulty with such patients. This training builds skills in understanding and engaging non-disclosing subjects, through a collaborative process of group and self-study.

Methods: Method: Learners in our simulation center conduct videotaped interviews with professional actors portraying challenging patients (i.e. paranoid, self-deceptive, psychopathic). 1) Videos are evaluated and rated by a team of trained learner/raters using scales to assess basic interviewing, empathy, and advanced interviewing techniques (identification of discrepancies, confrontation, management of interviewer’s anxiety, etc. 2) Every effort is made to reduce anxiety and engage learners in a non-judgmental, constructive and affirmative discussion process. 3) Results are shared privately + included in didactic presentations to groups of learners. 4) Further research data will focus assessment of skill development over training, and correlation between interviewing/formulation skills and other benchmarks of training progress. Interviews are conducted through the year, with feedback and assessment occurring thought the academic calendar. This program is already under way, and has generated > 100 hours of interview material.

Evaluation Plan: Evaluation: This advanced Simulated Interview program has been highly successful and generated interest and participation among residents. Unlike patient material, SP interviews have no privacy concerns and can be widely used in supervision, didactics and resident assessment. Qualitative assessments have added depth to evaluation and feedback to learners. The experience of rating interviews, and watching other learners engage the identical clinical scenario is unique to the simulated patient exercise. Both psychiatric residents and medical students have enjoyed participating.

Potential Impact/Lessons Learned: Teach learners how to use emotional attunement and case formulation to achieve deeper knowledge of patients under their care.

References:
Interprofessional Education: Dialogue, Reflections and Actions  
Green, Gordon, MEd, MD; Bruzik, James, PhD; Clifton, Maurice  
Medical University of the Americas

Idea/Problem Statement: Activities designed to help medical students explore thoughts and challenges of patient care from the perspective of other health professions.

Rationale/Need: While there have been numerous calls for increased interprofessional education in healthcare1, such training lags behind in the demands of clinical care2. In 2011, the Interprofessional Education Collaborative (IPEC) convened an expert panel from six national associations of health profession schools and released a set of four interprofessional core competencies designed to build on discipline specific competencies in guiding training of students in the health professions3. The objectives of these common core competencies with specific behavioral subcompetencies include improving mutual respect and developing shared values, understanding roles and responsibilities, developing and maintaining effective interprofessional communication, and advancing team skills and performance. Adult learning pedagogies and educational methods, such as online and distance technologies have been recognized as tools for bridging the many barriers that exist3. There are a variety of potential barriers to teaching these competencies including agreeing on a common curriculum, leadership of the activities, lack of dedicated resources, stereotypes and attitudes, and logistical difficulties. Integrating interprofessional activities into existing curricular components can provide a solution that results in a satisfying experience for the students.

Methods: Students will participate in two sets of activities that are extensions of existing curricular components that will engage them in interprofessional discussions, reflections, and procedures. The first activity adds new procedures to each core clinical clerkship that involve working with a professional caregiver from a different profession. Examples include: participating in dressing changes with nursing staff/trainees (surgery); assist in the delivery of nebulized medication with a respiratory therapist or nurse (pediatrics); assist in discharge planning with a social worker (psychiatry. Students record these activities in a secure online log that is monitored by the Clinical Department. For the second activity, each core clerkship includes a four-component Interprofessional Education (IPE) Reflection exercise which requires interviews with co-providers. Each component is based on one of the subcompetencies of the IPEC document. Examples include describing an ethical dilemma specific to interprofessional patient-centered care which was resolved by an interprofessional team. Another requires describing the roles and responsibilities of three other healthcare providers that they observed and how they work as part of the team to provide care, describing the limitations of the physicians’ skills. These reflections are submitted in a format that is very similar to the midclerkship assessment that the students are familiar with.

Evaluation Plan: Students’ compliance with the interprofessional procedures will be monitored and reported. Students will be surveyed regarding the value of their participation in the procedures and the interaction with other health professionals. A Likert scale survey instrument with questions developed from the learning objectives of the program will be used, along with open-ended questions to explore unexpected learning experiences. Student submissions from the reflective exercises will be analyzed qualitatively, using a priori and inductive coding in an iterative manner. Categories, themes, and dimensions of information will be developed leading to broad common ideas. This data will be further interpreted and synthesized into a final narrative regarding the students’ experiences.

Potential Impact/Lessons Learned: This program is designed to ensure that medical students experience patient care from the perspectives of multiple health professions in an effort to improve interprofessional collaboration.

References:  
Ideas/Problem Statement: Educating Hispanic high school students at ATC about marijuana and vaping health risks to prevent, deter, and discourage use of these drugs.

Rationale/Need: According to YRBS data, Hispanic youth are at high risk for involvement with marijuana use and vaping. This, in addition to the fact that Hispanics are underrepresented in medicine, prompted the development of a curriculum that teaches the students at ATC in the health sciences track about the various organ systems in order to mentor, teach, and inspire. This was further expanded to include lectures on marijuana and vaping to educate the students on the health risks. These lectures are conducted by the residents and allow them to practice their teaching skills. In order to prevent and deter initial use and experimentation, and also help quit in those who are already using, education and knowledge are imperative. The principle that knowledge is power is supposed to help inform the students so they make educated decisions and understand the health implications that supposedly benign social norms like smoking marijuana entail.

Methods: The high school juniors at ATC in Mr. Solorio's class will be presented with a pretest that gauges exposure to marijuana and vaping and factual information on the health risks to using these drugs. The students will then receive a formal presentation by myself on marijuana and vaping health detriments and the students will then be asked to do a posttest to see how much they have learned and retained. The final part of the project is asking the students to come up with a presentation to be shared with their school peers to teach what they have learned. This is in association with the belief that the best way to learn something is to teach it. Given Hispanic youth are at great risk and may not know about the health detriments to vaping and marijuana, the presentation is meant to be informative.

Evaluation Plan: In the short term, the success of the innovation will be measured by comparison of pretest and posttest results testing knowledge of risks of marijuana use and vaping. The students will then teach their peers using a modality of choice (video, presentation, powerpoint) to increase peer knowledge as well. The peers can be tested using the same pretest and posttest as used for the original class. Long term, a survey can be given to the students in the future at 1 year intervals for the high school and early college years to see if they still remain abstinent from usage of marijuana and vaping or if they used in the past, if they have since learning of the health detriments of marijuana and vaping, quit using these drugs.

Potential Impact/Lessons Learned: The hope is to decrease Hispanic youth's usage of marijuana and vaping by increasing knowledge of health detriments associated with usage of these drugs.

References:
Creation of Resident Led Community Partnership and Curriculum in Culturally Responsive Care
Sohl, Kristin; Koehn, Kristin
University of Missouri, Department of Pediatrics

Idea/Problem Statement: Development of longitudinal curriculum project by resident stakeholders that addresses culturally appropriate resident education and community need.

Rationale/Need: The pediatric residency program successfully revised the community pediatric and advocacy curriculum in 2008 to a more structured format including a list of relevant immersive experiences within the community and a requirement for a longitudinal project prior to graduation. A 2016 resident graduate performed a needs assessment as part of her longitudinal project on the recently immigrated families to the Columbia, Missouri and resident education in the area of culturally informed health care. The needs assessment revealed key demographics on the immigrant populations including numbers of families, ages of children, region of origin, and predominant languages. The resident also identified an educational gap in the resident knowledge base of our local immigrant cultures, methods for culturally appropriate health care delivery, and identification and management of health care needs unique to the immigrant population. The program received additional grant funding from the AAP CPTI (Community Pediatrics Training Initiative) to develop a specialized track for resident interested in advocacy and community pediatric training. The residents and faculty on the advocacy track performed additional community needs assessment outlined in the methods section below.

Methods: The advocacy track residents and facility facilitators performed a community needs assessment with identification of key partners and stakeholders for collaboration. The team held formal and informal one-on-one conversations to identify specific needs within the recently immigrated population to Columbia. They discovered that the community needed more tangible resources and services from the city and local agencies, rather than additional coverage for gaps in health care. The residents were part of a planning team that identified key community partners, refugee and health services and invited them to be a part of a newly formed coalition of partners, called the Interagency Council for Immigrant and Refugee Health (ICIH). The ICIH holds quarterly meetings facilitated by pediatric residents to address the needs of the immigrant population from a comprehensive community approach and allows the residents to build community partnerships and collaborative relationships. ICIH has also served to promote pediatric resident and faculty education and cultural responsive health care. REACH Columbia is an initiative of ICIH that connects children designated as refugees with culturally responsive and comprehensive supports. Our Advocacy Track residents designed a lecture series called "cultural cafes" to educate all members of the child health department on cultural responsiveness and highlight the specific needs of the local refugee populations.

Evaluation Plan: Post coalition meeting evaluations will be used to help guide programming for future sessions and to identify new partners to ICIH. We plan to track project outputs from the ICIH group including the REACH refugee outreach program developed with the residents and community partners from Parents as Teachers (PAT) and public school system including parental feedback, families served, and families enrolled in PAT. The ICIH group has also been the starting point for future projects in social media and health literacy in conjunction with multiple departments within the University of Missouri and the pediatric residents and a community intervention with the Columbia Bus System and the resident team to design better bus routing to access children’s health services. Physician education sessions on culturally appropriate health care and cultural cafes are assessed via post session evaluations and will be used to guide future resident and faculty education sessions in the areas of diversity.

Potential Impact/Lessons Learned: Advocacy residents gain critical skills in the areas of partnership building, community assessment, and curriculum development during their time in the advocacy track. Pediatric residents and faculty have acquired skills to deliver more culturally aware health care and deeper cultural understanding.

References:
Developing Physician Leaders in Community Medicine and Public Health
Cruz, Moises; Kosok, Sabrina; Kuilanoff, Elizabeth
Kaiser Permanente, Southern California

Idea/Problem Statement: The Kaiser Permanente Southern California Community Medicine Fellowship is a thirteen-month, junior faculty position that seeks to build the capacity of primary care physicians to become clinical leaders, educators, and agents of positive change in public

Rationale/Need: The Community Medicine Fellowship addresses several needs: 1) Trains primary care physicians to become leaders skilled in providing high-quality, culturally responsive care to populations from under-served communities. 2) Increases the number of medical student and residents exposed to community medicine and public health principles and concepts through teaching and mentorship from fellows. 3) Provide much needed physician staff at community and school-based clinics

Methods: Clinical Responsibilities: Fellows care for under-served patients at free clinics and federally qualified health centers while working with community health leaders to improve healthcare delivery and outreach. Clinics focus on increasing access to healthcare for Southern California’s most vulnerable populations, including but not limited to: the uninsured and under-insured, individuals without legal documentation, adolescents, and homeless populations. Community Based Projects: Fellows collaborate with community stakeholders to design and implement a health intervention or community based project. These interventions build capacity by introducing tools of integrated healthcare – i.e. quality measurement, chronic care management, and health education – to low-resource settings.
Seminars: Fellows attend bi-monthly seminars on essential principles of public health and community medicine. Topics have included health policy, program development and evaluation, health disparities, leadership development, health literacy, and social determinants of health. Each seminar is presented by a different leader in public health and/or community medicine. Teaching/Mentorship: As junior faculty situated within primary care residency programs at five Kaiser Permanente medical centers, fellows act as mentors and teachers to medical students and residents. They function as liaisons between the community clinics and medical education programs, promoting the practice of community medicine.

Results: The fellowship in community medicine increases the number of physicians able to provide high-quality, culturally responsive care to populations from underserved communities. During the 2016-2017 fellowship year, fellows worked at 37 different community clinics and saw approximately 13,600 patients. During the 10 years of the fellowship, almost 140,000 under-served patients have been seen in community clinics by the fellows. Last year alone, fellows implemented and completed 30 different community based projects. Past projects include but are not limited to: a peer to peer health education curriculum, a language development program for low income, Spanish speaking children, a free clinic run by undergraduates, medical students and residents, a health careers conference and mentorship program for under-served high school students, an interprofessional, multidisciplinary weight management program, a film in Arabic discussing cultural barriers in cervical cancer screening. Finally, all seven "host" residency programs have developed a community medicine rotation for their residents and medical students. Fellows mentor and teach almost 120 residents and medical students each year.
Targeted, Continuous Medical Resident Mentorship Changes Student Educational Outcomes
Chawla, Neil; Awad, John
Kaiser Permanente Los Angeles, Department of Family Medicine;
Kaiser Permanente Los Angeles, Department of Internal Medicine

Idea/Problem Statement: Despite Los Angeles being a highly diverse region, the racial makeup of healthcare professionals does not adequately reflect that of the population.

Rationale/Need: In 2004, the AAMC defined ‘underrepresented in medicine’ as “racial and ethnic populations underrepresented in the medical profession relative to their numbers in the general population” [1]. While greater than 50% of the population of Los Angeles identifies as non-white, a recent study found that from the years 1980 to 2010, the non-Hispanic white (NHW) physician rate per 100,000 of the NHW population increased from 211 to 315, while the Hispanic physician rate per 100,000 of the Hispanic population dropped from 135 to 105 [2]. Immediate action to develop minority physicians has been recommended. While some medical school and college pipeline programs exist, there is an absence of high school programs directing students toward health careers. Kaiser Permanente has partnered with a local STEM Academy high school to develop two programs: Teen Health Leadership Academy and Thrive Academy. These programs introduce teens to health careers while providing direct mentorship from physicians.

Methods: In 2014, the Teen Health Leadership Academy (THLA) was started by the Kaiser Permanente Los Angeles Medical Center in partnership with the STEM Academy of Hollywood. The program consists of Kaiser Permanente resident physicians serving as mentors to high school students of disadvantaged backgrounds with interests in the science and healthcare fields. Every mentor is paired to one mentee, and they meet on a monthly basis to participate in medically-focused workshops (e.g. physical exam skills) and field trips intended to deepen exposure to the field of medicine. These field trips in the past have included surgical simulation centers at Kaiser, suture workshops, and a trip to the Body Worlds. The curriculum is designed to complement the students’ own classroom learnings, using the linked learning model. The mentorship pair can meet and communicate outside of this structure as often as they would like. As an adjunct to THLA, we also created the Thrive Academy—a three-week long summer program for approximately 30 middle and high school students focused on teaching the links between social factors and health in a project-based curriculum that is led by two medical students. Eleven college students are hired to lead small groups, provide direct mentorship to the students, and facilitate advocacy projects. Students learn to become community health advocates and receive career mentoring in the process.

Results: To evaluate the programs’ success in directing students to higher education, pre- and post- surveys were collected. Standard identifier questions found that 84% of respondents came from families where neither parent attended college. Pre-surveys conducted for the 2015-2016 and 2016-2017 cohorts of THLA found that few students had a personal mentor. After the program, nearly 90% reported having a reliable mentor with over 85% indicating a high level of interest in pursuing a healthcare career and desire to work in an underserved area. A separate follow-up survey to the 2013-2014 and 2014-2015 cohorts regarding their academic endeavors revealed 100% attend college, 69% are health science majors, and 77% plan to pursue a health career. 84.7% reported their mentor had a significant impact on their career choice and 92.3% feel it’s extremely important to have pipeline programs like THLA to provide early exposure to the medical field for first generation students. For Thrive, a post-survey of high school students found strong improvement in teamwork, public speaking, and identifying social determinants of health, with 100% desiring to attend university. A separate follow-up survey to college and medical student instructors found that 70% are enrolled in or have completed some university, with 65% intending to pursue a health career. 70% said being a mentor significantly impacted their career choice and 95% found pipeline programs extremely important for underserved students.

Potential Impact/Lessons Learned: Both THLA and Thrive Academy have shown that targeted mentorship and early exposure via pipeline programs drive disadvantaged youth towards careers in medicine. These simple programs are highly reproducible in other residency programs, potentially allowing for a greater impact on minority students.

References:
The First Five: Emergency Response for Everyone
Hobson, Stephen; Ford, Edward
University of Michigan

Idea/Problem Statement: Hands-on scenarios program to empower bystanders with the knowledge and skills to respond during the first five minutes of a medical emergency.

Rationale/Need: Trauma is the leading cause of death in Americans aged 1-44 (CDC, 2013). 20% of these fatalities are classified as “preventable deaths,” meaning 20,000 - 30,000 people could have survived (Berwick, Downey, Cornett 2016). The US military’s use of tactical combat casualty care (TCCC) training to address the problem of preventable deaths in combat showed that it is possible for a unit to achieve zero preventable deaths with training (Berwick, Downey, Cornett, 2016). Time and again in response to a natural disaster, terror attack or mass shooting, those on the scene who have received training (off-duty firefighters, military veterans, nurses, doctors, etc.) will act to provide care. Researchers in the UK found that bystanders are frequently at the scene of preventable deaths, but first aid is infrequently rendered (Oliver, Walter, Redmond, 2017). Making the knowledge and skills of medical response accessible to everyday citizens could save lives by reducing preventable deaths.

Methods: The First Five training curriculum will provide a how-to guide to scene safety, communicating with 911, stopping bleeding, checking responsiveness, managing airway, and performing CPR until help arrives. The curriculum will be freely available to the public in the form of educational and instructional videos. 2-hour training events at community centers (schools, churches, etc.) will provide hands-on scenarios to reinforce the key points of the First Five sequence, summarized below: Safety: Protect yourself and others. Call 911. Bleeding: Pressure to stop it immediately. Breathing: Positioning to keep airway open. Beating: Pulse check and start CPR. Realistically, medical supplies are not always readily available. For this reason, the First Five curriculum will include instructions on improvising tourniquets and wound dressings by using belts, ties, and clothing. Hands-on scenarios will put knowledge to the test for both individual skills (such as saving a choking victim) and team skills for multi-system trauma (such as a pedestrian struck by a vehicle). The scenarios will last 5 minutes from the time one of the “bystanders” calls 911 and successfully communicates the medical emergency. Instructors will keep track on a score chart whether or not the bystanders properly addressed each of the steps above during the scenarios with time points to indicate if the medical intervention was given quickly enough to save the patient.

Evaluation Plan: Data will be gathered and analyzed on the viewership of the educational videos. Attendance will be tracked at in-person events by having attendees register and sign-in to training sessions. Reactions to the training will be assessed by survey questions designed to gauge overall level of satisfaction. Multiple choice questions will ask about clarity of instruction, realism of scenarios, enjoyment, and whether they would recommend this to a friend. A questionnaire will be administered to record scores before and after training. These scores will be used to assess effectiveness of in-person training sessions on learning. Assessments by instructors during the hands-on scenarios (outlined in Methods) will also be gathered and compared to groups who have not yet received the in-person training to assess improvement. Change in behavior will be assessed by survey questions of in-person attendees on whether they have gloves or first aid kit available and, if so, where they keep it.

Potential Impact/Lessons Learned: Change the paradigm of emergency medicine from the Golden Hour to the First Five by empowering bystanders with the knowledge and skills to act in medical emergencies toward the goal of zero preventable deaths.

References:
Explicit Bias: Increasing Physician Awareness in Pain Management
Mullaney, Mary
White Memorial Medical Center Family Medicine Residency

Idea/Problem Statement: Decrease the role implicit bias plays in physician perception of chronic pain patients through the exposure to an implicit bias in a pain curriculum.

Rationale/Need: Do implicit biases negatively affect physicians’ assessment and treatment of patients’ pain? Can exposure to these stereotypes mitigate biases and improve patient care? Implicit bias is an unconscious negative or positive stereotype that is attributed to an individual from a particular social group. From politics to hiring practices, a large body of psychological experiments demonstrate the pervasiveness of implicit biases in assessing the skills and characteristics of others. Within the context of chronic pain management, there are racial, ethnic, and socioeconomic disparities in access to effective care (1). Physicians report inadequate training, often attributing patient-related factors to problems with effective pain care rather than physician or systemic factors (2), and some demonstrate false beliefs about pain perception based on patients’ race (3). Given these factors, I propose a pilot study that investigates whether increased awareness of implicit bias and perception of chronic pain patients can positively affect physician decision making.

Methods: Family medicine residents working with predominately under-served Latino populations at an urban teaching hospital will be asked to participate in a pain curriculum and resident-run pain clinic. 1. Residents will be given an anonymous questionnaire assessing their knowledge of various pain-related areas including pain physiology, categories of pain, and pharmacological and non-pharmacological treatments. The residents will also be asked to answer questions related to their perception of chronic pain patients and comfort in treating patients. 2. Next, residents will then participate in a lecture on pain management. During the lecture, the residents will be exposed to pain-related stereotypes and bias by giving examples that have been cited in the literature. 3. They will also participate in a resident-run pain management clinic where they will be given protocols for pain assessment and treatment modalities. In addition, they will be asked again to read pain-related stereotypes and bias that have been cited in the literature. 4. After completion of both the lecture and participation in the pain management clinic the residents will complete the same questionnaire at the beginning of the experience.

Evaluation Plan: Residents will complete and pre-and-post intervention questionnaire assessing knowledge, perception, and comfort treating chronic pain patients. The questionnaires will look for improvement in knowledge, positive or negative changes in perception of patients, and increased or decreased comfort in treating chronic pain patients.

Potential Impact/Lessons Learned: This intervention could be used to help create future curriculum to decreased the impact of implicit bias on physician decision making and, thereby, help decrease healthcare disparities in chronic pain treatment.

References:
HUCLA FM Substance Use Disorder (SUD) Longitudinal Curriculum: 
Applying the CDC Guidelines
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Harbor-UCLA Medical Center

Idea/Problem Statement: Using focus groups of patients, residents, and faculty to identify areas of need and interest to enhance our current SUD curriculum

Rationale/Need: The complexity of Substance Use Disorders remains a challenge to teach in a busy and saturated curricular environment like a family medicine residency program. At a national level medical school curriculum dedicated to SUD remain alarmingly low. Harbor UCLA Department of Family Medicine serves disadvantaged populations with limited resources with significant mental health and concomitant substance use disorders. Residents and faculty have expressed concern with having sufficient medical knowledge and experience treating patients suffering from SUD. As our department aims to increase the number of patients receiving medication assisted treatment (MAT) we plan to assess current levels of medical knowledge, comfort, and desire to learn SUD.

Methods: Anonymous online surveys will be administered to residents and faculty. We aim to use “Know Pain 50” and a short supplemental survey that focuses on attitudes and barriers to providing care to patients that suffer from SUD. In addition we will create a patient survey with a goal of completing 25 for statistical analysis as well as inviting select patients for focus group discussions on treatment. Our goal is to complete the surveys before 1/1/18. This needs assessment will direct how we will change and expand our current longitudinal SUD curriculum. We currently plan on providing buprenorphine training during our required lecture hours to prepare our providers to prescribe MAT. Our goal would be to have a these changes completed by the beginning of the academic year 2018-2019.

Evaluation Plan: Our goal is to have all residents and faculty complete the surveys. For identified medical knowledge gaps we plan to provide new didactics and web based modules. Unlike our previous SUD longitudinal curriculum, we plan on requiring completion of identified “off line” curriculum during certain rotations. Residents have been more receptive to these expectations and off line learning with subsequent discussion. We will complete a survey of the curriculum in late 2018 to assess the reaction to the new longitudinal SUD curriculum. One behavior we aim to monitor before, during and after this project is the number of patients receiving MAT.

Potential Impact/Lessons Learned: Our goal is to increase the comfort of residents and faculty treating patients who suffer from SUD in addition to the number of patients receiving MAT. We expect this plan to help our program in applying the CDC guidelines for compassionate care of patients with pain as well as treating SUD.

References:
1) The National Center on Addiction and Substance Abuse, https://www.centeronaddiction.org/addiction-research/reports
Trauma-Informed Medical Education: Empowering Medical Students to Provide Trauma-Informed Care
Rollhaus, Esther, MD [1]; Blumen, Helena, PhD [2]; Scalmati, Alessandra, MD, PhD [1]
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Idea/Problem Statement: Trauma is highly prevalent and it interferes with the ability to develop trust and access care. Doctors require training to address its impact.

Rationale/Need: Trauma is highly prevalent, and a history of trauma affects the establishment of trusting relationships. This can interfere with patients’ ability to access care because many characteristics of the medical environment can be unwittingly retraumatizing for patients. Several studies have established the long-term impact of trauma on multiple health outcome measures. Inquiring about a trauma history can be uncomfortable for doctors, particularly in a busy medical or surgical practice. Many physicians feel poorly prepared to broach this subject, and, particularly with older adults, they avoid taking a trauma history. Surveys of students and physicians consistently show that improved confidence level in their interviewing skills will increase the likelihood of addressing the topic of trauma. Educating medical students in Trauma-Informed Care will provide them with the tools to overcome their avoidance and prepare them to provide better care.

Methods: During the academic year 2016-17, we started a new lecture on trauma informed care within the psychiatry clerkship didactic series. This lecture is framed by a case of a “challenging” patient refusing medical care and the students are asked to generate potential interview questions and hypotheses for the patient’s refusal to accept medical care. During the first part of the didactic component, content is provided about the prevalence of trauma and its long-term consequences. Moreover, practical information is given about the impact of trauma, the principles of trauma-informed care, and basic interviewing skills on how to approach the topic and how to overcome common problems encountered when discussing sensitive, and highly charged, issues. The second part of the class consists of a role play, in which one of the faculty plays the role of an older woman with a history of trauma, and the students take turns interviewing her and applying the interviewing skills they just learned. Students’ confidence in trauma-informed skills, attitudes, and intent to use principles of trauma-informed healthcare in their practices are measured before and after the curriculum.

Results: To date, nine groups were taught, and the responses of seven groups were analyzed. Pre- and post-curricular student response medians on a four point likert scale were compared, with the curriculum demonstrating significant improvement in all domains (p<.001). Students reported improved understanding of how trauma imposes barriers to healthcare (p<.0001), improved confidence in their ability to care for themselves when confronted with patients’ trauma histories (p<.0001), and increased intent to account for patients’ histories of trauma when caring for patients (p<.0001). Qualitative feedback reflected students’ enthusiasm in discussing the often-taboo topic of trauma and their belief that the role play was an effective educational tool.

Potential Impact/Lessons Learned: Our curriculum is a brief intervention and our data suggests that it improves the level of comfort of medical students in obtaining a trauma history with older adults. If reinforced, this could impact future doctors’ ability to deliver care to this underserved and under-recognized population.

References:
Attitudes Toward Mental Health in Medical Students: A Focus on Adverse Childhood Experiences
Rutledge, Kyle; Ashraf, Mahela; Bala, Abishek; Balaj, Kayla
Central Michigan University College of Medicine, Department of Psychiatry

Idea/Problem Statement: Incorporating student self-evaluation of Adverse Childhood Experiences (ACEs) during psychiatric curriculum of medical students to improve awareness.

Rationale/Need: Despite their well-documented long-term consequences and high prevalence in our patient populations, Adverse Childhood Experiences (ACEs) continue to be under-addressed in our clinics (St. Germain & Rutledge, 2017). This lack of clinical follow-through with such strong evidence-based findings may stem from a poor integration of material on ACEs into the medical school curriculum, and/or from an underestimation of their long-term sequelae. Furthermore, there also exists a tendency for many medical students to hold a negative attitude toward mental health care that carries through to their clinical practice, perpetuating a cultural stigma associated with mental illness. Finally, at its foundation, trauma-informed care requires support for providers and ongoing assessment of how the physician is impacted by, among other things, past and present trauma (Machtinger et al., 2015). The current study aims to address all of these issues by providing a venue for medical students to learn about ACEs early in their clinical education, personalize the topic by making them aware of their own ACEs score, and measure the degree to which this educational intervention improves their attitudes toward mental health care.

Methods: The sample will comprise of medical students at Central Michigan University College of Medicine (approximately 100 students per class). During core course work in psychiatry, participants will be randomly split into two groups. Both groups will be provided instruction by psychiatry residents regarding the long-term effects of Adverse Childhood Experiences (ACEs). During this time, however, one group of participants will be asked to anonymously calculate their own ACEs score using the standard survey, while the other group will complete a demographics survey. All participants will be assessed for changes in attitudes toward mental health using the Mental Illness Clinician’s Attitudes (MICA) scale (Gabbidon et al., 2013), administered before and after the presentation from psychiatry residents in order to determine how and to what degree the students’ rating of their own ACEs may contribute to a change in their attitudes toward mental health.

Evaluation Plan: Participants will provide consent and be given a unique ID so that they may remain anonymous while allowing union of pre- and post- data. Participants will complete a short anonymous survey which will include demographics questions (including age, gender, and expected specialty), and items from the Mental Illness Clinician’s Attitudes (MICA) scale. Participants will then be given a brief lecture on ACEs, during which half of the participants will calculate their own ACEs score. Following the conclusion of the lecture, participants will again complete the MICA. Changes in patient responses will be compared between groups and correlated with age, gender, and ACE score. These data will allow us to determine the degree to which personalizing the material in psychiatric curriculum can impact a student’s own attitudes toward mental illness. The current study is an initial step in a long-term study on how aspects of education can impact attitudes toward mental health care in medical students.

Potential Impact/Lessons Learned: The current study aims to improve self-awareness of medical students for their own ACEs and long-term sequelae with the hope of personalizing the topic to ultimately decrease stigma of mental illness and increase the number of physicians addressing ACEs, regardless of specialty chosen.

References:
Autopsy Learning Module: A Tool for Assessing Practice-Based Learning and Improvement
Khan, Mohammad Saud; Barnett, William R.; Torrison, Jacob; Coletta, Christian; Assaly, Ragheb
University of Toledo College of Medicine and Life Sciences

Idea/Problem Statement: A tool for learning and self-reflection, which assists evaluators in assessing a residents’ practice-based learning and improvement competency.

Rationale/Need: Practice-based Learning and Improvement (PBL&I) is one of the six core competencies listed by the Accreditation Council for Graduate Medical Education (ACGME) for residency programs. ACGME defines PBL&I as an ability to investigate and evaluate the care of patients, appraise and assimilate scientific evidence, and continuously improve patient care based on constant self-evaluation and life-long learning.1 Assessing resident competency in PBL&I is the most challenging of the six competencies as there are very few published tools to objectively assess a resident’s performance in this competency. We performed a study through a retrospective chart review of 141 autopsies conducted at our institution between January 2011 and May 2015. We measured the level of agreement using Kappa coefficients between the clinical cause of death established by the treating clinician and the cause of death listed by the pathologist after autopsy. Consistent with the available literature2, we found that there was poor agreement in the clinical and autopsy diagnosis, especially among cases of pulmonary embolism and liver cirrhosis, while there was moderate agreement among cases of myocardial infarction. The rate of disagreement between the clinical diagnosis and autopsy findings highlights an opportunity to use an autopsy in a meaningful way as both a learning experience and as a tool for self-reflection.

Methods: The critical care fellow, senior resident, and interns rotating in ICU would be responsible to complete an online training before starting the rotation. The training will address the difference between a usual case and coroner case along with how to communicate with the coroner’s office. Furthermore, each resident will learn how to introduce the autopsy consent form, discuss the goals of life and end-of-life decisions with the patient’s family, break the bad news at the time of demise, obtain consent for autopsy from family members, and educate the families about the process and technical details of an autopsy. After completion of the autopsy, residents would be required to fill-out an Autopsy Self-Reflection Form, in which the resident would document his or her learning experience from participating in the autopsy process. This would include comments from the resident explaining specific points learned from the autopsy that has added to the resident’s medical knowledge and clinical experience. In addition, the resident can suggest what could have been done differently in future to improve outcomes.

Evaluation Plan: After completing the Autopsy Self-Reflection form, a copy would be included in the portfolio of the resident and evaluated by the program director at the end of the year to assess resident performance in the PBL&I competency. Specific areas to be reviewed and discussed with the resident would be regarding their role in securing autopsy with the patients’ family and communication with the coroner/pathology department. For instance, was their difficulty in gaining consent for the autopsy? If so, how did the resident overcome any barriers? Furthermore, how was the resident’s interaction with the coroner’s department? Most importantly, based on the autopsy findings, the resident’s rationale to change practice based on the results should be examined. For example, were cognitive biases involved in medical decision making or were they systems-based failures in the healthcare delivery process? If so, how would the resident address and remedy these issues?

Potential Impact/Lessons Learned: We believe that implementing these measures in the residency curriculum will be a substantial resource for learning and self-assessment for residents, will provide evaluators with a tool for assessing PBL&I competency, and will also improve autopsy rates in our institution.

References:
Training Residents in the Business of Medicine
Mason, Bonnie [1, 2]; Roberts, John [1]; Davis, Erin [1]; O'Brien, Kathy [2]; Miller, Karen Hughes [1]
{1} University of Louisville SOM; [2] Beyond the Exam Room

Idea/Problem Statement: Physicians face significant business of medicine challenges within the practice of medicine with limited curricula available in US training programs.

Rationale/Need: In 2011, the U of L GME non-clinical education team was given the opportunity to develop a curriculum to meet the need for residents' business training. The need for training was well documented, but the models were very limited. (1,2,3) A colleague at Morehouse School of Medicine then invited us to sit in on their workshop that featured online support from Beyond the Exam Room®, and the plan was launched to combine BTER® with our already highly successful Residents as Teachers (RATS) workshop design.

Methods: The outcome was a highly interactive workshop where experts in medical finance, physician contacts, and personal finance mix brief didactics with activities, role-play and Q and A for a full day designed to introduce residents to their opportunities and obligations in the business of medicine. BTER® faculty work with local financial advisors, attorneys, and other consultants (who volunteer their time) to provide highly relevant and personalized instruction and guidance to residents.

Results: The annual course evaluation (deemed exempt by the U of L IRB) began with the first course in 2013, and outcomes have guided course revisions and adjustments. The paper and pencil survey given at the end of the day has a minimum 90% response rate. The internal measure of consistency (Cronbach’s alpha) has ranged from 0.887 (2013) to 0.79 (2015), all well above the acceptable limit. “Understanding and negotiating your first contact” is consistently the highest ranked module on a 5 pt utility scale always scoring above 4.5. “Personal finance” also scores well, along with the “Contract negotiation role play”. Scores and open-ended comments also guide curriculum revisions. For example, in 2016 we added an activity on “generating revenue” that proved to be an “eye opener” for residents where they realized that the judicious offering of ancillary services helped both patients and their own practice.

Potential Impact/Lessons Learned: The full day workshop is repeated 3 times a year to limit group size and provide personalized attention. It is held off-campus to avoid distractions and includes a job fair with an average of eight local and regional healthcare systems. The cost is shared by the local medical society and businesses.

References:
Idea/Problem Statement: Future physicians need training in practice management. Medical education programs should offer such curricula to their students especially those selecting a primary care residency program.

Rationale/Need: Most physicians’ understanding of the Business of Medicine is by way of self–teaching and learn-as-you-go on the job. Future physicians need and desire training to understand the Business of Medicine, navigate the healthcare system to ensure the financial viability of their practice, and to decrease healthcare costs. (1,2) Many medical schools are striving to incorporate a new model of training that not only covers the management of diseases but also covers topics of practice management like medical billing, insurance contracts, and the leadership skills to manage employees and interprofessional teams. (3) We plan to implement an elective curriculum for undergraduate medical students which will address these topics.

Methods: Fourth-year medical students will participate in the Business of Medicine elective curriculum designed to educate them about the practice management issues that they will face in both private practice and hospital-based practice. The clerkship will be a four-week rotation, 4 hours per day. All activities will take place in an outpatient clinic under the guidance and mentorship of the clerkship preceptor. The rotation will start with didactic lessons of one hour focusing of the various core objectives pertinent to practice management such as billing and coding and insurance contracts. A different objective will be featured each day with reinforcement and scaffolding of concepts across the rotation. The skills learned will be reinforced by clinical activities as well as simulated case scenarios. Teaching and learning techniques such as Individualized Learning Plans, direct observation of clinical encounters with feedback, case-based learning, and self-reflection will be implemented in order to promote self-directed learning, motivation, relevance, application of feedback, and metacognition. By the end of the rotation the learners should be able to: 1 Explain how to improve office workflow to enhance productivity, 2. Demonstrate how to evaluate the financial performance of the practice, 3. Describe how to evaluate insurance contracts, 4. Demonstrate accurate billing and coding, and 5. Explain how various aspects of patient encounters affect practice productivity.

Results: Accountability will be assessed by considering if the clerkship was able to provide the depth and breadth of experiences planned considering the time and resources allotted. Learner reaction to the Business of Medicine curriculum will be assessed through a pre/post Likert scale survey. Learning will be assessed through pre/post-knowledge assessments, direct observation by trained faculty, document reviews, and one-on-one review of ILPs. Behavioral changes will be assessed through self-reflections, direct observation in the clinical setting, commitment-to-act with follow-up, and self-report through Likert scale surveys.

Potential Impact/Lessons Learned: Should the curriculum positively affect medical students’ knowledge, skills, attitudes, and behaviors regarding the Business of Medicine, this curriculum could be adapted to and adopted by clerkship rotations nationally within any field of medicine.

References:
Creating Physicians of Tomorrow by Exploring the Anatomy of the US Healthcare System
Derry, Laura; Vijay, Laura; DeCherney, Stephen; Lewis, Carol
The University of North Carolina at Chapel Hill School of Medicine, UNC Health Care

Idea/Problem Statement: This is a novel, four-part elective course in healthcare leadership, management and finance, entrepreneurship, and payment models offered to second year medical students at UNC SOM. It was organized in a small group format, with optimal interaction with i

Rationale/Need: Healthcare is rapidly changing, prompting expansion of the capabilities needed for physicians to serve their patients in emerging models of care. While it is often difficult to make major changes to curricula given the existing time and resource constraints, medical school leaders know that reform is inevitable. At the University of North Carolina at Chapel Hill School of Medicine, we are leading the change by innovating outside the existing curricular time. A four-part elective was designed in collaboration with leaders from UNC Health Care, the School of Medicine, and Kenan-Flagler Business School.

Methods: Course content included talks and discussion with four experts who operate at the intersection of business and medicine. Experts included the former CEO of UNC Health Care, an entrepreneur and trauma surgeon involved in biomedical device development, the Director of Innovation at UNC Health Care, and a venture capitalist focusing on the health care sector. The course was organized as 4 weekly sessions, each a two-hour evening seminar. In the first hour, the speaker provided an overview on the topic of the session, drawing upon leading industry principles and research. The second hour was reserved for discussion and deeper investigation into the context of students questions and inquires about the topic. Enrollment for the pilot course was limited to second year medical students, as we felt it was important that participants had the capacity and relevant experience in the clinical world to begin to consider and think more critically about these topics and how they would apply their learning and knowledge in the clinical environment. We also intentionally kept our enrollment to 25 students to facilitate a team-based, discussion-style learning environment in which complex questions could be asked and networks and relationships could be established.

Results: After completion of the four sessions, students were asked to provide feedback via an anonymous questionnaire. Overall, the students were very satisfied with the course structure, material, and lectures. On a scale of 0-2, average overall course rating was 1.5 across 20 participants. Eighty two percent of students thought the course should be offered to all students. Of the four content areas, students rated payment models as the most illuminating and directly transferrable to their future work. The second iteration of this course will take place this fall (2017) and additional data will be available, including trends in quantitative and qualitative feedback.
Implementation and Design of a Residency Preparation Elective Course in a Pharmacy School Curriculum

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Idea/Problem Statement: Residency application process can be overwhelming for students. It is highly competitive and many applicants do not match to a residency program.

Rationale/Need: Intense competition among residency applicants exists. Applying to residency can be complicated and students may feel overwhelmed by the application process. (1) Students may also not understand the many different residency opportunities and pathways as well as the expectations of a resident. The match rate for post graduate year 1 pharmacy practice residency in 2017 was 67%. (2) Due to the competitive nature of post-graduate pharmacy residency application process and a high percentage of unmatched residency candidates, we have developed and implemented the Residency Preparation Elective course in the Chapman University School of Pharmacy (CUSP) curriculum. The goal of this course was to improve student professionalism, communication, clinical skills and interview skills in order to strengthen the students’ candidacy for residency. We feel that this type of innovative curricula is applicable to any health professions program that promotes post-graduate residency or fellowship training.

Methods: The one-unit Residency Preparation Elective course was implemented in June 2017. We enrolled 15 students who were in the last trimester of their second year at CUSP which offers an accelerated three-year program. The course occurred two hours per week over the last 7 weeks of the trimester. Each week focused on a different topic regarding the residency application process such as letter of intent (LOI) writing, curriculum vitae (CV) development, interview skills, match process, and clinical topic presentation. We also hosted a “Q & A” session with a former residency director and a current resident. On the last day of class we held a mock residency interview. Grading rubrics for clinical presentations, LOI, and mock residency interview were developed. Feedback was provided to each student verbally and in writing regarding their clinical presentation, interview skills, CV and LOI. The goal of each class was to meet one or more of the course objectives outlined in the syllabus. In order to determine if the course objectives were met, we utilized an anonymous pre- and post- online survey disseminated through the Qualtrics® software platform. In both surveys we assessed students’ knowledge and understanding of the residency application process, residency interview process, resident expectations, and the confidence in writing a well composed CV and a strong LOI. In our post-survey we also assessed if students felt the course objectives were met.

Results: All 15 students completed the pre-survey and 14 students completed the post-survey. In the post-survey, the total percentage of students who strongly agreed and somewhat agreed that the objectives of our course were adequately met was greater than 80%. After taking the course, 93% of the students strongly agreed that our course helped them understand the residency application process, 79% strongly agreed that our course helped them understand what to expect during a residency interview, 57% strongly agreed and 43% agreed that they have a good understanding of what will be expected of them as a resident, 71% agreed that they felt confident in writing a strong letter of intent, and 43% strongly agreed and 36% agreed that they felt confident their CV is well composed for a residency application. 79% of students strongly agreed and 21% agreed that after taking our course they have an understanding of how the match process works. In addition, 100% of the students stated that they would recommend our course elective to other classmates. Data is currently undergoing further analysis.

Potential Impact/Lessons Learned: Based on the data analysis thus far, we feel that implementing a Residency Preparation Elective Course into our school’s curriculum was highly effective and much needed in order to better prepare our students for the highly competitive residency application process.

References:
Revitalizing Didactic Curriculum using a Half-Day Conference Format
Bennallack, Guy; Piazza, Scott; Faucette, Lindsey
Marian Family Medicine Residency

Idea/Problem Statement: Using a didactic format and curriculum to engage residents and faculty, promoting attendance, learning and resident satisfaction with teaching.

Rationale/Need: Residency programs often struggle with attendance and scheduling of didactic teaching sessions. Our program initially held didactics during the noon hour. This structure limited attendance for some residents on off-site rotations. It also limited faculty participation as faculty were often precepting residents in clinic or participating in direct patient care. To address these issues we formed a didactic committee to analyze barriers to participation. We determined that a half-day format would be a solution to allow for more faculty and resident participation. Resident participation improved initially but in the first year, but our faculty participation was still limited. The lack of faculty participation limited the educational experience of the residents during didactics and the overall cohesiveness of resident and faculty education for the program. Our aim is to design, implement, and assess our didactic curriculum in hopes of increasing the quantity of faculty presentations and improving the quality of didactic education in our residency program.

Methods: The didactic curriculum will be designed for residents in all training levels in our Family Medicine residency program. We will assign core faculty to present over the course of each academic block. Faculty will present 2 lectures each week over 4 weeks in 2-3 academic blocks per year. This will total 16-24 presentation by core faculty each academic year. Our didactic committee with review curriculum guidelines and suggestions from AAFP (American Academy of Family Physicians) and STFM (Society of Teachers of Family Medicine) to ensure that our curricular topics are covering core topics suggested by these two groups. Residents and faculty will be assigned topics. Topics will repeat on an 18-month schedule to ensure that all residents will have exposure to each topics at least once during the course of residency training. The faculty will participate in faculty development over the course of 4 1-hour long lunchtime faculty meetings to review Dr. Julie Nyquist's ASCI model of teaching (attention grabbers, skills builders, catalysts and intensifiers). Faculty will be required to identify teaching methods employed with each lecture to best engage residents on the faculty assigned topics. By the end of the year-long pilot program, we will measure resident attendance and satisfaction with the revised didactic program, specifically regarding faculty engagement in didactic presentations.

Evaluation Plan: Learner reaction will be assessed through brief surveys at the end of each session focused on session evaluation utilizing New innovations messaging. ACGME anonymous resident surveys will be assessed and compared to previous years to assess overall resident perception of faculty engagement in promoting a culture of inquiry. Learner attendance will be recorded and measured for each session over the course of the academic year.

Potential Impact/Lessons Learned: Revisions to our didactic curriculum format and content may improve overall resident satisfaction with faculty engagement and teaching. We also expect resident satisfaction with didactic content to improve, as well as enhancement of performance on the American Board of Family Medicine exam.

References:
A Changing Landscape: Internal Medicine Preliminary Specialty Programs
Gee, Erica
Kaiser Permanente, Oakland

Idea/Problem Statement: This intervention targets applicants matching into a preliminary IM year, and aims to optimize the year to build skills specific for their field.

Rationale/Need: With recently growing work hour restrictions, it is becoming increasingly more important for residents to be able to maximize their training during residency. The prelim IM year for residents matching into advanced programs, varies widely from program to program, each with the goal of providing residents with a foundation of medical knowledge. More anesthesiology and neurology programs have started incorporating the intern year into the residency program in order to better tailor their skill set to the specialty of interest. Because of this, many of these applicants are choosing categorical years over prelim years, which has implications for the resources spent recruiting and interviewing these applicants. In the field of anesthesia, 73% of applicants matched into categorical programs in 2017, compared to 36% in 2005. Similarly, 62% of neurology applicants matched into categorical programs in 2017 compared to 29% in 2007. Despite the convenience of a categorical program, advanced programs provide an opportunity for applicants to have two separate training experiences in residency. These years should be customized for prelims to maximize the skills gained for each specialty. This will better prepare these applicants for starting their PGY-2 year and reduce time lost spent adjusting to the subspecialty training year. This can be achieved through incorporating elective blocks into the year that are focused on solidifying skills relevant to the applicant’s field of interest.

Methods: At Kaiser Permanente Oakland, preliminary internal medicine residents are given 17 weeks of elective time, which can be used to rotate through any number of specialties (including cardiology, pulmonology, radiology, global health, etc). Over the course of a year, this intervention would revise the prelim year schedule to incorporate targeted elective blocks that are tailored to the applicant’s specialty of interest, while preserving the core medicine and ICU blocks to provide the foundation of medical knowledge. Electives would occur in 2 week blocks, with one 4-week block at the end of the year pertaining to the specialty of interest. For anesthesiology applicants, the four-week block would function as the clinical anesthesia month that categorical programs have adopted into their intern year curriculum. Elective blocks would be tailored to highlight specific points of interest. For example, for anesthesiology, the cardiology rotation would specifically focus on EKG training and recognizing acute changes, preoperative assessment for heart conditions, specific anesthesiology required for interventional cardiology procedures, and so on. Dermatology prelims would participate in various dermatology elective rotations, pathology, procedure, and surgery electives to help improve procedural skills. The details of the elective curriculum objectives will be designed by the specialists themselves with the help of the internal medicine program director.

Evaluation Plan: The effectiveness of this intervention would be evaluated by the prelim applicants themselves after the completion of their intern year. After 6 months of training during their PGY-2 year, residents will provide feedback via scoring sheets and written evaluations. Items that will be scored include preparedness for PGY-2 year, usefulness of certain elective rotations in their preparation, and suggestions for improvement to provide how their intern year has made their specialty training more or less streamlined and efficient.

Potential Impact/Lessons Learned: This intervention could re-define the prelim year for applicants, better prepare them for their respective subspecialty training, and potentially increase the number of applicants in anesthesiology and neurology participating in advanced programs.

References:
1) NRMP Results and Data - Main Residency Match. 2005-2017
Urban Clinical First Encounter: First Aid Training for Medical Students by Medical Students

Gelovani, David J. [1]; Condello, John [1]; Schnabel, Nicole [1]; Krasnick, Brian [1]; Bohler, Rynita [1]; Holloway, Jordan [1]; Vigilar, Veronica [1]; Ahmad, Abid [1]; Ishola, Adeola [1]; Jawad, Ali [1]; Al-Kourainy, Nabil [1]; Lee, Amy Buth [2]; Foster, Bethany [3]; Mendez, Jennifer [1]; Pearson, Claire [2]; Kaufmann, Kristiana [2]

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Idea/Problem Statement: The Urban Clinical First Encounter (UCFE) aims to provide early first aid experience to incoming medical students during their orientation.

Rationale/Need: Most incoming medical students have little to no prior exposure or experience with first aid and do not feel competent to provide first aid assistance. However, bystanders, friends, and family members often assume medical students have adequate medical knowledge to respond to medical concerns or emergencies. This may add stress to an early medical professional and contribute to a poor outcome when an emergent situation arises outside of the hospital in the community. Furthermore, most medical schools do not provide first aid or patient care experience until clinical rotations starting in the third year. Therefore, providing first aid training to incoming medical students during their orientation may positively impact their perception of their confidence and clinical competence.

Methods: The Urban Clinical First Encounter (UCFE) seminar was developed to provide early exposure to first aid alongside tenants of the Wayne State University School of Medicine’s (WSU SOM) mission. The seminar consists of powerpoint presentations, video dramatizations, and hands-on training for a variety of emergency scenarios divided into an introduction and three one hour blocks. During their orientation, incoming medical students learned to provide emergency aid using standard and improvised equipment and techniques. Any material that could potentially overlap with BLS and ACLS training, which are mandatory during pre-clinical years at WSU SOM, was omitted to reduce redundancy and length of the seminar. Second year medical students, residents, and attending physicians facilitated the small group hands-on training sessions and answered any questions the students might have had. The videos showcased a diverse cast of students and community members in unique urban locations and environments throughout the city of Detroit.

Evaluation Plan: Pre- and post-tests assessed the efficacy of the seminar, which was conducted during orientation for incoming medical students. Additionally, an evaluation was offered to allow for student feedback regarding the utility and relevance of the materials.

Potential Impact/Lessons Learned: Incoming medical students receiving valuable first aid training during their orientation may report an improvement in their perception of self-confidence and competence in the field of medicine before beginning pre-clinical education.

References:
Implementation of an Elective to Teach Computer-Aided Restorations to Pre-Doctoral Dental Students
Hohensee, Natalie
Loma Linda University

Idea/Problem Statement: Use of an elective course to deepen student knowledge, skills, and attitudes about computer-aided restorations (CAD/CAM)

Rationale/Need: Within dentistry, computer-aided design or computer-aided manufacturing (CAD/CAM) for dental restorations (e.g., crowns, inlays, onlays) has gained popularity in the last decade.1 Even though Dentistry has always been an evolving field in relation to technology, integration of CAD/CAM into dental school curricula has taken time, and varies widely between institutions. CAD/CAM helps to streamline the process of creation of restorations 1,2 and this technology has demonstrated advantages in relation to time efficiencies, preservation of tooth structure, quality and delivery of clinical treatment. Prior studies indicate that it can be taught on the student level and it is among the skills that students request to learn about and that graduates report as important.1,2,3 Our idea to meet the need for CAD/CAM instruction is to develop an elective to teach and assess advanced skills and techniques that could eventually be integrated into the entire curriculum.

Methods: Participants in this pilot study of the curriculum will be randomly selected from those applying for the CAD/CAM elective. There will be 8 students the first quarter. There will be another 8, used as a control, that will take the course in the next quarter. The curriculum for the elective will utilize key learning principles including scaffolding (in the lab with pre-selected example cases) as students build skills in a graduated fashion from simple to complex cases. The computerized technology allows for ongoing feedback prior to the manufacturing of the restorations. Thus learners will have the advantage of deliberate practice with targeted feedback from a CAD/CAM expert. The first half of the course will be conducted in a laboratory setting where students build the basic skills in planning for and utilizing the technology. The second half of the course will be conducted in the clinic, with actual patient cases, and a focus on case selection, design, and execution of skills. Objectives: by the end of the course students will be better able to 1) describe the uses of CAD/CAM technology within dentistry to preserve tooth structure; 2) apply the principles of minimally invasive dentistry in making a plan for a patient case using CAD/CAM imaging and design systems; and 3) create a CAD/CAM indirect dental restoration from start to finish for one of their own patients.

Evaluation Plan: Learner knowledge gains will be assessed by written evaluation and direct observation of hand skills and will examine the 16 participants at three points: prior to quarter 1; end of quarter 1, and end of quarter 2. This will allow us to look at skills developed in the standard dental education, skills at the end of the 10-week elective and skills 10-weeks later. A pre-post exam will be utilized to assess pre-requisite knowledge. Learner reaction will be assessed by a standard student course evaluation at the end of the elective, and by comparing learner experience with CAD/CAM prior to and after participation in the elective. Learner behavior will be assessed by a retrospective pre-post questionnaire given at the end of the first semester for Group 1 and end of second semester for both groups. All students will complete an end of fourth year survey with questions on CAD/CAM dentistry. The results of the 16 participants will be compared to the other 80 students in the graduating class.

Potential Impact/Lessons Learned: Our elective course could become a model for other schools to follow and could be integrated into standard dental curriculum nationally.

References:
**Educating Future Physicians in Health Systems Science:**
An Innovative, Integrated Curricular Approach
Lawson, Luan
The Brody School of Medicine at East Carolina University

**Idea/Problem Statement:** To prepare medical graduates to understand quality measures, provide evidence-based care, implement QI processes, and work in interprofessional teams.

**Rationale/Need:** Reform in undergraduate and graduate medical education is necessary to better prepare the physician workforce in addressing the goals of the Triple Aim – better outcomes for patients and populations, increased patient satisfaction, and reduced health care costs. In response to these calls, the Brody School of Medicine at East Carolina University implemented an innovative, four-year longitudinal, integrated curriculum focused on health systems science to better prepare graduates to work in a rapidly changing healthcare environment. HSS is defined as “the principles, methods, and practice of improving quality, outcomes, and costs of health care delivery for patients and populations within systems of medical care.

**Methods:** Instead of creating a separate course to teach the principles of Health Systems Science, we implemented an integrated curriculum that represents the authentic, embedded nature of patient safety, quality improvement, and team-based care. The Institute of Healthcare Improvement Open School modules on-line learning platform is utilized for asynchronous knowledge “preloading” by linking to specific, experiential learning activities. Using the flipped classroom, curricular time is devoted to more meaningful discussions shifting toward a learner-centered model of instruction. While an increasing number of US medical schools and residency programs are requiring completion of the IHI Basic Certificate a requirement for graduation, we felt using a developmental model to integrate objectives throughout the curriculum based on learner readiness for material would increase learner engagement and understanding of the impact on patient care. Additionally, integrating these concepts into the preclinical curriculum provided foundational knowledge to anchor clinical experiences. For example, IHI modules on patient and family centered care and patient shadowing served as cognitive preloading for a Patient Shadowing experience followed by a facilitated debrief in the first month of medical school. The linkage of IHI modules to experiential activities solidifies concepts into a true contextual understanding and promotes learning through reflection required to solve unfamiliar problems.

**Results:** Initial steps in the design of the longitudinal curriculum began with mapping all health systems science course/clerkship content across the curriculum and performing a gap analysis. Integration of the building blocks of this longitudinal curriculum occurred throughout the required courses and clerkships so that students would learn the principles and practices of improvement science (HSS) as simply part of how we do things, rather than experience it as it’s own "set aside" curriculum without clear relationship to other things they were learning in their courses and clerkships. Results of pre- and post- knowledge and attitudinal assessments will be described. Students demonstrated an improved understanding of human factors, improved comfort with performing a timeout, and improved understanding of the surgical safety checklist.

**Potential Impact/Lessons Learned:** Integration of HSS as the third pillar of medical education, in addition to the basic and clinical sciences, into a comprehensive, longitudinal curriculum is essential to prepare future physicians to practice in a rapidly changing healthcare system while improving the health of patients.

**References:**
**Impact of 4th-Year Integrative Medicine Elective on Physician Self-Care**  
Bui, Sydnie; Austin, Armaity  
*Keck School of Medicine of USC*

**Idea/Problem Statement:** This retrospective cross-sectional study examines the effect of an Integrative Medicine Elective on physician self-care and clinical practice.

**Rationale/Need:** Nearly half of American medical schools do not offer IM education. Most of the schools that provide an IM course offer it as an elective [1]. Prior research suggests that an integrative medicine course positively affects post-graduate self-care, communication, and empathy, though the specific aspects of self-care have not been examined [2,3]. During the 4th-year online elective at the Keck School of Medicine, students learn about different topics of integrative medicine through modules, including nutrition and meal patterns, physical activity, stress, sleep, and spirituality. At the end of the elective, students create 3 self-care goals. We hope to determine how including Integrative Medicine in the last year of the medical school curriculum benefits physician self-care practices, including physical, mental, and spiritual well-being, and clinical practice.

**Methods:** A link to an anonymous web-based survey through Qualtrics will be emailed through the Keck School of Medicine Student Affairs office to the 127 KSOM graduates who took the 4th-year IM Elective between 2013-2017. An email reminder will be sent after 3 weeks, and data collection will close at the end of the third week. Participation in the survey is entirely voluntary. The survey consists of 14 questions, addressing demographics, impact of the IM Elective on self-care, and utilization of Complementary and Alternative Medicine in daily life and clinical practice. Answering each question of the survey will not be mandatory. The survey will take about ten minutes to complete. Data collection will occur during Fall 2017, and analysis will occur throughout Winter 2017. There are minimal anticipated risks. Participants may feel uncomfortable answering questions about their personal health habits, but they will have the option to “decline to answer.” There will be no direct benefits to subjects who participate in the study, though their participation may indirectly benefit them due to a general feeling of reward for helping with research that can improve medical school curriculum for physician well-being.

**Evaluation Plan:** Data collected will be both qualitative and quantitative. The goals outlined in the IM Elective curriculum will guide analysis. Data analysis will be calculated using SPSS statistical software. Descriptive statistics will be used to describe demographic data, impact of the IM Elective, and utilization of CAM.

**Potential Impact/Lessons Learned:** Determining the impact of an IM course during medical school on physician well-being during residency and beyond will help decide if IM education should be a more integral part of medical school curriculum.

**References:**
A 5-year Experience Using a Peer Professionalism Committee Exercise in a Residency Program
Goldman, Mitchell; Vannerson, Julie; Sinex, Noelle; Miles, Matthew; Hsu, Melinda
Indiana University School of Medicine, Department of Medicine, Indianapolis, IN

Idea/Problem Statement: Professionalism is a competency and a focus of the clinical learning environment. Providing residents professionalism education is a challenge.

Rationale/Need: There is no agreement regarding how to provide professionalism education in residency training. Reflective narratives have been used by some to engage medical students in professionalism education. In studies of residents, after reviewing video-based examples of faculty engaging in unprofessional behaviors in a workshop, residents have reported intent to change behavior. Residents who identified video scenarios as realistic were more likely to report intent to change. Despite intent to change, no overall decrease in unprofessional behavior was observed. We sought to improve our professionalism education and possibly resident behavior by adding a required resident peer professionalism committee exercise. This exercise included a brief review of medical professionalism followed by group discussion of cases of de-identified unprofessional peer resident behavior in order to provide residents with realistic examples of unprofessional behavior as a basis for reflection.

Methods: The study was reviewed by the Indiana University IRB. We introduced a peer professionalism committee exercise into a patient safety rotation in 2013. The committee included standing peer-elected senior residents (who could attend multiple meetings per year) and residents attending a single meeting (ratio ~1:4). Residents were provided definitions of medical professionalism and professionalism milestone expectations as a framework for decision-making. In a session, led by a faculty level chief resident, the resident peer committee was asked to review 1-3, de-identified cases (originating from complaints communicated by faculty, nursing, administrators, peer residents or students), regarding behavior of peer residents. The residents were asked to reach a consensus assessment and to offer remediation plans for each complaint. Previously recorded residency program leadership assessments/plans were then shared with learners. Agreement between resident learners and leadership was used an indicator of group understanding of the professionalism concepts for each case. Complaints of unprofessional behavior were compared pre and post committee formation. Once the committee process was established, we measured acceptance of the activity with respect to confidentiality and overall value of the activity. Additional data included resident self-reported understanding of medical professionalism, opportunity for reflection, and plan to change behavior following the exercise.

Results: Early Data (2013-2015) Understanding Concepts: During first two years, 96 residents participated in professionalism committee activities for at least one 60-min session. A total of 23 of 24 (96%) resident peer committee group assessments were recorded as concordant with leadership assessments. Number of Complaints Regarding Resident Professionalism: No significant reduction was measured in the number of professionalism complaints the program received about residents for the 2 years following the introduction of this professionalism exercise. Later Data: (2015-2017): Confidentiality: All residents responding (n = 23) disagreed with the statement that the exercise represented a violation of the confidentiality of their peers. Resident Rating of the Value of the Exercise: Residents (n=19) rated the professionalism committee education at ~ 2.8 on a Scale with 0 = no value and 3.0 = extreme value. Understanding Medical Professionalism: 34/39 (87%) of residents indicated that they had a better understanding of the term “medical professionalism” after the education. Intent to Change and Opportunity for Reflection: Following participation, slightly more than half; 21/41 (51%) of residents agreed with the statement, “I will change my behavior as a result of participation”, and (52/58) 89% agreed with the statement that “the program provides opportunity to reflect on my own professionalism” compared with 76% pre-exercise (83/108).

Potential Impact/Lessons Learned: Providing a framework for professionalism, followed by a resident group review of de-identified peer professionalism breaches was associated with increases in self-reported understanding of professionalism, reflection, and intent to change behavior. The exercise did not violate confidentiality.

References:
Service Learning Activity for Medical Students to understand Social Determinants of Health  
Blanks, Dominique; Hall, Leo; Gelovani, David; Lemieux, Anthony; Mendez, Jennifer  
Wayne State University School of Medicine

Idea/Problem Statement: Pursuant to LCME standard 6.6, Wayne State SOM has selected service learning to educate students about social determinants of health.

Rationale/Need: Exposing medical students early in their medical education to social determinants of health through service learning activities allows students to encounter the myriad obstacles facing future patients. Insofar as such determinants will shape the patient-physician relationship that underpins the practice of medicine, it is imperative that students experience said determinants, understand the mechanisms by which they operate, and subsequently diagnose these determinants in order to create community policies whereby health equality may become a reality for all. As it pertains to the population health of the city of Detroit, many elements are in play; thus, this service learning activity set out to expose students to multiple service options throughout the city, thereby demonstrating both the great need experienced by the student’s future patients, and the opportunity available to ameliorate such need.

Methods: 306 students were divided into eight learning communities and assigned to a community engagement activity. These activities comprised blight removal, community safety net establishment, skill building and urban farming. Community building/blight activities were conducted through affiliated organizations within a community built environment. Other activities geared toward establishing a community safety net were facilitated through a food pantry and clothing distribution program, an ethnic food hub, and a women's shelter. The skill building activity was organized through a program relaying nutritional advice and cooking directives. Farming activities were hosted at urban farms and community gardens engaged in local communal initiatives. Pre and post surveys were administered to determine change of perceptions, after having volunteered at the sites. Participants were assessed on previous urban volunteer experiences and opinions of Detroit’s health. Additionally, participants submitted three words to assess their volunteer assignments.

Results: The pre survey had a response rate of 92.16%; the post response rate was 55.88%. The majority of the respondents were Caucasian female. Following participation in the service projects here forth categorized into “blight removal”, “safety net establishment”, “skill building”, “urban farming”, and “community gardening, there was a 48% increase in the number of respondents who perceived Detroit’s population health as “very poor”. Words used to express their experiences on blight removal were “eye-opening” and “disadvantaged” compared to pre-experience words such as “exciting” and “awareness”. For safety net establishment activities, respondents used the words “empowerment” and “compassion”; after volunteering, this experience was referred to as “humbling” and “eye-opening”. In regards to skill building activities, terms included “service” and “access”; after this engagement opportunity, words consisted of “service” and “insecurity”. The communal initiatives in urban farming and community gardens received remarks such as “sustainability” and “healthy”; following student participation, students called this activity “enlightening” and “amazing”.

Potential Impact/Lessons Learned: It is hoped that these experiences within the community will provide context on social determinants of health in patient care. These experiences may also be the foundation for the creation of projects that focus on patient education and/or provider training.

References:
Mobile App-Based Asynchronous Educational Curriculum Intervention for Pediatric NICU Residents

Lewis, Juanita
University of California, Los Angeles

Idea/Problem Statement: Evaluate the effectiveness of an educational curriculum utilizing asynchronous learning via a mobile application for pediatric trainees in the NICU.

Rationale/Need: The neonatal intensive care unit (NICU) is a fast-paced environment that is often stressful for learning pediatric trainees. As a result, educational objectives for the rotation are often sacrificed due to the dynamic flow of ICU patient care and is further exacerbated by constraints placed by resident duty hour and the transient nature of resident schedules. Recent surveys from pediatric residents NICU rotations indicate a desire for more consistent educational instruction that will seamlessly fit into their daily workflow. Asynchronous learning is a student-centered instructional method where interactions between the teacher and learner are independent of time and place. This allows pediatrics residents greater flexibility to achieve their educational goals at their own pace. The ubiquity of mobile technology in the medical setting is a prime vehicle for delivery for educational curricula to the next generation of pediatric trainees. However, until recently, most studies have focused on web-based delivery of educational curricula with few documented studies occurring in the NICU setting.

Methods: This will be a prospective cohort pilot study with a posttest only design on a convenience sample of NICU residents. An asynchronous educational curriculum of 10 video lectures will be created that will teach core topics in neonatal medicine. The lectures will be 15-20 minutes in length and will be created using PowerPoint and Panopto. Lectures will be delivered via an educational mobile app created with the mobile app development environment GoodBarber.com. A 25-item multiple choice question (MCQ) quiz will be created to assess residents’ medical knowledge about neonatal medicine. A Likert-type survey will be created to assess resident perceptions of medical management skills and gauge perceptions of the quality of the asynchronous curriculum. The 25-item MCQ quiz and Likert-type survey will be administered twice, at the entrance and exit of the study. A cohort of residents (n=20) will be established as they rotate through 2-week NICU rotations over a 2 month time period at two teaching locations. The control group (n=10) will receive the quiz and survey while the study group (n=10) will receive the educational intervention.

Evaluation Plan: We will determine differences in posttest scores between experimental and control groups using analysis of variance. A secondary analysis will analyze differences between the groups on their confidence in medical management skills based on responses from Likert-type surveys. We hypothesize that an asynchronous mobile-app based educational curriculum will have a positive impact on residents’ perceptions of medical management skills and medical knowledge. Residents will have a favorable view of mobile technology as a tool for their medical education.

Potential Impact/Lessons Learned: This pilot study will serve as model for dissemination to other services of pediatric residency programs to enhance the educational interventions for pediatric trainees during other rotations.
The Total Laparoscopic Hysterectomy: A Step-by-Step Instructional Video
Phung, Kevin; Rounds, Alexis; Granat, Anna; Israel, Jennifer
Keck School of Medicine of USC

Idea/Problem Statement: We developed an instructional video on the total laparoscopic hysterectomy (TLH) to efficiently build confidence, independence, and procedural skill.

Rationale/Need: Surgical training has moved to a milestone-based framework, but achievement of these milestones have become increasingly more challenging due to limits on resident time as well as by decreasing surgical volume. At LAC+USC medical center, the experience of OBGYN residents in performing minimally invasive hysterectomies is further limited by the complexity and severity of the pathology they encounter. These factors create a demand for effective, well-designed supplemental educational tools for surgical training. Currently, residents prepare for surgery through surgical textbooks and open-access videos available on websites such as a YouTube. In the general surgery literature, authors objectively evaluated available videos, finding that they are of mixed quality irrespective of their number of views/likes (1,2). Furthermore, the development of video teaching modules has been shown in the field of General Surgery and ENT to decrease errors and staff take-overs (3). Properly constructed and validated video teaching modules can serve as an important tool to supplement traditional surgical training. This innovation is targeted to improve practice-based learning and improvement, medical knowledge, and patient care, all core competencies of the ACGME. The objective of our intervention is to improve outcomes with respect to trainees’ self-reported confidence and objective procedural skills as reflected in the Objective Structured Assessment of Technical Skills (OSATS).

Methods: Nine PGY4 residents from LAC+USC Medical Center will be recruited and followed until completion of three different total laparoscopic hysterectomies (TLH). Once a resident has logged at least 5 previous TLH as primary surgeon, they will be asked to report their baseline self-perceived confidence and competence at each step of a TLH via a survey in the REDCap database. We will additionally collect number of observed or assisted TLHs, number of previous TLHs performed, and time between observed procedures. Each participant will then perform a “pre-exposure” TLH with one of two faculty proctors who perform TLHs regularly. Immediately following the surgery, the faculty proctor will fill out an overall OSAT questionnaire using REDCap. All intraoperative complications will also be noted. The residents will then be randomized to either the intervention arm, which will watch the instructional video once, start to finish, prior to their next TLH or the control arm. The following “post-exposure” TLH will again be preceded by a confidence self-assessment, and then assessed by OSAT by the blinded attending physician. All residents, regardless of which group, will then be allowed to watch the video as many times as they would like and this number will be recorded. All outcome measures will be collected once more for the 3rd TLH. Outcome measures will be compared for changes between each timepoint.

Evaluation Plan: 1. REDCap survey assessing perceived confidence in performing procedure; 2. Objective procedural skill evaluated via Objective Structured Assessment of Technical Skills (OSAT) questionnaire, intraoperative complications, and number of take-overs which will be completed by the present attending physician immediately following the procedure; 3. Number of times the study video was watched.

Potential Impact/Lessons Learned: This intervention can drastically increase confidence amongst LAC+USC OBGYN residents who have all identified minimally invasive surgery as a weakness. This can be reproduced with a variety of surgical procedures, as well as scalable to other OBGYN residency programs nationally and internationally.

References:
Teaching and Assessing Cost- and Time-Effective Patient Care using Serious Gaming Strategies
Luu, Cindy; Talbot, Thomas; Fung, Cha Chi; Chang, Todd P.
Children’s Hospital Los Angeles, Keck School of Medicine of USC

Idea/Problem Statement: To develop and validate a serious game platform using a virtual pediatric emergency department (PED) to assess resident multi-patient care skills.

Rationale/Need: The traditional approach to patient care in medical education is performed in a serial thinking approach, assessing one patient scenario at a time. The ability to develop multi-patient care skills is currently only learned through immediate immersion within a busy hospital, clinic, or emergency room setting. Novice residents often lack the skills of balancing time sensitive care, which is critical in most specialties such as in the emergency department (ED). Studies that measure ED resident efficiency uniformly report a positive correlation between efficiency and post-graduate training year. As these residents have more exposure to immersive environments, their clinical multi-tasking skills improve. These skills encompass the ability to efficiently but safely care for multiple patients at a time, balance tasks and prioritize time-sensitive matters, and approach decision making with both cost- and time-effective considerations. There is currently no method to teach real-time multi-tasking and multi-patient care outside of the clinical environment. A simulated PED game may serve as a helpful adjuvant in training and assessing an individual’s multi-tasking abilities in the context of clinical care. We propose to develop and validate a serious game platform that assesses multi-patient care characteristics. This will provide a novel solution to both teaching and objectively assessing a resident’s ability to manage multiple patients without actual risk to patients.

Methods: In conjunction with BreakAway Ltd, the investigators and subject matter experts developed a total of 16 PED core cases to create a virtual PED game. Study participants (undergraduate students, medical students, pediatric residents, pediatric emergency fellows, pediatric emergency medicine attendings and general pediatric attendings) were recruited from the University of Southern California, Keck School of Medicine, and Children’s Hospital Los Angeles. These participants were asked to complete (1) a video game experience survey (2) a multi-tasking ability test (MTAT) and (3) the developed PED video game over 5 gameplays (75 minutes) in a week. As a comparison to clinical performance, we will obtain the National Board of Medical Examiners (NBME) pediatric subject examination scores for medical students, in-training exam (ITE) scores as well as clinical evaluations for residents, and clinical performance metrics abstracted from medical records within PED encounters for residents, fellows and PEM attending physicians.

Evaluation Plan: Our first aim of the study is to prove discriminant validity for the game, by demonstrating significant differences in approaches to multi-patient care between expert and novice providers. We anticipate a difference of 30% in efficiency and ordering patterns between experts (PED attendings) and novices (medical students) within gameplay data. Game metrics such as the proportion of correct orders, mean time to sentinel orders, and number of patients seen or dispositioned will be compared using ANOVA analysis. Our second aim of the study is to demonstrate convergent validity of the game by correlating game performance with the following 5 metrics currently used to assess patient care: ITE/NBME scores, clinical evaluations, patients seen per hour in the PED, matched case performance in the PED, and MTAT scores. In game metrics will be compared to these clinical parameters and stratified by level of training, using Spearman Rank, Pearson’s correlation coefficient and ANOVA analysis.

Potential Impact/Lessons Learned: This study is impactful because it provides a novel mechanism for teaching and assessing multi-patient care in a safe and enjoyable platform, which can be standardized and applied to multiple fields, for competency evaluation.

References:
Perspectives of Thai EM Students Towards Team-Based Learning Approach to Tele-Education
Hoonpongsimanont, Wirachin; Somasundaram, Shashank; Tarapan, Tanawat; Narajeenron, Khuansiri
Department of Emergency Medicine, University of California, Irvine

Idea/Problem Statement: Medical schools in developing countries have a shortage of Emergency Medicine (EM) educators, necessitating collaboration with remote EM educators.

Rationale/Need: Telemedicine can potentially fulfill immediate demand for expert EM educators in countries where the EM specialty is still developing. It allows for remote training of both students and educators. This study utilized teleconference to deliver a Team-Based Learning (TBL) module, an effective and well-established instructional strategy in American medical education, to educate Thai medical students on EM topics. We aimed to evaluate the perceptions of Thai medical students towards a TBL module conducted in a resource-limited setting by a remote EM expert via teleconference, in conjunction with local educators. Our secondary aim was to assess the feasibility of this concept.

Methods: The study team created a Team-Based Learning (TBL) module on cardiovascular and pulmonary emergencies for medical students. The module consisted of a pre-reading assignment, an individual Readiness Assessment Test (iRAD), a group Readiness Assessment Test (gRAT), a Group Application Exercise (GAE) and a post-test evaluation. All classroom materials were prepared and distributed by educators at the Thai medical university. Webex was used to connect the U.S. and Thai sites. The U.S. educator coached the Thai educator for approximately 15 minutes then observed the one-hour learning session in real time, interposing as necessary. We assessed Thai medical students’ perceptions of the effectiveness, practicality, engagement of the course, and pre-reading material, on a 1-5 Likert scale using QR Code on Google Docs. We used descriptive statistics to analyze the data.

Results: Sixty-two Thai medical students participated in the learning session, and all completed the module evaluation. On average, students rated the effectiveness, practicality and engagement of the learning module at 4.4 out of 5 (88.0%) and rated the pre-reading material at 4.1 out of 5 (82%). They suggested a longer learning session and a post-discussion debrief to increase module effectiveness.

Potential Impact/Lessons Learned: Teaching TBL using teleconference is feasible and well-received by learners in limited-resource countries. We recommend exploring the effectiveness of the tele-education modality for future implementation.

References:
Technology-Based Education Modules for Patient and Family Education in a Pediatric Cardiology Clinic
Chlebowski, Meghan
Division of Pediatric Cardiology, St. Louis Children’s Hospital, St. Louis, Missouri; Division of Pediatric Critical Care, St. Louis Children’s Hospital, St. Louis, Missouri; Department of Pediatrics, Washington University in St. Louis, St. Louis, Missouri

Idea/Problem Statement: Lesion-specific, technology-based educational modules to improve the knowledge base of adolescents with congenital heart disease and their parents.

Rationale/Need: Life expectancy of children with nearly all forms of congenital heart disease has increased significantly due to better operative outcomes and perioperative care. As children become adolescents, the transfer of knowledge and decision-making ability from the parents to the patient is required for successful transition to adult medical care for their lifelong disease. A recent study showed that only approximately one half of adolescents are able to name their cardiac defect and only one third are able to adequately describe their cardiac anomalies and surgeries1. In addition, studies show that understanding of chronic illness is associated with improved satisfaction with medical care, better compliance, and improved health related quality of life and that development of a structured education program is associated with a higher level of knowledge for patients2,3. As a result, development lesion-specific, technology-based educational platforms may be a key step in providing a stronger emphasis on educating this patient population prior to transition to adult care.

Methods: The intervention will target a pilot population of adolescent patients > 11 years with Tetralogy of Fallot and their parents presenting for routine follow up care in an ambulatory pediatric cardiology clinic at a large, tertiary care children’s hospital over a six-month period. During this time frame, additional lesion-specific educational modules will be created with the ultimate goal of developing a comprehensive repertoire of educational modules. The module will be accessed via a course passcode on either a patient-owned or hospital-provided device capable of viewing iTunes U. Initial access will be provided at the ambulatory clinic visit which typically lasts 2-3 hours in length and is sufficient for completion of the self-paced module. Additional routine face-to-face education will be provided by the patient’s primary cardiologist prior to completion of the clinic visit. The modules will consist of written material consisting of short descriptions or paragraphs describing the specific congenital heart disease lesions and their surgical repair with related diagrams and videos. All material will be geared towards specific learning objectives including knowledge of the anatomical defect, surgical repair, medications, exercise restriction, and need for future surgery. Materials will be chunked into categories to allow for easy navigation to topics of interest resulting in decreased cognitive overload. All materials will conform to appropriate health literacy standards.

Evaluation Plan: A patient and parent survey questionnaire assessing each learning objective will be completed at the end of the ambulatory visit. Results of the questionnaires will be scored by a single cardiologist with knowledge of the patients’ heart histories. General comparisons between adolescent and parental responses will be compared using a dependent sample t-test. Pearson correlation coefficient will be used to determine age at surgical repair and disease-specific knowledge. Analysis of variance will be used to assess for the relationship between the type of congenital heart disease and disease-specific knowledge. In addition, an anonymous survey embedded within the module will assess for feedback for module design, content, and usability.

Potential Impact/Lessons Learned: Implementation of this technology-based educational curriculum for patient and family education can have both inter- and intra-disciplinary effects and can serve as a foundation for educational innovation at a more national level through large-member organizations and institutional collaboratives.

References:
Bad News or Life Altering Diagnoses? A Randomized National Needs Assessment in Canada
Hodgson, Carol S.; Bell, Catherine; Miyasaki, Janis
University of Alberta

Idea/Problem Statement: Giving bad news is included in most medical school and residency curricula; yet studies indicate giving a difficult diagnosis is often done poorly.

Rationale/Need: How to give bad news is included in most medical school curricula and residency training programs. The scenarios often involve giving the diagnosis of cancer or other life-limiting diagnosis. Even with this training and a literature on how to give bad news, studies still indicate that giving a diagnosis is often done poorly leaving patients traumatized.1 This could occur for numerous reasons: e.g., poor training, stressful experiences, or a lack of time.2 Physician perception of what is bad news may also be affected by their practice, i.e., the severity of illness. Our study examined whether this problem could be related to physicians not considering many diagnoses as “bad news” based on diagnosis severity. Our research questions were: will the total number of diagnoses differ by prompt (“bad news” vs. “life-altering”) or role (resident vs. practicing neurologist) and will there be a difference between the groups on what diagnoses are indicated as “bad news” vs. “life-altering?”

Methods: We developed a database of Canadian neurologists (N=838) from the online, searchable, provincial databases of the Colleges of Physicians and Surgeons of Canada. Stratifying by province, 67% of the neurologists were randomly selected and randomized to one of 2 groups. A convenience sample of 5 of the 13 English-speaking Canadian neurology residency programs were randomized to two groups based on province and size of program. Each group received surveys listing 14 diagnoses; with the “prompt” either “bad news” or “life-altering.” The neurologists were mailed a post-card survey with follow-up 3 weeks later. The residency programs handed out paper surveys during a teaching session with completed surveys returned by the program director. An ANOVA test was used with total number of diagnoses as the dependent variable with “prompt” (“bad news”/“life-altering”) and “role” (resident/neurologist) as independent variables. The effect size was calculated using partial eta squared. Chi square tests were used for each diagnosis (checked yes or no) versus “prompt” or “role.” This study was approved by the university’s institutional ethics board (protocol number: Pro00063481).

Results: Subtracting undeliverable postcard surveys, the total number of surveys delivered was 513 (61% of the total population of Canadian neurologists). There was a 34% response rate for neurologists (n=87, 35% for “bad news” and n=86, 33% for “life-altering”). There was a 79% response rate for residents (n=38 for “bad news” and n=54 for “life-altering”). The total score was significantly higher (F=1,389.98, df=1,255, p=.02) for “life-altering” than “bad news” (M=9.52, SD=2.24; M=7.75, SD=2.34, respectively), but there was no difference (F=45.96, df=1,255, p=.09) between residents and neurologists (M=8.99, SD=2.43, M=8.53, SD=2.45, respectively). There was a large effect size (partial eta squared) for prompt (“bad news”/“life-altering”) η²p2 = .99 versus η²p2 = .00 for role (resident/neurologist). More often, across roles (resident/neurologist) respondents with the “life-altering” prompt (n=138) chose the diagnoses versus those with the “bad news” (n=121) prompt for the diagnoses: epilepsy (80%, 54%); functional-neuro disorder (43%, 19%); migraine (22%, 7%); multiple-system atrophy (99%, 89%); muscular dystrophy (94%, 76%); Parkinson’s (91%, 74%); peripheral neuropathy (25%, 13%); and stroke (91%, 64%). Residents were, generally, more likely than neurologists to include particular diagnoses regardless of the prompt. Residents versus neurologists checked: Bell’s palsy (12%, 5%); epilepsy (76%, 64%); MS (97%, 89%); progressive-supranuclear palsy (89%, 97%); and stroke (88%, 73%).

Potential Impact/Lessons Learned: How diagnoses are perceived may be related to terminology, i.e., “bad news” vs. “life-altering.” These findings indicate disease severity perceptions be included in curricula. Educational interventions are planned to discuss how perceptions affect approach to difficult conversations with patients.

References:
Improving Nursing-Physician Communication with a Prepared Script  
Lin, Sonia; Lu, Andrea; Hsieh, Eric  
University of Southern California

**Idea/Problem Statement:** Frontline nurses (RNs) felt a lack of collaboration with resident physicians (MDs) in patient care decisions.

**Rationale/Need:** Studies have demonstrated that improved interdisciplinary teamwork leads to better clinical outcomes and satisfaction, reduces healthcare costs, and reduces patient mortality. An informal survey of 55 registered nurses at the Los Angeles County-University of Southern California (LAC+USC) Hospital was conducted in December 2016 regarding their perception of communication. The collected results revealed that 11% felt it was “difficult,” 15% felt “somewhat difficult,” 18% felt “neutral,” 22% felt “somewhat easy,” and 34% felt it was “easy” to communicate with physicians. Though 34% of nurses felt that it was easy to communicate with physicians, the majority still did not readily acknowledge “easy” communication. Informal survey comments noted that physicians should “communicate with nurses about discharged patients and new orders.” With that in mind, we sought out ways to improve daily communication regarding a patient's plan of care between our training physicians and nurses.

**Methods:** Day shift nurses on all medical/surgical wards and all Internal Medicine residents on the Inpatient General Medicine service were surveyed with the Collaboration and Satisfaction about Care Decisions (CSACD), a validated 9-question assessment designed to measure nurse-physician collaboration and satisfaction. Nurses and physicians were given 2 weeks to complete the pre-survey. We then implemented an intervention of a planned script detailing salient points each trainee must discuss with the nurse of their mutually shared patient. This script included a patient summary statement, the care plan for the day, the plan for discharge (including anticipated date, location, mode of transportation, and resources necessary for a safe discharge), and the opportunity for nurses to provide input and ask questions. Every trainee participating in this intervention received a laminated neon card they could attach to their ID badges, with the script prompts printed on the card. Nurses and physicians were surveyed again with the CSACD after 3 months of the intervention.

**Results:** We received a survey response from 107 day shift nurses, 51 interns, and 57 senior residents prior to the intervention and a survey response from 85 day shift nurses, 51 interns, and 37 senior residents after the intervention. Responses were overall favorable with both nurses and senior residents feeling both increased collaboration and satisfaction regarding patient care decisions. In general, interns felt increased collaboration after this intervention; however, they felt less satisfaction regarding the decision-making process though more satisfied regarding the decision itself. There was a statistically significant improvement in the sense of collaboration felt by all the resident physicians (p = 0.0036 for interns and p = 0.0045 for senior residents). Though this sentiment of improved collaboration was shared by the nurses, the difference was not significant (p = 0.6095).

**Potential Impact/Lessons Learned:** Nurses and physicians work together daily to provide care for their shared patient. A prepared script prompting communication between these frontline providers encourages mutual feelings of collaboration and satisfaction.

**References:**
Student Led Session on Diversity, Cultural Humility, and Inclusion for First Year Students
Peoples, Ashleigh; Llaniguez, Jeremy; Sakr, Rima; Jackson (Stallworth), Brittany
Wayne State University School of Medicine (WSUSOM)

Idea/Problem Statement: We describe a peer-led session presenting tough topics to inspire physicians-in-training to become sensitive, culturally responsive, & socially-just.

Rationale/Need: The student led session introduced the topic of diversity and cultural inclusivity to incoming students during orientation. Curriculum on diversity and culture inclusion in medical education is established in the literature and integration is well underway as many institutions have active programming [1]. Gaps in current research relate to the use of current medical students to deliver the curricula. Peer-to-peer teaching in medical education is widely-used to increase student understanding of material in basic and clinical sciences and may be useful for diversity training [2]. Student leaders at WSUSOM self-identified gaps in these areas and established two aims: 1) lay a better foundation for incoming students, and 2) affirm these values to our lives as future physicians. We sought to create an environment where everyone can feel comfortable and safe to flourish and outlined the tools and resources available to become sensitive, culturally responsive, and socially-just physicians.

Methods: Three second-year and one fourth-year student authors designed a 2-hour session delivered during the first week of a two-week new-student orientation. The activity was structured in a modified Team Based Learning (TBL) format where students sat in groups of 6 in the large open cafeteria. Groups were sorted systemically to ensure diversity in background and experiences of students to facilitate better discussion. Five different skits were presented depicting real life experiences of medical students. Skits displayed exhibited one of the following terms: Sexism, Intersectionality Racism/Gender, Cultural Stereotyping, Implicit Bias, Health (In)Equity. Students were given time after each skit to discuss and decide as a group which term was acted out. At the end of the 5 mins each table was instructed to insert the chosen term on the table stand. Student facilitators provided a short discussion and a definition of the term most prominently displayed in the skit. A follow up survey was distributed to students electronically to assess student opinions of the workshop format/presenters and the workshop overall.

Results: The class of 306 was sorted into 51 groups consisting of 6 students. The groups were sorted systematically using open source program GroupEng to obtain a balance of Gender, Undergrad institution, Major, degree level, and an even distribution of underrepresented in medicine (URM) [3]. Workshop was facilitated by 10 students of diverse backgrounds and various student organizations including the executive and class senate and curriculum and professionalism committees. Survey consisted of 17 statements and students were asked to rank their level of agreement using a 6-pt Likert scale. Complete survey results pending, to date 79 surveys have been completed and submitted. 89% reported that having a diverse group of students as facilitators added validity to the discussion. 53.2% strongly agree (SA) that they enjoyed hearing from students about their experiences. Over 82.3% of students SA that the session made them more interested in learning about classmates who were different from them or helped them feel more comfortable engaging in conversations on diversity and inclusion. Nearly 90% of respondents agree (A)/SA that a student facilitated discussion made the topic more approachable or relatable. 74.7% SD with the statement that “the session upset me.”

Potential Impact/Lessons Learned: This workshop extends the widely-used method of peer-to-peer teaching in medical school to introduce diversity and inclusion into the curriculum. Peer-led sessions are valuable to new students and likely a key step in creating environments necessary for success in implementation of curriculum.

References:
Enhancing Medical Student Professional Development through Longitudinal Distinction Tracks
Lawson, Luan
The Brody School of Medicine at East Carolina University

Idea/Problem Statement: The Distinction Track Program was developed to provide customized co-curricular, experiential learning for students customized to their core values.

Rationale/Need: While multiple reports have called for medical education to better prepare future physicians with the leadership and adaptive learning skills needed for a rapidly changing healthcare system, few undergraduate medical programs offer formal programs to this end. The Distinction Track Program at the Brody School of Medicine was developed to provide co-curricular, comprehensive, interactive, longitudinal didactic and experiential training for students that is customized to the students’ professional interests and reflects their core values. Advanced learning tracks were developed in four areas related to the mission of the school: Health System Transformation and Leadership, Medical Education and Teaching, Service-Learning, and Research.

Methods: Four Distinction Tracks were created to develop student leaders in each of the respective areas: health systems science (HHS), medical education and teaching, service-learning, and research, through advanced coursework and practical application of concepts in clinical and academic settings. Students are accepted to each track through a competitive process and participate in an intensive summer immersion course following their M1 year. During this experience, participants receive advanced didactic and experiential training in conceptual foundations and competencies identified as part of the longitudinal curriculum as defined by each program of study. Across the M2-M4 years, students attend workshops and discussions focused on track-specific objectives and develop an independent capstone project, scholarly manuscript and/or portfolio under the guidance of a chosen faculty mentor. Faculty mentors meet with students regularly to discuss career planning and contribute to professional identity formation. Together, these Distinction Tracks provide a mechanism to formally recognize the exceptional accomplishments of medical students. Upon successful completion of the program, Scholars will receive recognition of their accomplishment in the MSPE letter, academic transcript, and during senior awards and graduation programs.

Results: 48 students have been selected as participants in one of the defined co-curricular Distinction Tracks. This participation has led to a significant increase in didactic and experiential activities aimed at ongoing professional development of medical students, engagement with diverse faculty mentors, and scholarly activity. Outcomes for the two classes of research and health transformation and leadership tracks and the inaugural class of service-learning and medical education and teaching track students are described below. Research: 18 participating scholars have produced 13 published abstracts and accompanying national presentations, 4 submitted manuscripts, 2 awards at the national level, and 2 grant submissions. Medical Education and Teaching: 5 students served as teaching assistants for a summer program aimed at health professional students and completed a combined total of 1900+ peer tutoring hours, developed educational materials and presented scholarly products both the local and regional levels. Service-Learning: 10 students participated in a summer immersion and individually designed service project throughout 6 countries, completed a combined total of 932 service hours, and had 5 abstracts submitted and 3 accepted for presentation at regional and national levels. Health System Transformation and Leadership: 15 students are enrolled and embedded in quality improvement projects throughout the healthcare delivery system resulting in 11 abstracts and 9 presentations.

Potential Impact/Lessons Learned: Alignment with UME through longitudinal, co-curricular distinction tracks promotes a scholarly foundation for future career goals. These tracks equip students with foundational knowledge and promote adaptive learning through directed and independent activities in learning communities.

References:
Integrating Comics into Medical Ethics Education: Medical and Physician Assistant Students’ Perspective
Elghafri, Amani [1]; Stewart, Renee [2]; Sampath, Ramya [3]; Kesselheim, Jennifer [1]; Green, Michael K. [4]

[1] Harvard Medical School, Boston, MA;
[2] Department of Humanities, Penn State College of Medicine, Hershey, PA;
[3] Division of General Internal Medicine and Primary Care, Brigham and Women’s Hospital, Boston, MA; [4] Departments of Humanities and Medicine, Penn State College of Medicine, Hershey, PA

Idea/Problem Statement: Comics as a teaching tool have not been evaluated in the context of teaching about medical ethics and end of life care for medical and students.

Rationale/Need: This study explored comics as a tool for teaching medical and physician assistant (PA) students about end-of-life decision-making and advance care planning.

Methods: Using a mixed method convergent design, a survey (consisting of five-point Likert-scale ratings and open-ended questions) was administered to all second-year medical and first-year PA students enrolled in an Ethics and Professionalism class at a US medical school. The survey assessed students’ perspectives on the addition of a comic “Betty P.” to assigned readings and generally about the use of comics in the classroom. Quantitative results were compared by demographics, and open-ended responses were coded and analyzed qualitatively for emergent themes. Quantitative and qualitative findings were compared for correspondence.

Results: Of the 145 students who completed the survey (83%), 141 students (81%) had read the assigned comic. The vast majority (89%) felt that “Betty P.” helped them better understand end of life care for patients, and 84% felt that the comic did not distract them from the seriousness of the subject. Qualitative analysis revealed 2 major themes: 1) comics were educational, and 2) comics engaged learners emotionally. We observed convergence between quantitative and qualitative results.

Potential Impact/Lessons Learned: Integrating comics as a supplemental teaching tool in medical education is an innovative way to engage students.

References:
Motivation and Learning in Clinical Settings – Mindset, Modeling and Engagement
Nyquist, Julie G., PhD; DeTata, Cynthia, MD, MACM
Keck School of Medicine of the University of Southern California; Stanford University School of Medicine

Workshop Description: Learners in clinical Settings often appear to lack motivation to learn or can lose motivation across time. Low motivation can interfere with learning and performance. This interactive workshop focuses on what you, as the clinical instructor can do to better influence "what the learner does to learn." You will get helpful hints and have time to practice them.

Workshop Rationale:
Learners in clinical settings often appear to lack motivation to learn or can lose motivation across time. Low motivation can interfere with learning and performance. This interactive workshop focuses on what you, as the clinical instructor can do to better influence "what the learner dies to learn." You will get helpful hints and have time to practice them.

Intended workshop participants:
This session is intended for participants from any health care profession who currently teach others in clinical settings.

Learner outcome objectives:
By the end of this session, participants will be better able to:
1) Discuss your own issues in helping learners stay motivated
2) Utilize the concepts of mindset, modeling and engagement to stimulate motivation to learn
3) State one thing you can do to enhance motivation of your learners

Instructional methods/content, activities, schedule:
This workshop focuses on helping students stay motivated by using a mixture of activities – brainstorming, formal presentation, and small group activities.

1) Introduction to Session (20 minutes): Concepts of motivation are introduced followed by a small group activity (Task1). Participants at each table introduce themselves and share their own issues in relation to helping students stay motivated. Concept cards are provided as reminders of “things that affect motivation.”
2) Mindset and Modeling (40 minutes): Formal discussion of the concepts of mindset (of learners) and modeling (of instructors), followed by a small group activity (Task 2) where participants practice turn feedback that can encourage a “fixed” mindset (using own examples) into feedback that encourages a “growth” mindset.
3) Engagement (25 minutes): A formal description of how engagement (instructors with learners) can help enhance motivation is followed by a small group practice exercise (Task 3). Participants will work together to select methods to address their own issues (identified in task 1). Participants will use a worksheet to select methods to address challenges through a variety of techniques – mindset (feedback to encourage a growth mindset), modeling (character and skills, as well as behaviors that demonstrate growth mindset and instructor’s motivation), and engagement (techniques could be used to address attention, relevance, confidence, satisfaction, and the learning environment).
4) Conclusion and Commitment to Change (5 minutes) The workshop will be summarized with a take home message, and each participant will complete the session evaluation, including a commitment to change/act stating what they will do differently based on what has been learned.
Medical Improv--Enhancing Clinicians' Communication Through Play
Benferhat, Anees; DellaCava, Elaina
Montefiore Medical Center/Albert Einstein College of Medicine; New York Presbyterian/Cornell

Workshop Description: Come discover through play how improv uses the same skills needed in clinical encounters, e.g. adaptability, listening skills, creativity, and emotional intelligence. We will use the same exercises already used to teach medical students at the Albert Einstein College of Medicine. Discussion will focus on skill building and applications in education. All participants welcome. A handout will be provided to empower motivated participants to teach at least one exercise at their home institutions.

Workshop Plan: Rationale:
Medical students and other clinical trainees are taught to think in an organized and structured manner, but the clinical interview is unpredictable and requires clinicians to think on their feet while also remaining mentally and emotionally available to the needs of their patients. Improvisational theater (improv) is an artform that relies upon teamwork, adaptability, listening skills, creativity, and emotional intelligence, and it therefore represents a unique tool to help clinical trainees become more comfortable navigating the clinical interview. Improv has already been used in medical education at institutions that include Northwestern University Feinberg School of Medicine and Johns Hopkins University School of Medicine; the presenters have also instituted their own “medical improv” class at Albert Einstein College of Medicine that uses improv techniques to teach communication skills to medical students, with a focus on psychiatry.

Learner Outcome Objectives:
By the end of this workshop, participants will be able to:
1) describe at least two skills utilized in improvisational theater that are thought to be useful in teaching clinicians;
2) identify at least two strategies derived from improvisational theater that can be used to enhance self-confidence; and
3) teach the concept of “yes and” to medical trainees in a clinical context (for those participants who are educators).

Intended Participants:
All attendees at this conference are welcome. The workshop is primarily designed for those involved in clinical education, but the bulk of the session will involve skill-building exercises, so anyone with an interest in learning how improv skills can be useful in clinical work would also benefit from attending.

Methods:
In this workshop, we plan to provide an overview of improv and its use in medical education and therapeutic settings, with a description of how medical improv has been incorporated into medical school clinical training. We will then lead the participants in an interactive session with 3 modules, each dedicated to a skill that is essential in improvisational theater: mindfulness, collaboration, and working with mistakes. We will demonstrate these skills through a series of exercises. Each exercise will be explained by one of the group leaders, and will be followed by a brief discussion that consists of observation and feedback. The majority of the exercises will take place in a circular formation with participation by each member of the group, and some will occur in pairs, with observation and feedback given by the group. After the group exercises, the final segment will be dedicated to questions and answers. A take-home tool will be provided that educators may use to teach clinical trainees how to use the concept of "yes and" in their clinical work.

Activity Timeline:
Introduction: 15 minutes
Group exercises (3 modules): 60 minutes
• Mindfulness module: 20 minutes
• Collaboration module: 20 minutes
• Working with Mistakes module: 20 minutes
Questions and Answers: 15 minutes
Total time: 90 minutes

Take-home Tool:
Participants will receive a handout with instructions on how to teach “Party Planning,” which is an exercise that will also be performed during the workshop. This exercise teaches the concept of “yes and,” which is a fundamental principal of improv and emphasizes agreement as the starting point for any collaborative endeavor. Educators may
use this exercise at their home institutions to teach clinical trainees how the concept of “yes and” can be helpful in clinical situations.
Facilitating student pharmacists’ personal and professional development in a 3-year course series

Truong, Julie
Keck Graduate Institute School of Pharmacy

Curriculum Summary: The Accreditation Council for Pharmacy Education (ACPE) entrusts all schools and colleges of pharmacy to provide students with the “knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate self-awareness, leadership, innovation and entrepreneurship, and professionalism.” Recognizing the importance of this charge, Keck Graduate Institute School of Pharmacy developed a novel longitudinal, 3-year, 6 semesters Professional Development Series (PDS) aimed to provide students with the resources, tools, and experiences to guide their personal and professional development. The series is progressive, building upon the students’ personal foundation by focusing on self-awareness and strengths during the first year, leadership in the second year, and innovation in the third year. Example topics include: StrengthsFinder 2.0, Myers Briggs Typology Inventory, Emotional Intelligence 2.0, 7 Habits of Highly Effective People, 5 Dysfunctions of a Team, Five Practices of Exemplary Leadership, Grit, Mindset, CV writing, postgraduate programs, self-marketing and branding, career planning, and quality improvement processes. The class meets every other week for 2 hours with approximately 80 learners per class and alternates with 1-hour external forums where guest speakers from various pharmacy settings share their career path, likes and dislikes of their area of practice, and pearls of wisdom. Additionally, students provide community service, participate in continuous professional development activities, and partake in interdisciplinary clinic experiences at a free community health clinic.

Rationale/Need: This series is the first 3-year longitudinal course in the nation to directly address the 2016 Standards put forth by the Accreditation Council of Pharmacy Education, specifically Standard 4: Personal and Professional Development. Standard 4 is as follows: 4.1) self-awareness; 4.2) leadership; 4.3) innovation and entrepreneurship; 4.4) professionalism.

Methods: The class meets every other week for 2 hours with approximately 80 learners per class. Coupled with didactic instruction by the course coordinator, the series also contains external forums where 3-4 guest speakers from various pharmacy settings spend 1-hour with the students every semester, sharing their career path, likes and dislikes of their area of practice, and pearls of wisdom. Through the PDS, the students have learned a multitude of concepts including: StrengthsFinder 2.0 and StrengthsBased Leadership, Myers Briggs Typology Inventory, Emotional Intelligence 2.0, 7 Habits of Highly Effective People, 5 Dysfunctions of a Team, Five Practices of Exemplary Leadership, 6 Emotional Leadership Styles, Grit, Mindset, and Who Moved my Cheese. These concepts are discussed in length during class and reinforced through out of class written assignments. Technical skills are also introduced including: curriculum vitae (CV), SMART goals, letters of intent for postgraduate training, writing professional thank you and reference request letters, and self-marketing and branding. Students document their findings through formal essays, which are assessed using an internal self-reflection rubric. Students are invited to resubmit if they do not achieve at least 90% on the assignment. There are no assessments in the PDS as students’ mastery of concepts are measured through student assignments in the didactic curriculum and through PERFORM*I and PERFORM*A during the experiential curriculum.

Results to Date: In a recent survey, the Class of 2018 was asked to provide feedback on the entire PDS (91% response rate). While only 79% stated that PDS was enjoyable and engaging, 85% stated that PDS provided new ideas or information that they expect to use and 87% stated that they were committed to using information from PDS beyond graduation. When asked whether PDS helped them grow professionally or personally, and overall whether they were satisfied with the PDS, 89% either strongly agreed or agreed for all statements. When asked to list 3 dislikes about the PDS, 62% reported “none” while the remaining 38% listed too many assignments or assignments were too long (61%), class was scheduled during exam week (48%), and that assignment deadlines should be moved (43%). In contrast, topics that the students found very useful or useful included CV writing (100%), leadership (98%), writing Professional Thank you letters (96%), writing a Reference Request letter and Letter of Intent (93%), and 7 Habits of Highly Effective People (93%). The students listed their biggest takeaways from the PDS as CV writing, professionalism, teamwork, professional and personal development, continuous improvement, and the 7 Habits of Highly Effective People. Preceptor evaluations from the students’ Introductory Pharmacy Practice Experiences have shown students meeting competency in demonstrating self-awareness and professionalism as measured by PERFORM*I.
The Teachers of Quality Academy: Preparing Faculty to Teach Health System Science
Higginson, Jason
*The Brody School of Medicine at East Carolina University*

**Curriculum Summary:** The Teachers of Quality Academy (TQA) was established to create a learning community prepared to teach health professions students Health Systems Science (HSS). The TQA was integrated into the clinical environment to create a culture of safety, ongoing improvement, and high reliability. The aim was to ensure congruence between the traditional classroom curriculum and the clinical learning environment. TQA participants were comprised of faculty from ECU's Brody SOM and other health science schools. Faculty were recruited for the program to achieve a critical mass of faculty with competence in HSS who are engaged in QI projects in clinical areas. Medical students must be trained differently if they are to contribute to meeting the Triple Aim goals of better care, better health, and lower cost. A key factor for success is the presence of committed faculty who understand, practice, and teach students how to create optimal care environments. Today's clinical teachers are challenged with simultaneously learning and teaching HSS while simultaneously delivering care in a changing environment. The TQA was developed to meet these challenges. The program combines online, didactic, and experiential learning. Each participant develops a QI project in their clinical environment. Participants work in small groups forming a learning community. An experienced mentor is assigned to each small group to facilitate peer feedback and support ongoing QI activities. Participants may earn a credential in Medical Education tailored for health professions educators. All participants are taught principles of HSS curriculum design, educational leadership, and assessment skills. Scholarly productivity is encouraged and participants present a QI projects and a relevant curricular innovation at both annual campus-wide QI and Medical Education symposia.

**Rationale/Need:** Medical students must be trained differently if they are to contribute to meeting the societal goals of better care, better health, and lower cost for all – the Triple Aim. A key success factor for the magnitude of curricular change is the presence of committed faculty who understand, practice, and can teach students how to create optimal care environments utilizing effective care teams. Yet, today's clinical teachers are challenged with simultaneously learning about, and teaching, health system science while simultaneously delivering care in a changing environment. TQA was developed to meet these challenges.

**Methods:** Faculty from ECU's Brody SOM and other ECU health science schools are recruited for the TQA program. Each faculty member receives sponsorship from their department and from the SOM. The program combines online, didactic, and experiential learning including six two-day learning sessions. Each participant develops a QI project in their clinical environment. Health system leaders are engaged early in program development ensuring mutually beneficial collaboration during project implementation. Participants work in small groups forming a learning community and providing an experienced mentor, TQA peer feedback, and support for ongoing QI activities. Scholarly productivity from this work is encouraged and participants present their QI projects at an annual campus-wide QI symposium. Participants may earn a credential in Medical Education, tailored to the needs of health professions educators. All participants are taught educational principles for designing innovative HSS curriculum and creating new pedagogical methods for care delivery. Participants learn educational leadership, curriculum development, and assessment skills. All TQA participants are required to complete a relevant curricular innovation and present at an annual Medical Education Scholarship Day.

**Results to Date:** Twenty-six participants completed the first cohort and an additional 25 faculty are currently completing a second cohort of TQA. All participants completed the IHI Open School Certificate and all six Learning Sessions. Additionally, all completed a quality improvement activity that had a positive impact in some aspect of care delivery, including inpatient, acute care, and ambulatory settings. In addition, participants added to new educational products (simulation cases, handoff exercises, RCA exercises, etc.) and created new faculty partnerships for IPE opportunities to enhance understanding of roles and responsibilities among health professionals. Among participants, there was a significant increase in knowledge of HSS, adult education, and curricular development at program completion which persisted one-year post completion. There was a significant increase in enjoyment of curriculum and program development. Many of the faculty who completed the TQA continue to be involved in health system improvement activities and education in health system science. The first cohort resulted in scholarly productivity, in the form of oral presentations (20), poster presentations or published abstracts (10), and submitted manuscripts (3).
Implementation of the Generic Solution of Transparent Thinking Approach (TTA) in Medical Education

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Mutah University, Jordan

Curriculum Summary: Transparent Thinking Approach (TTA) is a newly developed value-engrained and thinking based educational reform approach. It is generic and unique features enable it to easily diffuse in all domains. In this Curriculum Exemplar Interactive Session, the real "fruits" of this new approach will be "tasted" by "feeling" the innovative TTA created harmony between depth, meaningfulness, connectedness and simplicity which is reflected in the practical application of TTA concepts, tools, perspectives and constructs in medical settings. The learner in this session will grasp the ability to implement the TTA generic solution in Medical setting by using TTA frameworks, tools, models to end in a new medical instructional material product. TTA generic tools will be practiced including different perspectives, models, and maneuverings. The practical implementation of TTA on a real medical instructional material will enable the learner to enhance his learning and teaching abilities based on the grasped skills. Instructors and students in medical institutions are the intended audience. The method of delivery of the basic skills in this TTA session will be include hand-on and mind-on activities that are structured in an innovated sequence to create a coherent and integrated whole. The participant at the end of the session will carry with them a real sample of a TTA-based medical instructional material.

Rationale/Need: Humanity is overburdened by an overwhelming challenges, problems and failures that are plaguing global development system, in general, and global educational system in specific. TTA is developed in response to these multi scale and multi domain problems by offering a generic reform approach that enable the thinker to have a multi perspectives, maneuverings, and models while looking for a solution. The learner in this Curriculum Exemplar Interactive Session will grasp the ability to implement the TTA generic solution in Medical setting by using TTA frameworks, tools, models to end in a new medical instructional material. TTA generic tools will be practiced including different perspectives, models, and maneuverings. The practical implementation of TTA on a real medical instructional material will enable the learner to enhance his learning and teaching abilities based on the grasped skills. Professors, instructors, lecturers, teachers and students in medical institutions will be mainly the intended participants.

Methods: The method of delivery of the basic skills in this Curriculum Exemplar Interactive Session will be the hand-on and mind-on activities that is structured in an innovated sequence to create a coherent and integrated whole. The participants at the end of the session will carry with them a real sample of a TTA-based medical instructional material. This session will be enhanced by the following interactive features: (1) Creating a Living Example of TTA instructional Material: Implementing Seeds-Roots-Branches-Fruits (SRBF) Instructional Design Framework in designing the “growth” of the enhanced TTA workshop activities. (2) Specifying the starting and end points: Declaring the main theme of the enhanced workshop as the conversion of a traditional Instructional material (Starting Point) to TTA-Based Form (End Point). (3) “Connecting the Dots” between the start and the end by devising a Highly Structured and Graphically Visible Agenda that forms a complete “jig saw puzzle” picture of the whole workshop (Pieces serving whole). The connection between the dots will be accomplished through the four SRBF framework stages: Seeds Activities: “Minds-on” Activities that help the participant to “taste” the TTA way of thinking (New perspective on Thinking); Roots Activities: “Hands-on” Activities that bridge the gap between the physical and the abstract through TTA Maneuvering Tools; Branches Activities: Implementing an extended TTA Modeling Tools (Graphics, Animation, Analogy, Humor, Comics, Concepts Maps, Drama, ...etc.) in remodeling the instructional material concept; and. Fruits Activities: Assembling the remodeled activities into a coherent whole of the new TTA-Based Instructional Material.

Results to Date: For every process of change there are products. TTA solution frameworks, models and tools are expected to give products. TTA products are simply the result of putting TTA Generic Tools into production. Two types of instructional products are developed : (1) TTA-Based Enhanced Articles (Six articles published: Alieeh, M. A., 2015 a, b, c, 2016, 2017 and 2018), (2) TTA-Based Enhanced Solution Concentration Teaching Learning Sequence (TLS) (Alieeh, M. A., 2017). TTA-Based enhanced writing style is characterized by: (1) Making a paradigm shift in writing from graphics serving text to text serving graphics, (2) Looking to visible communication in terms of graphics as the main tool and verbal communication as a subordinate, (3) Employing the TTA extended modeling tools such as storytelling, road maps, knowledge mapping, static graphics, shots of moving picture, color coding, analogy, physical modeling, drama, cartoons, and comics, (4) Creating an entertaining storyline and a convincing line of argument, (5) innovative combination of simplicity and depth.
Targeted, Continuous Medical Resident Mentorship Changes Student Educational Outcomes
Chawla, Neil; Awad, John
Kaiser Permanente Los Angeles Medical Center

Curriculum Summary: National demographic trends show that the country is becoming more ethnically diverse but that the proportion of physicians who represent these diverse communities is not keeping up with those trends. One of the ways to provide more culturally-responsive care is to train students from diverse communities to become healthcare workers. To this end, Kaiser Permanente’s Los Angeles Medical Center has partnered with a local STEM Academy high school to develop two such programs: Teen Health Leadership Academy (THLA) and Thrive Academy. These programs introduce teens to health careers while providing direct mentorship from physicians. THLA was started in 2014 with the goal of matching resident physicians directly to high school students of disadvantaged backgrounds with interests in the science and healthcare fields. Every mentor is paired to one mentee, meeting on a monthly basis to participate in medically-focused workshops and field trips intended to deepen exposure to the field of medicine. As an adjunct to THLA, Thrive Academy was created in 2015. This three-week long summer program for middle and high school students focuses on teaching the links between social factors and health in a project-based curriculum led by two medical students. A dozen college students are hired to lead small groups, provide direct mentorship to the students, and facilitate advocacy projects. Students learn to become community health advocates and receive career mentoring in the process. Early data from follow-up surveys shows high levels of interest in healthcare career entry.

Rationale/Need: A recent study found that 50% of the population of Los Angeles identifies as non-white, yet from 1980 to 2010 the non-Hispanic white (NHW) physician rate per 100,000 of the NHW population increased from 211 to 315, as the Hispanic physician rate per 100,000 of the Hispanic population dropped from 135 to 105 [1]. While some medical school and college pipeline programs exist, there is an absence of high school programs directing students toward health careers. Kaiser Permanente has partnered with a local STEM Academy high school to develop two such programs: Teen Health Leadership Academy (THLA) and Thrive Academy. These programs introduce teens to health careers while providing direct mentorship from physicians.

Methods: In 2014, THLA was started by the Kaiser Permanente Los Angeles Medical Center in partnership with the STEM Academy of Hollywood. The program consists of resident physicians serving as mentors to high school students of disadvantaged backgrounds with interests in the science and healthcare fields. Every mentor is paired to one mentee, meeting on a monthly basis to participate in medically-focused workshops and field trips intended to deepen exposure to the field of medicine. These field trips in the past have included surgical simulation centers at Kaiser, suture workshops, and a trip to the Body Worlds. The curriculum is designed to complement the students' own classroom learnings, using the linked learning model. The mentorship pair can meet and communicate outside of this structure as often as they would like. As an adjunct to THLA, Thrive Academy was created. This three-week long summer program for middle and high school students focuses on teaching the links between social factors and health in a project-based curriculum led by two medical students. Eleven college students are hired to lead small groups, provide direct mentorship to the students, and facilitate advocacy projects. Students learn to become community health advocates and receive career mentoring in the process.

Results to Date: To evaluate the programs’ success in directing students to higher education, pre- and post-surveys were collected. Standard identifier questions found that 84% of respondents came from families where neither parent attended college. Pre-surveys conducted for the 2015-2016 and 2016-2017 cohorts of THLA found that few students had a personal mentor. After the program, nearly 90% reported having a reliable mentor with over 85% indicating a high level of interest in pursuing a healthcare career and desire to work in an underserved area. A separate follow-up survey to the 2013-2014 and 2014-2015 cohorts regarding their academic endeavors revealed 100% attend college, 69% are health science majors, and 77% plan to pursue a health career. 84.7% reported their mentor had a significant impact on their career choice and 92.3% feel it’s extremely important to have pipeline programs like THLA to provide early exposure to the medical field for first generation students. For Thrive, a post-survey of high school students found strong improvement in teamwork, public speaking, and identifying social determinants of health, with 100% desiring to attend university. A separate follow-up survey to college and medical student instructors found that 70% are enrolled in or have completed some university, with 65% intending to pursue a health career. 70% said being a mentor significantly impacted their career choice and 95% found pipeline programs extremely important for underserved students.
Educational course to improve sleep and well-being in students at Bravo Medical Magnet High School
Colt, Alexandra, BA; Reilly, Jo Marie, MD
Keck School of Medicine of USC

Idea/Problem Statement: Teenage students are at risk for sleep deprivation, which can harm health, mood, and academics.

Rationale/Need: Adolescents’ melatonin, the “sleep hormone,” often does not release until late at night, which causes teens to be more awake later in the day. This shift in circadian rhythm makes it difficult for teens to adapt their sleep schedule to a “normal” day and get 8-10 hours of sleep per night. Academic pressure often influences students to stay up later to get homework done. Weekend “catch up sleep” is problematic, too, as it gets adolescents out of their circadian rhythm. Bed time autonomy, caffeine, physical activity, friends, homework, electronics, noise, and responsibilities at home also have impacts on adolescent sleep. The net effect is that students are sleepy at school. Researchers of adolescent sleep highlight the importance of sleep education and encouragement to make healthy sleep choices. Thus, this project investigated whether an educational intervention course would improve high school freshmen’s sleep habits, depression, and knowledge about sleep.

Methods: A curriculum was created to teach high school freshman about sleep, including its physiology, importance, and impacts on health, as well as methods to improve sleep hygiene and habits. Subjects were recruited by an assistant principal through health class. They underwent a 4-hour after-school course taught by the principal investigator, which included interactive lectures, discussion, and a 9-week sleep behavior change project and journal. Pre- and post-course surveys measured sleep hours, bed times, and knowledge about sleep. The surveys also measured depression using the PHQ-9, a validated instrument. Of the 24 subjects recruited, 18 (1 boy, 17 girls) completed all parts of the course and thus were included in statistical analysis. T-tests and chi-squared tests were used to analyze pre- to post-test change.

Results: Behavior change: •Increase in school night sleep hours (p=0.013) and change to earlier weekend bed times (p=0.031) were both significant. •Subjects reported improvements in mood, tiredness, and energy, and less caffeine use. They reported increased use of consistent bed time, a key teaching point, as a sleep aid. •Before the course, 33% of subjects thought they slept enough, whereas 61% thought so after. •The most common goal for change after this course was no electronics usage before bed, followed by no caffeine before bed, sleeping more, and having the same bed time every night (including weekends). Knowledge gained: •Improvement in the number of students who answered correctly to whether weekend “catch up sleep” is advisable was significant (p=0.034). •When asked what the most important things they learned from the course were, subjects recalled caffeine physiology, electronics’ effect on sleep, sleep’s effect on academics, and teen sleep physiology. Depression levels: •PHQ-9 depression scores trended downward, as did the number of subjects with moderate or more severe depression.

Potential Impact/Lessons Learned: Education plus an interactive task may improve sleep hours and consistency. Teens may be motivated to alter their electronic use to better their sleep. Increased use in teens of screening tools, education, and intervention in the areas of sleep, depression, electronics, and caffeine may be useful.

References:
Creation of a Cancer Survivorship Curriculum for Pediatric Resident Physicians

Schwartz, Lindsay, MD [1]; Braddock, Clarence, MD, MPH [2]; Kao, Roy, MD [3]; Sim, Myung-Shin, MS, DrPH [2]; Casillas, Jacqueline, MD, MSHS [1, 3]


Idea/Problem Statement: Despite the rising incidence of childhood cancer patients surviving into adulthood, there is a paucity of medical education related to their care.

Rationale/Need: As of 2011, there were an estimated 388,501 childhood cancer survivors living in the United States. This number has likely only increased since then due to rising diagnosis incidence and advances in treatments. Studies show cancer survivors have increased morbidity and mortality compared to their peers.[1] Primary care clinicians (which include pediatric resident physicians) are integral in delivering preventive and acute health care for childhood cancer survivors. Unfortunately, a 2011 study found only 14% of pediatric residency programs in the United States provide didactics and 50% provide clinical experiences involving this population.[2] The purpose of this study was to implement and evaluate a formal cancer survivorship curriculum aimed at pediatric residents of the University of California, Los Angeles (UCLA) that addressed important topics related to the care of childhood cancer survivors.

Methods: Prior to creating the curriculum, a needs assessment survey was sent to UCLA pediatric residents in order to elicit feedback on the most desired educational format to deliver content. Overall, residents favored a small group, case-based format delivered in an outpatient setting. The curriculum addressed existing ACGME learning objectives in cancer survivorship and additional topics recommended by a panel of UCLA pediatric oncologists. It was integrated into the existing outpatient continuity clinic curriculum at UCLA to ensure the curriculum’s longevity, help it reach the maximum number of residents (since continuity clinic is a standard component of training), and focus learning objectives towards educating the primary care clinician on important cancer survivorship topics – one of our project aims. The retrospective pre-posttest method was utilized to evaluate the curriculum due to its ease of participation, creation of an internal standard to more accurately measure participants' learning, and demonstrated efficacy as a measurement tool of program development.[3] Residents received a paper evaluation immediately following program completion at each continuity clinic site. The survey asked residents to indicate their level of agreement with statements concerning their knowledge, skills, and attitudes towards cancer survivorship topics both before and after their curricular session. Responses were examined and compared using paired t-tests and Wilcoxon rank-sum tests.

Results: 37 of 44 residents completed the curriculum evaluation for a response rate of 84.1%. In UCLA pediatric resident physicians’ ratings of their knowledge and clinical skills related to caring for childhood cancer survivors, each item showed a statistically significant increase in level of competence from pre- to post-curriculum (p<0.05). In terms of counseling patients and parents on topics pertinent to survivorship care, each item, again, showed a statistically significant increase in level of comfort from pre- to post-curriculum (p<0.05). Residents rated themselves highest in medical history taking skills and lowest for comfort in discussing fertility issues with survivors and their families; however, both increased significantly pre- to post-curriculum. Residents both before and after receiving the curriculum believed competency in cancer survivorship topics to be important, and this sentiment improved by a statistically significant degree following the curriculum (p<0.05). Recognition of the importance of receiving training in survivorship issues is encouraging given that with number of childhood cancer survivors on the rise, pediatric residency trainees and graduates will likely treat this population regardless of intended career path. Residents believed this lecture enhanced their overall pediatric knowledge base (µ=3.27; σ=0.65) and would recommend it to residents at other pediatric programs (µ=3.30; σ=0.70).

Potential Impact/Lessons Learned: This study offers an effective curricular model for educating pediatric resident physicians in the care of childhood cancer survivors. Future directions include adaptation of this curriculum to educate additional providers, such as students, nurses, and faculty.
Predicting Medical Student Self-Reliance in Three-Year Medical Degree Programs
Treat, Robert, PhD; Brown, Diane, MS; Prunuske, Amy, PhD; De Roo, Koenraad; Hueston, William, MD; Kaljo, Kristina, PhD; Janowitz, Jennifer, MS; Bragg, Dawn, PhD
Medical College of Wisconsin

Idea/Problem Statement: Medical students need to be self-reliant in a three-year medical school which utilizes distance education in the basic science courses.

Rationale/Need: Medical schools are using an increasing number of curricular elements of independent, self-directed, and distance learning, which require students to take the initiative and rely more on themselves, as they prepare for their future role as physicians. Important curricular restructuring at our institution has now created two new three-year medical degree programs using distance learning, in which the students are challenged to complete medical school within an accelerated timeline¹. These curricular pressures require students to depend more on their individual abilities to meet the challenges of learning, thus requiring greater self-reliance, which is a chief component of resilience². The purpose of this study is to analyze medical student self-reliance across three- and four-year medical school campuses, and its prediction from the traits of anxiety, affect, emotional intelligence, and personality.

Methods: In spring 2017, 119 of our 500 medical students (76 M-1/43 M-2; 74 four-year campus/45 three-year campus) voluntarily completed these self-reported electronic surveys: 25-item RS-25 Resilience Scale (1=strongly disagree/7=strongly agree) to yield self-reliance scores; 20-item Trait Anxiety Inventory for Adults (1=almost never / 4=almost always); 60-item Positive and Negative Affect Schedule (PANAS-X) (1=very slightly or not at all, 5=extremely); 30-item Trait Emotional Intelligence (1=completely disagree / 7=completely agree); and 50-item Five Factor NEO PI-R Personality Inventory (scale:1=very inaccurate / 5=very accurate). Analysis of variance and Cohen's d compared differences in mean resilience scores. Pearson (r) and Spearman (rho) correlations report relational strength between higher-order domains and lower-order survey items, respectively. Stepwise multivariate linear regressions used for predicting self-reliance. Inter-item reliability generated with Cronbach's alpha. IBM SPSS 24.0 generated statistical analysis. This research was approved by the institution's IRB.

Results: Self-reliance (SR) student scores (alpha=0.75) for the three-year campuses yielded a mean (sd)=29.4 (3.7) and for the four-year campus was 30.4 (3.1). Effect size: d=0.3 (p<.105). The range of SR scores was 18-35 and 117/119 (98%) of scores were above the neutral score=20. Forty-eight of seventy (69%) Spearman correlations between SR and all domain-level traits were statistically significant (p<.050). The strongest significant (all p<.001) correlations between SR and each of the four traits of affect, anxiety, emotional intelligence, and personality were respectively: feeling guilty (rho= -.5), anxiety (rho=.5), self-control (rho=.5), and neuroticism (rho= -.4). Linear regression models were split by three- and four-year campuses. Three-year campus: The strongest significant predictors of affect, anxiety, emotional intelligence, and personality were respectively: being determined (beta=0.3, R² =.76, p.<.001), am a steady person (beta=0.3, R² =.46, p.<.001), being motivated (beta=0.5, R² =.83, p.<.001), and pay attention to details (beta=0.4, R² =.26, p.<.001). Four-year campus: The strongest significant predictors of affect, anxiety, emotional intelligence, and personality were respectively: active (beta=0.3, R² =.51, p.<.001), am able to deal with stress (beta=0.4, R² =.44, p.<.001), satisfied with myself (beta=0.3, R² =.28, p.<.001), and carry out my plans (beta=0.7, R² =.45, p.<.001).

Potential Impact/Lessons Learned: These findings provide analytical evidence that medical student self-reliance is consistent across three- and four-year campuses, but associated with different elements of affect (emotion), anxiety, emotional intelligence and personality.

References:
Rising M-1 Medical Student Anxiety: 
Six Years Later with a New Curriculum and Generation of Students
Treat, Robert, PhD; Brown, Diane, MS; De Roo, Koenraad; Hueston, William, MD; Prunuske, Amy, PhD; Kaljo, Kristina, PhD; Janowitz, Jennifer, MS; Bragg, Dawn, PhD
Medical College of Wisconsin

Idea/Problem Statement: Medical student anxiety is increasing across time in terms of academic year and generation.

Rationale/Need: Medical student anxiety has been linked to poor performance¹, ill-health², and gives no indication of abating. In 2010, our institution measured trait anxiety for M-1 medical students across the academic year and determined there was a significant increase between the fall and spring semesters. In 2016, after the completion of a new integrative curriculum and the establishment of two new three-year medical degree programs, the same instrument measured the longitudinal effects of trait anxiety for a new generation of medical students. These results help determine if the changes in trait anxiety not only occurred across the academic year, but also over the six-year span of curricular and generational changes. The purpose of this study is to analyze M-1 medical student trait anxiety across a six-year span and determine its relationship to trait affect and burnout.

Methods: In 2010/11, 62 of our 204 M-1 medical students voluntarily completed the 20-item Trait Anxiety Inventory for Adults (1=almost never/4=almost always). In 2016/17, 80 of our 260 M-1 medical students completed the anxiety instrument, the 60-item Positive and Negative Affect Schedule (PANAS-X) (1=very slightly or not at all, 5=extremely), and the 15-item Maslach Burnout Student Scale (1=never, 4= few times per month, 7=every day). Repeated measures analysis of variance and Cohen’s d compared differences in mean scores. Pearson (r) and Spearman (rho) correlations report relational strength between higher-order domains and lower-order survey items, respectively. Stepwise multivariate linear regressions used for predicting burnout from trait anxiety. Inter-item reliability generated with Cronbach’s alpha. IBM SPSS 24.0 generated statistical analysis. This research was approved by the institution’s IRB.

Results: In 2010/11, reliable (alpha=0.89) M-1 medical student trait anxiety (TA) scores significantly (p<.041) increased from fall (mean (sd) = 34.9 (9.3)) to spring (36.5 (10.6)) semesters. In 2016/17, M-1 medical student TA scores increased from fall (mean (sd) = 38.2 (8.5)) to spring (40.3 (7.2)) semesters. TA scores significantly increased across the six years during the fall (Cohen’s d=.36, p<.001) and spring (d=.40, p<.001) semesters. TA significantly (p<.050) correlated with 54 of 60 (90%) of trait affect items. Twelve correlations were r<.5. The three strongest TA correlations were with the trait affect items of angry at self (r=.7), nervous (.6), and downhearted (.6). TA was significantly (all p<.001) correlated to all three factors of student burnout: emotional exhaustion (r=.5), cynicism (r=.5), and academic efficiency (r=-.5). Emotional exhaustion (alpha=.90) was predicted (R²=.39, p<.001) by the TA items of not being calm (beta=.3), unable to overcome difficulties (.3), and not being rested (.3). Cynicism (alpha=90) was predicted (R²=.37, p<.001) by the TA items of not being satisfied (beta=.3), unable to overcome difficulties (.3), and not being happy (.3). Academic efficiency (alpha=.84) was predicted (R²=.40, p<.001) by the TA items of not being satisfied (beta=.4), feeling like a failure (-.3), and unable to put disappointments out of my mind (-.3).

Potential Impact/Lessons Learned: Medical student trait anxiety increased across the academic year and the six-year span in which curricular changes occurred. The wide bandwidth of trait affect correlations with trait anxiety makes it challenging to understand the emotional multiplex of anxiety and its ability to predict burnout.

References:
2) Yusoff MS, Abdul Rahim AF, Baba AA, Ismail SB, Mat Pa MN, Esa AR. (2013). The Impact of Medical Education on Psychological Health of Students: A Cohort Study. Psychology, Health and Medicine, 18 (4), 420-430.
Sling Health: Bringing biomedical entrepreneurship to medical education
Morrison, Alexander; Appukutty, Abhinav; Linderman, Stephen; Goperaju, Balaji
University of Pennsylvania Perelman School of Medicine; University of Michigan School of Medicine; Washington University in St. Louis School of Medicine; Massachusetts General Hospital

Idea/Problem Statement: Medical students regularly encounter problems in the clinic but are never taught the skills or given the opportunity to solve them.

Rationale/Need: There a major gap in the biomedical entrepreneurship pipeline. Medical students often identify problems with the healthcare system and have great ideas to solve these problems. However, students have little business knowledge or understanding of the market and lack the skills and resources to effectively turn their ideas into practical, marketable products. At the same time, physicians encounter solvable healthcare problems daily but they too lack the resources to solve them. We believe a medical-student driven entrepreneurship program can close both of these gaps by matching students up with important clinical problems and giving them the tools and skills to design marketable solutions, which will ultimately improve the practice of medicine.

Methods: Sling Health, formerly known as IDEA Labs, was founded at Washington University in St. Louis in 2013 by a group of MD/PhD students. It is an inexpensive, scalable, volunteer-driven, and student-run organization. Each year, Sling Health brings together small teams of medical students, engineers, business students, and other students from across the university to work together on clinical problems submitted by local physicians. Using a biodesign approach, Sling Health provides the mentorship and early resources needed for these teams to create prototypes and companies over the course of the one-year curriculum. The student teams develop medical devices and software to solve medical problems and then retain IP and equity as they spin out into companies.

Results: The lightweight infrastructure, at no cost to teams, enables Sling Health to attract, train, and support over 150 students annually from nine schools across the county. More than 400 students have gone through the program, and resulting products are already being used in over 10 clinical trials and helping 2,000 patients. With only $80,000 in annual program costs, Sling Health companies have gone on to raise over $4 million in follow on capital. Originally founded at Washington University in St. Louis, Sling Health has now concluded its second year as a national network with chapters and affiliates at the University of Pennsylvania, University of Michigan, Harvard and MIT, Tulane and LSU, and Georgia Tech and Emory. Sling Health is now collaborating with the American Medical Association (AMA) and the VA Center for Innovation to further these efforts.

Potential Impact/Lessons Learned: This platform empowers students to improve the practice of medicine and fills a national need present at almost every medical school. It has the potential to give medical students the tools and skills to solve the problems they encounter both now and throughout their careers.
Workshop Description: Participants attending the workshop will be able to recognize that there are different theoretical models of emotional intelligence (EI). They will discuss how differences in EI can affect outcomes through examples in academia, and intentionally use emotional intelligence abilities when interacting with others.

Workshop Rationale: There are different concepts about what Emotional Intelligence is, what it can do and what it can predict. This workshop focuses on the ability model as a way to recognize and manage one’s emotions in every day life.

Learner Outcome Objectives: Participants will:
1) Recognize that there are different theoretical models of emotional intelligence (EI)
2) Be able to describe the scientifically-based “Ability” model of EI
3) Intentionally use knowledge about emotions to make decisions

Intended Participants: Anyone who would like to learn how EI abilities can be applied in real life.

Instructional Methods: Short content presentations followed by small group work with case studies to demonstrate how the Ability model of EI can be applied to real-life situations

Meet and greet – 10 minutes
Objectives - 2 minutes
Presentation of two main models of EI – 12 minutes
Small group activity – case scenarios - 23 minutes
Discussion of role emotion plays in quality of care, stress and burn-out - 15 minutes
Summary & Q&A - 10 minutes
Workshop Evaluation - 5 minutes

Take-home Tools: EI workbook
Experience how expressive arts enhances self-care, teaching and promotes patient-centeredness.

Koethner, Nicole [1, 2, 3, 4]; Hul-Galasek, Larissa [1]; Saffier, Kenneth [1]


Workshop Description:
Expressive arts exercises are offered to staff at retreats and department meetings to explore how we can reconnect with our senses and feelings to become more centered and sensitive to our and our patients’ needs. In this interactive workshop we include movement, poetry, music, drawing and writing to foster innovative thinking, reflection, collaboration, and stress management. We will explore the learning principles illustrated by these experiential exercises that can enhance our teaching.

Workshop Rationale:
Patient-centered care is a universal goal of health care delivery that can be furthered when providers are grounded and living balanced lives. With technological advances, especially in the era of electronic health records, health care providers can easily lose their therapeutic connections with patients and their families. To prevent burnout, and to enhance their own resilience, providers can engage in a variety of activities of self-care. Expressive Arts exercises engage the whole person, facilitating integration of left and right side hemispheres of the brain, thereby addressing the variety of learning styles and fostering innovative thinking in applied medicine and teaching.

Learner outcome objectives:
By the end of this workshop, participants will be able to:
1) Experience several expressive arts therapy exercises that facilitate self-reflection, collaboration, and cognitive-emotional integration.
2) Experience and demonstrate stress-management tools that can increase personal and professional resilience and self-care.
3) Increase empathy with focused expressive arts exercises to explore and recognize feelings in self and others to more effectively engage learners and patients from different backgrounds.
4) Use expressive arts tools in teaching to address a variety of learning styles.

Intended Participants:
Health care providers, students, faculty, educators of healthcare providers

Methods:
Various mirroring exercises through sound and movement will be used to stimulate attunement to each other and empathy by embodying other people’s movements, sounds and gestures. Mirror-neuron systems are activated which are believed to be essential in developing empathy and compassion with others.

1) Introductions: Overview of workshop and presenters share personal relationship to topic. Participants share what brought them to the workshop.
2) “Name and mirror activity” invites people to introduce their names with a movement that is mirrored back by the other participants and allows people to feel, sense and see how they and others are in the moment thereby enhancing their capacity for empathy and compassion.
3) We begin with a poem or song, leading to painting or drawing with our non-dominant hand and both hands at the same time which integrates both brain hemispheres, thereby fostering a new sense of self and seeing things from a different perspective.
4) “Faithful Listener” - Empathy Exercise: In groups of 5, one person volunteers to tell a meaningful story from their life in which they describe the events and how they felt. One of the listeners interacts and explores more of the speaker’s experience so that they talk for 5 minutes during which time the others silently record the feelings they hear expressed and experience. After the 5 minutes, the listeners describe the feelings they heard expressed and had; the facilitator leads the de-brief for all groups.

Activity Timeline:
10 - 15 minutes Introductions and review of learning objectives
10 minutes Icebreaker exercise
20 minutes Poetry, Visual arts, Writing, and Music with sharing
20 minutes Faithful Listener-Empathy exercise
20 minutes Discussion/debriefing
5 minutes Summary and evaluations
**Take Home Tools:**
We will provide a handout of links, brief summaries of various stress-management tools and classroom activities to engage a variety of learning styles, for attunement and empathy with learners and patients.
**Leveling Up: Improving your Chance for Promotion**
Noelker, Joan; Koehn, Kristin
*Washington University in St. Louis, Division of Emergency Medicine; University of Missouri, Department of Pediatrics*

**Workshop Description:** This workshop session is designed for junior level faculty members interested in demystifying the promotions process and clinical educator’s portfolio (CEP). We will be utilizing a combination of interactive elements including didactics and small and large group exercises. Your individual curriculum vitae will be converted into a CEP draft framework that can be used to critically assess academic efforts and promotion timeline as well as the first step to a completed CEP.

**Workshop Plan:** Rationale: Promotion to the next academic level requires evidence of productivity in the areas of scholarship, education, administrative roles, and service via advocacy and/or community outreach. In many institutions, the standard format to showcase academic efforts consist of a dossier with a CV, CEP, and letters of recommendation. The educator portfolio is a newer tool developed to assist academic physicians, in particular faculty with predominantly educational activities, to appropriately illustrate their efforts. Junior faculty and their faculty development support systems often do not fully understand the CEP format or instruct faculty on the construction of the CEP.

**Objectives:**
By the end of this session, learners will be able to:
1) Describe the basic elements of a promotions packet.
2) Describe the specific requirements for promotion to the next academic level.
3) Be able to identify the components of their current work/career that fit into the promotions criteria and identify areas for improvement.
4) Demonstrate understanding of the difference between the CV and CEP.
5) Convert information from the CV into a CEP format and complete the initial CEP framework form.
6) Identify key areas of deficiency within their current promotions packet to improve upon.

**Participants:**
junior faculty and/or faculty who have not yet begun a CEP.

**Methods & Timeline:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Pre Session Pre-Work</td>
<td>Updated CV, bring individual SOM promotions criteria</td>
<td></td>
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<tr>
<td>0-5 min</td>
<td>Introduction</td>
<td>Review the session G&amp;Os</td>
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<tr>
<td>6-20 min</td>
<td>Didactics</td>
<td>Discuss elements of a promotions packet, review Institution Faculty Affairs site and resources, handout checklists for promotions planning</td>
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<tr>
<td>21-50 min</td>
<td>Think-Pair- Share</td>
<td>Group divided into pairs by academic level, each reviews their institution’s guidelines for promotion to the next level, review the CEP guidelines and examples from the APA and convert CV data into a rough CEP format.. Pair then discuss their findings</td>
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<tr>
<td>51-65 min</td>
<td>Coaching</td>
<td>Faculty expert (coach) joins each pair, reviews findings, discusses gaps within each participant’s dossier and starts completing timeline handout to guide next steps</td>
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<tr>
<td>66-80 min</td>
<td>Group Discussion</td>
<td>Main points reviewed, each pair discusses main findings with the group</td>
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<tr>
<td>81-90 min</td>
<td>Commitment &amp; Closing</td>
<td>Participants independently write a commitment to act in 2 parts: tasks to complete and broader career goal(s). Closing questions and providing contact information for coaches to continue mentoring on CEP development post workshop</td>
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**Take Home Tools:**
CEP and Goal Worksheet (very abbreviated format below)
Clinical Educator Portfolio Worksheet
Primary Educational Role(s):
12 month career goals at institution
3-5 year career goals at institution
Place items from your CV into the following categories:

- Teaching
- Assessment of Learners
- Mentoring / Advising
- Administration and Leadership
- Educational Scholarly Activities
- Other Scholarly Activities
- Service to the System and Community
- Clinical Efforts / Evaluation data
- Professional Development Activities
Phenotate: Crowdsourcing Phenotypic Data for Rare Diseases using Web-Based Classroom Exercises
Chang, Willie [1, 2]; Lozano, Alexander X. [1, 2]; Baynam, Gareth [3]; Brudno, Michael [1, 2]

Idea/Problem Statement: Phenotate is a web app designed to be used by students enrolled in biomedical and genetics courses for enhancing their knowledge in rare diseases.

Rationale/Need: The underlying need for this project is rooted in computational medicine research. The current performance of open-source differential diagnosis software, such as those in advanced patient record systems like PhenoTips, leaves much to be desired. Due to incomplete data, these software may perform poorly when predicting certain diseases. To augment these data, we propose crowdsourcing, from students and researchers, annotations that link standardized, machine-readable symptoms to diseases. This technique supplements existing methods, such as text mining the literature, to build a database for differential diagnosis software, enabling them to make accurate disease predictions given a set of symptoms. On the instructional side, the integration of information technology into biomedical curricula is an ongoing trend in the medical education community. Research has shown that students prefer integrating technology into their biomedical learning. In a 2014 survey of 73 medical students, >70% use the web as a primary source of medical information (Barry et al). Further, instructors whom we consulted have shown interest in using web-based tools to enhance their courses. Such tools enable rapid feedback and one-click access to a variety of references not possible with traditional, paper-based learning tools. To this end, we are proposing a web app that addresses our need for annotations, while modernizing biomedical and genetic courses through the integration of web-based exercises.

Methods: Phenotate is a web app for use in biomedical and genetics courses. We have primarily targeted undergraduate college courses due to the larger number of students and, hence, the larger amount of data we would collect. We expect 50-100 students per class to use the application per semester, and we expect to run the project over multiple semesters until we collect data from at least three courses. Phenotate allows course instructors to create exercises where students annotate diseases using phenotypes from the Human Phenotype Ontology. Students must refer to the literature to select the correct symptoms, and each annotation must reference the literature. Instructors are free to define the exercise format, be it in-class activities, course assignments, or for extra credit. Furthermore, students can use Phenotate outside of coursework settings through our gamification system, where students are incentivized through leaderboards and in-app consumables to submit annotations and contribute to our database. After collecting student responses, we run them through an automatic grading system that compares the responses against expert-validated annotations. As well, the ability to assign diseases without existing expert annotations (i.e. no grading) expands our database to new disorders. Through these classroom exercises, new insights for a disease can be gained by observing which annotations are the most frequent, weighted by the students’ grades for the exercise (a proxy of quality).

Evaluation Plan: Student responses are scored using the automatic grading system. We check each submission to ensure that the score reflects the quality of the annotation. Instructors can also modify scores and post comments. We record all phenotypes entered and grades to generate a composite annotation that represents the disease, using an A.I. algorithm. We used Phenotate in a pilot run with a second year undergraduate molecular genetics class (MGY200) at UToronto, in which 78 students annotated three genetic diseases. Overall, students provided more comprehensive annotations than clinicians who also submitted annotations: for two diseases, the most commonly entered phenotypes were not present in expert annotations despite their relevance. The quality of the responses indicated that they made great effort to produce accurate annotations, demonstrating their learning in genetic diseases. Feedback from students and the instructor were positive, and we look forward to using Phenotate in future courses.

Potential Impact/Lessons Learned: Phenotate offers biomedical and genetic course instructors an end-to-end tool for integrating engaging web-based exercises into their curricula. Our goal is to enhance students’ understanding of genetic diseases while improving the performance of differential diagnosis software.

References:
Developing a Web-Based Interactive Clinical Pharmacology Course.
Tawfik, Huda
Medical College of Georgia, Augusta University, Augusta, GA

Idea/Problem Statement: To develop an online clinical Pharmacology course. This is an interactive self-directed learning using case solving activities.

Rationale/Need: Pharmacology is a bridging discipline linking the basic sciences to clinical practice (diagnostic reasoning and clinical decision-making). On the premise that all physicians prescribe drug therapy for the diagnosis, prevention, and treatment of disease, and that pharmacology should be taught in the context that it will be used, it is rational to teach pharmacology in a disease orientated approach. I am developing an interactive online pharmacology course to provide conceptual and experiential activities for 2nd-year medical students with emphasize on therapeutic decision-making. This course is an interactive self-directed learning using case solving activities. It provides a review of the pharmacological treatment of common health problems and drug therapy in special populations. The goals of this course are to revisit the basic principles of pharmacology in a clinically relevant manner, to enhance students' understanding of important drug classes, and to have students analyze important and challenging clinical presentations. The decision to develop this course was influenced by an interview with third-year medical students and an online short survey for the second year students. Students' responses and recommendations included applying basic pharmacology knowledge to clinical reasoning and teaching pharmacology in a disease-based approach.

Methods: The course contains five modules. The modules are common health problems. Each of the five module topic areas contains case presentation, diagnostic tools (lab and images), and several management lines. The course includes some reading, interactive activities (created with the help of our IT and medical illustration team), and multiple choice questions. The target audience for this training includes M2 students who wish to improve their clinical pharmacology knowledge and skills. The course is self-paced and completely online, so that students from all campuses can participate. Students have the option of taking the course any time during their second year.

Evaluation Plan: The students will have a set of multiple choice questions at the beginning of the course and another one at the end to test their performance before and after the course. The course will be evaluated by a survey that student will answer after completing the course. Questions will be built to assess the course materials, the method of delivery, test difficulties, and their comments on how the course will help in the clinical setting. Survey information will be collected and analyzed for more specific feedback about the course.

Potential Impact/Lessons Learned: The benefits of this course are to reinforce basic concepts and principles of pharmacology and help the students understand applications of drugs and drug classes in clinical settings.

References:
Development of an Online, Medical Education Tool for Pharmacology

Jiganti, Max; Henke, Patrick; Hunsaker, Brent; Reinken, Ryan; Edge, Lauren; Nelsen, Alex; Garnat, Alex; Check, Larissa; Ivey, Kayla; Nguyen, Tammy-Tam; Chan, Cynthia; Longmore, Rikki; Milane, Lara [1]
Burrell College of Osteopathic Medicine;
[1] Department of Pharmaceutical Sciences, Northeastern University

Idea/Problem Statement: Develop an innovative, online medical education tool designed to reinforce pharmacological knowledge for first and second year medical students.

Rationale/Need: In the current mobile world, there is a demand for online educational resources that reinforce medical knowledge in preparation for the United States Medical Licensure Exam. Students at Burrell College of Osteopathic Medicine (BCOM) desire a pharmacology review tool that summarizes drug prototypes for each drug class, has question/answer functionality, and links each drug class to prior curriculum content. This comprehensive tool will enable students to review drug classes, solidify knowledge and recognize knowledge gaps, and directly navigate to connected content and recorded lectures in the prior Year 1 and Year 2 curriculum. Ultimately our unique pharmacology study tool will aid medical students’ performance and the modular design of this platform can be adapted for any medical school curriculum.

Methods: Second year medical students at BCOM will be given access to the pharmacology study tool in January 2018 to use at their own will. The online tool (developed using Articulate’s© Storyline 360™ software) is a flash-review study resource for each drug class and includes parameters such as mechanism of action, indications, contraindications, toxicity, and pharmacokinetics. Content for each drug class was developed in Microsoft® PowerPoint and imported into Storyline 360™ software. Content was then arranged in a modular/menu design within the software. The resource includes a question/answer bank and curriculum mapping by providing links to relevant lecture recordings where specific drugs and/or indications are discussed by BCOM faculty. In May, a survey will be given to students who have used the tool as a study aid. A short pharmacology quiz will also be given to the Year 1 and Year 2 Medical Students to aid in evaluating the tool. The quiz will be taken both before and after substantial use of the tool. The quiz results will be evaluated along with the self-reported data to evaluate the utility of the tool.

Evaluation Plan: Evaluation of this tool will be self-determined by current second year BCOM students, through the use of a Likert scale survey. The tool will also be evaluated by first year medical students who will be given the survey and a ‘before and after use’ pharmacology quiz (25 questions). The survey will evaluate the efficacy of the tool by assessing: previous exposure to pharmacology, number of times per month the student used the tool and their duration of use per study session, use of the curriculum mapping functionality, effectiveness of the tool in facilitating knowledge retention, aspects of the tool that were most/least useful, whether the study resource was used primarily for course exams or to prepare for board exams, and what recommendations they could provide us in order to further the effectiveness of the tool. The quiz results and data will be analyzed to assess the utility of the tool in helping students retain pharmacology knowledge.

Potential Impact/Lessons Learned: An online pharmacology education tool that provides flash review of drug class data, question and answer banks, and curriculum mapping may solidify comprehensive pharmacology knowledge, promote knowledge retention, and result in higher exam scores.
A Web-based Stroke Pilot Project by the Internal Medicine Residents in a Rural Teaching Hospital
Jung, Syung Min, MD, FACP; Saadat, Mohsen, DO, FACP; Mateen, Pamir, MD; Shah, Palvasha, MD
San Joaquin General Hospital

Idea/Problem Statement: Persistent delay in the time interval between patient arrival and on screen evaluation by teleneurology provider.

Rationale/Need: Through application of the American Stroke Association Target Stroke Best Practice Strategies, our telestroke program led by internal medicine has dramatically improved door-to-needle (DTN) time for thrombolysis. However, time from initiation of consult and on-screen evaluation by teleneurology remained unchanged. We collaborated on an innovative pilot project, “SpeedPass”, with our telestroke vendor in order to reduce this delay.

Methods: In the “SpeedPass” pilot project, initiation of teleneurology consultation was converted from a traditional phone process to a rapid and focused online format. SpeedPass was applied to all patients presenting to the hospital with acute ischemic stroke symptoms within the window period for thrombolysis. The online format was completed by a senior internal medicine resident or an attending physician with specific information such as patient identification, arrival time to the emergency room, last well known well time and use of an anticoagulant. Retrospective chart review was performed comparing Door-to-Video (DTV) and Consultation-to-Video (CTV) times between the pre-implementation period (1/1/15-12/31/15) and post-implementation period (1/1/16-4/30/17).

Results: Data on a total of 47 patients who received thrombolysis was compared. Mean DTV time decreased from 31.86 minutes in the pre-implementation group to 23.96 minutes in the post-implementation group. Mean CTV time decreased from 22.31 minutes to 9.92 minutes respectively. In the pre-implementation group, 6 of 22 patients (27.3%) received thrombolysis within 45 minutes compared to 12 of 25 patients (48%) in the post-implementation group.

Potential Impact/Lessons Learned: Our streamlined, collaborative approach has significantly reduced triage and teleneurology consultation time resulting in a greater percentage of qualified patients receiving tPA within 45 minutes. Similar measures could benefit rural and community hospitals that lack 24/7 neurology coverage.
Low-Stakes Online Learning Modules to Supplement Traditional Medical Pharmacology Education
Suchard, Jeffrey; Friedman, Michael
University of California, Irvine School of Medicine, Irvine, CA

Idea/Problem Statement: Online modules with board-style questions, literature review, and worksheets to improve understanding of pharmacology among 2nd year medical students.

Rationale/Need: The development of new course material in higher education has become more resource intensive in recent years, with many schools de-emphasizing traditional lectures, in favor of supplementation with more efficient teaching methods (1). Pre-programmed online teaching modules incorporate tenets of active learning, allowing instructors to reduce the number of traditional classroom lecture hours, and offering students a more engaging and useful way to develop and retain understanding of difficult material (2,3). We have developed an online companion to our pharmacology course that meets this rising trend of supplemental learning resources within medical education that employs best practices for student retention of material while decreasing reliance on traditional lecture.

Methods: Online Learning Modules (OLMs) have been implemented within the required medical pharmacology course for all 104 second-year medical students at UC Irvine for the past two years, as well as the current academic year. A total of twelve OLMs, each of which supplements a topically-related block of pharmacological educational content, are hosted on the Canvas learning management system. The OLM assignments are completed at the convenience of each student at the time and place of their choosing, with each OLM becoming available to the students at the beginning of the associated block and due by the end of the block, typically the day prior to a multidisciplinary block exam. While the OLMs are not considered mandatory, satisfactory completion of each OLM is worth 1% of the total pharmacology course grade, and students are further incentivized because at least one OLM question will appear on the subsequent block exam. Each OLM consists of three parts: (1) A set of 20-30 board-style multiple-choice-questions, the majority of which cover the current block of material and the remainder serve to review older material, (2) between 1-3 articles from the clinical medical literature (most often New Engl J Med), each paired with 3-4 short answer questions to guide understanding of the pharmacological concepts highlighted in those articles, (3) a guided fill-in-the-blank and matching-style worksheet mirroring figures and important concepts from the current block of learning material.

Evaluation Plan: Satisfactory completion of the components of each OLM, as well as the proportion of correct answers for the multiple-choice-questions, is recorded and available to each student individually through Canvas. At the conclusion of the pharmacology course, a student questionnaire is completed to elicit their opinions of various aspects of the OLM structure including whether they feel it has been useful, worthwhile, relevant to their course study, which kinds of literature articles were favored, the time commitment required, and whether the OLMs should be continued and/or expanded. The results will be compared between years, with regard to evolution in structure, to evaluate the ideal presentation.

Potential Impact/Lessons Learned: We provide an effective, asynchronous online platform to supplement pharmacology education, which may serve as a model for broader application by other medical schools.

References:
Student-Led Creation of a NBME-Style Multiple Choice Question Bank
Kurtz, Josh; Monrad, Seetha
University of Michigan Medical School

Idea/Problem Statement: Student involvement in writing NBME-style multiple choice questions will create a unique peer-to-peer teaching opportunity and deepen student learning.

Rationale/Need: Although multiple choice questions (MCQs) are one of the primary methods used to assess US medical student comprehension of course content, few medical schools have involved students in question creation [1]. Student involvement in MCQ generation is likely to be beneficial for a number of reasons. First, creating questions allows students to utilize higher orders of cognition in accordance with Bloom’s Taxonomy, which has been shown to improve retention and comprehension of material relative to engaging in lower order activities. Second, students will learn the theory behind creating well-written, clinically oriented questions, including generating meaningful distractors. Student involvement in MCQ generation has been studied sparingly in medical education. A limited number of studies at non-U.S. medical schools have shown that involving clinical students in MCQ creation improves test scores.[2] Even fewer studies exist that examine this effect in pre-clinical students and qualitative analysis has been limited to minimal open-ended survey questions.[3] Gathering qualitative feedback is essential to better understanding how question generation affects students’ thought processes, and a more thorough mixed-methods analysis is therefore needed. For these reasons, I recruited 18 second-year University of Michigan Medical School (UMMS) students to write clinically-oriented NBME-style cardiology MCQs for use by future first-year students.

Methods: This process can be broken into two main components: the procedure for training students on MCQ generation and the method for generating a peer and expert reviewed question bank. Training: Students first completed two online modules from NBME University on best practices for writing clinically-oriented MCQs. Next, each student wrote one practice MCQ and suggested edits to other students’ questions using Google Docs. Students then attended an in-person MCQ-writing training session, wherein best practices were reviewed with the assistance of a Michigan Medicine Evaluation and Assessment faculty member. Students were then given twenty minutes to discuss their suggested edits with other question-writers. Question Bank Creation: I created a two-dimensional 108-question exam blueprint in line with blueprinting best practices and assigned topics and question types accordingly. Students chose their own subtopics from a student-generated list. Next, they wrote two MCQs and suggested edits to others’ questions via Google Docs, before each of three question-editing sessions. To assist students with question-writing, I modified and provided them with NBME U Question Templates and Vignette Worksheets, as well as a UMMS MCQ-writing checklist. During the sessions, students discussed their comments, modified their MCQs and re-submitted them. The final MCQs were sent to the Evaluation and Assessment team and cardiology sequence directors to review for MCQ-writing flaws and accuracy.

Evaluation Plan: The primary purpose of this mixed methods analysis is to understand how question generation impacts student learning. Through discussions with participants, a number of more specific objectives have been generated that we aim to address using a focus group and survey. A few of these objectives include: The value of learning how to write MCQs and receiving feedback; how question-writing affects motivation to study; time efficiency of question writing as a learning strategy; and challenges in writing MCQs. Toward addressing these objectives, an eight-participant focus group will be held this August to gain a more thorough qualitative understanding of participants’ experience with question-writing. After transcribing and coding the focus group audio data, the themes generated will be used to create a survey. This survey will be completed by the other 10 participants to quantify the qualitative findings. Additionally, the 108-MCQ problem bank will be offered to the incoming class.

Potential Impact/Lessons Learned: Student involvement in MCQ generation has the potential to engage question writers in higher order learning to improve comprehension, create board-style lecture-content-based MCQs to optimize study time, and provide a peer-to-peer teaching and self-directed learning opportunity.

References:
Learning from an Interactive Online Platform: Anatomy and Inter-Professional Collaboration in the OR
Grosser, Johannes; Bientzle, Martina; Kimmerle, Joachim
Leibniz Institute for Knowledge Media (IWM), Tübingen

Idea/Problem Statement: We examine the potential of an online platform that shows the interplay between knowledge in anatomy and inter-professional collaboration in the OR.

Rationale/Need: Medical education usually starts by the very basics, such as physiology or anatomy. Unfortunately, many students perceive these courses to be quite dull, as the knowledge is taught by books, lectures or in prossection courses that rarely illustrate the clinical relevance of anatomy whereas most student like to become clinical physicians. Nevertheless, there is no doubt that knowledge in anatomy is essential for each medical student. The Institute for clinical anatomy at the University of Tuebingen, Germany, offers the Sectio Chirurgica (SC), an online video platform where medical students have the opportunity to join surgical live-stream lectures that explicitly integrate pre-clinical anatomical education and clinical application (Hirt et al., 2010). The surgeries on body donators are supposed to illustrate the relevance of the interplay between basic knowledge in anatomy and inter-professional collaboration in the OR. There are examinations of the applicability of online platforms in medical education (Bientzle et al., 2015; Griewatz et al., 2016). What has not been taken into account in these studies, however, is how pre-clinic students can be supported in understanding the relationship between basic anatomical knowledge and clinical application on the one hand and the importance of inter-professional collaboration on the other. So our aim is to examine to what extent the SC platform can be used for these educational purposes and which factors are relevant in this context.

Methods: In order to identify the strengths and limitations of SC videos, specifically their capability to link basic knowledge to clinical application and to improve inter-professional behavior, we aim to conduct a randomized controlled trial to compare this innovative format to a "classical" online lecture on anatomy. As participants, we will recruit 180 medical students from several German-speaking universities who are in the initial phase of their medical education. They will be randomly assigned to one of two study conditions. As study material for the experimental group we will use a 15 minutes video of the SC, where an ACL reconstruction surgery is shown. About 2/3 of the time the video will show inter-professional interactions in the OR and 1/3 of the time it will show a professor who provides explanations and anatomical background information. For the control group, we will use a video of the same length showing a lecture about ACL reconstruction, held by the same professor in a lecture auditorium. These two conditions will be identical with respect to the anatomic and surgical information, but will differ regarding the setting and the vividness of the presented inter-professional interactions. Following the video, we conduct a treatment check and provide several questionnaires to the participants.

Evaluation Plan: We assume that it is an educational benefit of the SC platform that it may support pre-clinic medical students in comprehending the connection between basic anatomic knowledge and clinical application as well as in getting an impression of the significance of inter-professional interaction in clinical settings. Accordingly, we hypothesize that participants in the SC group will pay more attention and respect to other medical professions than controls. To measure these constructs, we will use the Interprofessional Socialization and Valuing Scale (ISVS). We expect medical students to be highly motivated to become physicians, so a better link between basic anatomic knowledge and clinical application should be expressed in higher learning motivation of anatomic resources, a higher importance rating of anatomic knowledge for physicians, and an improved professional identification as medical student.

Potential Impact/Lessons Learned: We assume that the SC makes anatomy more attractive and especially tangible to medical students. So, if we understand the mechanisms that make this platform successful, we can provide a wide range of suggestions on how to design better digital educational resources for medical education.

References:
Using Google Voice Technology to Develop Oral Case Presentation Skills
DeVoss, Amanda; Ostmoe, Michelle
University of Wisconsin-Madison School of Medicine and Public Health

Idea/Problem Statement: Oral case presentation skills are essential to clinical practice and require structured practice and formative feedback for systematic development.

Rationale/Need: In an annual survey, preceptors and graduates are asked to rate student preparation in 26 areas. Oral case presentation skills consistently rank lower than other areas of preparation and, in recent years, the overall satisfaction in oral case presentation preparedness has seen a significant decline. On a 5-point Likert scale (5 = Extremely Well and 1 = Not Well at all) oral case presentations had a mean of 4.36 in 2014, 4.02 in 2015, and 3.48 in 2016. To address this issue, faculty created curriculum that utilizes Google Voice Technology allowing students to record an oral presentation in 3 minutes or less. The use of this technology gives students adequate time for preparation while simultaneously training them to be succinct. The recorded oral presentations also give faculty an efficient, asynchronous means to give individualized feedback.

Methods: Students participate in six oral case presentation experiences prior to beginning their clinical training. In each experience, students present their patients via Google Voice, faculty listen asynchronously, and then provide individualized feedback. In preparation for the six oral case presentations, a PA faculty member delivered a 50-minute lecture that walked students through all aspects of a patient presentation. PA students were asked to evaluate multiple components of each experience using qualitative and quantitative measures. For the initial oral case presentation experiences, faculty created four structured cases in which students role-play patient and provider. After each of the four interactions, students call into the PA Program’s Google Voice line and leave a 3-minute oral case presentation. Faculty then provide individualized feedback to each student prior to their next interaction. The fifth oral case presentation experience requires students to write their own case. Again, students role-play the case with a partner, call in their case presentation to Google Voice, and are then provided faculty feedback. For the final session, faculty created a case that is acted out by a standardized patient (SP). Students work with the SP, write a SOAP note, and then do an oral case presentation via Google Voice. Once again individualized feedback is given to students by faculty.

Results: Faculty created cases appropriate for a general family medicine practice and intentionally limited patient comorbidities so as to keep the objective of the exercise focused on improving oral case presentation skills. Overall, students rated the oral case presentation experiences favorably. When asked if the instructor was effective teaching the basics of oral case presentation, students evaluated the lecturer a 4.7 on a 5 point Likert scale (5 = Strongly Agree). Students were also asked if they felt an adequate amount of time was devoted to practicing oral case presentation skills: 86% of students reported “Just right”, 11% “Too little”, and 3% “Too much.” When asked how well prepared they felt to present oral case presentations to faculty and preceptors in the clinical year, students responded with a mean of 3.46, 3 being “Moderately prepared” and 4 being “Very well prepared”. 96% of students reported feeling they received “Adequate” or “Somewhat adequate” feedback from faculty regarding their oral case presentations and 4% reported “Neutral”. In addition, student comments revealed high satisfaction with the oral case presentation experiences. For example, “These were awesome. I feel much better prepared to present to my preceptor in a logical and succinct manner.”

Potential Impact/Lessons Learned: Using Google Voice allows students to adequately prepare for and practice oral case presentation skills and affords faculty the ability to grade from anywhere and still provide individualized feedback.

References:
Utilizing Learning Principles in Supervision Training to Improve the Impact of Clinical Supervisors

Sherer, Sara
University of Southern California

Idea/Problem Statement: An interactive workshop series to help novice psychology supervisors utilize learning principles to enhance the impact of clinical supervision

Rationale/Need: In clinical psychology, clinical supervision is the tool most commonly used to guide trainees in acquiring clinical and professional skills. Once licensed, psychologists are expected to become clinical supervisors to train and mentor unlicensed psychologists. Although there is a large body of research about supervision, there is little standardized training in clinical supervision, nor oversight of new supervisors (1). Further, most of the current supervisors have had little, if any, standardized training in supervision. The Guidelines on Supervision, published in 2011 (2), provided a set of consensually agreed upon competencies to teach and assess, but did not provide clear guidance for high-quality supervision. Thus, supervisors know what to teach, but not how to ensure learning. As the director of a large training program that oversees the training of over 30 psychology interns/fellows annually, I have witnessed junior supervisors struggle with assessment, providing feedback and developing alternative learning or remediation plans for struggling trainees. The proposed intervention will provide training for novice supervisors so they can incorporate learning principles to enhance supervision skills and effectiveness. At the end of the training, supervisors will be able apply learning principles in all aspects of supervision (assessment of competence, providing positive and negative feedback, and guiding learners in developing individualized learning or remediation plans).

Methods: Ten novice supervisors (less than 5 years experience) will attend two three-hours sessions (four weeks apart) where they will be engage with the guidelines for clinical supervision in health service psychology. They will practice applying a set learning principles introduced by Ambrose et al (3) in clinical supervision (eg., diagnosing the learners’ prior knowledge and experience to target practice and feedback to learners’ needs). Prior to session one, supervisors will review the guidelines for clinical supervision along with an overview of learning principles. In session one the supervisors will practice using a set of key learning principles. Video examples will be used to give participants practice diagnosing learners and further applying principles using role-play with clinical supervision vignettes. Each supervisor will develop a plan to use the principles with their individual supervisees, and will be asked to bring stories of successful usage (and any barriers to usage) to session 2. Session two will open with stories of success and move to building skills to work with supervisees who struggle. Supervisors will work together to provide examples of challenging supervision situations. These case examples will allow practice in building solutions based on principles of learning. Role-plays and other experiential activities will be utilized for advanced application and practice. A follow-up monthly Brown Bag supervision group will be offered for continued development.

Evaluation Plan: The evaluation will include assessment of learner reaction, of application of learning and of quality of supervisor teaching. Supervisors’ reaction will be assessed through standardized session evaluations. At the end of the training year, supervisors participating in monthly supervision support brown bag will also complete a survey and provide feedback about the impact of the monthly meeting on their supervision practice. To assess usage of principles taught, a pre- and post-participation survey assessing supervisors’ utilization of learning principles in supervision will be conducted with supervisors and their supervisees. End of year results, and be compared to participants pre-training survey results. Effectiveness of supervision is already measured twice a year, December and June using leaner assessments of teaching. This intervention will be completed in the spring, using the ongoing assessment data to conduct pre/post comparisons.

Potential Impact/Lessons Learned: This training is designed to help novice supervisors navigate the intersection of learning principles and clinical supervision. If successful this method can become a model for training not only psychologists, but also clinical educators in other health care professions.

References:
Focused Faculty Development in A GME-Naive System
Strohm, Maureen
Sunrise Health GME Consortium Family Medicine Residency at Southern Hills Hospital

Idea/Problem Statement: This Faculty Development series for various specialty faculty new to GME will incorporate teaching and learning strategies and enhance collaboration.

Rationale/Need: Many hospitals without GME programs are now launching new residencies as a strategy to address physician shortages for their hospital, their system and/or the local community. Because recruitment of experienced residency faculty is challenging, an opportunity exists to recruit new faculty from existing, interested medical staff members and necessitates a coordinated effort to provide faculty development for basic teaching and learning skills. Inter-specialty and inter-disciplinary clinical training models have developed over several decades, paralleling recommendations from Wilkerson and Irby in 1998, typically in the medical school environment. However, faculty development models more frequently reflect specialty-specific programs leading to parallel efforts, eg., by family medicine, pediatrics, emergency medicine, the latter of which has developed a robust series conducted at their national meetings as well as education scholarship fellowships for emergency medicine faculty. Increased attention has been given by the ACGME and the Joint Commission to the importance of inter-specialty and inter-disciplinary collaboration as fundamental to enhanced quality and patient safety. A faculty development series for faculty of various specialties will be implemented to address the needs of community-based faculty seeking to transition in their roles from community and/or hospital-based practice to teaching practices and to enhance inter-specialty collaboration

Methods: We propose the implementation of a Faculty Development series for faculty new to GME to increase their knowledge, skills, attitudes toward teaching in order to guide them through incorporating teaching and learning strategies with residents across various specialties. We anticipate that providing these sessions in an inter-specialty group setting will also enhance the clinical collaboration among faculty and residents of different specialties. The early group of attending physicians who are the faculty for these new programs, will be the direct recipients of the faculty development program geared to prepare them for their role as faculty. Attending physicians, already stretched by clinical demands, have been somewhat resistant to participating in scheduled faculty development sessions since the residents began, and will gain the most benefit in confidence and competence as they develop their teaching skills.

Evaluation Plan: At baseline, faculty will complete a survey addressing their prior teaching experience, personal assessment of knowledge and skills, and perceived needs for teaching in a new GME program. At the end of each faculty development session, faculty will complete a session evaluation form. A global faculty development series evaluation will be completed at the end of the series. At baseline and at completion of the program, resident evaluations of faculty teaching will be reviewed and analyzed for evidence of satisfaction with faculty teaching, and perceived needs for future faculty development.

Potential Impact/Lessons Learned: As a pilot project, the proposed faculty of 8-10 participants will be too limited for generalizability. Levels of satisfaction and changes in teaching behavior related to the faculty development will serve to inform a larger series as other programs are integrated into the hospital GME programs.

References:
Promoting Innovation: Enhancing Transdisciplinary Opportunities for Medical and Engineering Students

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Idea/Problem Statement: While healthcare challenges require innovation and collaboration, the requisite skills are seldom taught during medical school.

Rationale/Need: A recent NEJM article concluded that while physicians are uniquely positioned to lead healthcare innovation, they lack sufficient training. Adding innovation and creativity training into medical school curricula has been proposed to address this shortcoming, yet literature provides limited guidance on how to do so. Similarly, while engineers are well versed in principles of innovation and design, they risk developing inadequate solutions without physician insight. Training that introduces the innovation and design process in a transdisciplinary environment, where members from various industries work toward a shared goal, would stimulate creative thinking and the development of novel solutions to unmet medical needs. Providing opportunities for medical and engineering students to engage in this process together would better prepare them to transform the practice of healthcare by transcending traditional disciplinary boundaries.

Methods: A semi-quantitative needs assessment was designed to explore medical and engineering students' values, learning experiences, professional goals, and interest in collaboration between the Geisel School of Medicine and Thayer School of Engineering at Dartmouth College in Hanover, NH. Development of the questionnaire involved a review of the current curricula at the two institutions, discussions with key stakeholders in both engineering and medical departments, and review of programs (often graduate or post-graduate level) at peer institutions. The questionnaire was administered online via SurveyMonkey to the students in February 2015. Summary statistics (median, standard deviation) were used to summarize Likert-scale responses of students. Mann-Whitney U tests were used to quantify differences between medical and engineering student responses to the Likert-scale questions. Kendall’s b tau correlations were used to compare interest in and utilization of on-campus professional school resources. Based on the survey results, an elective course was designed to prepare medical students to participate in the innovation process as a member of a transdisciplinary team. A post-course evaluation survey was conducted via Qualtrics consisting of Likert-scale and open-response questions. Data were analyzed using descriptive statistics. The feedback gathered from this first course will be used to inform the development of a shared course for both student groups.

Results: Shared values among students included leadership, innovation, collaboration, and resource sharing. Medical students felt their curriculum inadequately addressed creativity and innovation relative to engineering students (p <0.05). Medical students felt less prepared for entrepreneurial activities (p<0.05), while engineering students indicated a need for basic medical knowledge and patient-oriented design factors. Collaboration occurred less than 50% of indicated interest. The course aimed to show how physicians can improve clinical management through the design process. Medical and engineering faculty members brought different perspectives to the course, which allowed students to approach clinical problems in new ways than had they been confined to a disciplinary silo. Case studies enabled students to systematically apply their knowledge and imagination to solve real-world clinical problems. Students appreciated how successful medical device design requires physician insight and effective communication with non-medical professionals. Nearly 10% of first-year medical students enrolled in the course (n=9). Seven students completed the post-course evaluation. The course earned an overall rating of 4.71 (SD=0.70) on a 5-point Likert scale. All respondents found the course intellectually stimulating and would recommend it to others. They reported that the course advanced their education, introduced new ways of approaching problems, and led to a desire for additional coursework.

Potential Impact/Lessons Learned: Our initial course was well received and demonstrated need for further training. Creating a transdisciplinary course that facilitates collaboration between medical and engineering students has the potential to promote them as leaders and innovators who can effectively work across industry lines.

References:
Medical Student Leadership and Interdisciplinary Structure at Community Based Clinic
Cassell, Anna; Gregerson, Celestine; Ward, John J.; Samuelson, Wayne
University of Utah School of Medicine, Midvale Community Building Community (CBC) Clinic

Idea/Problem Statement: Creating a team-based student leadership structure and establishing sustainability for an interdisciplinary community clinic with a tenuous future

Rationale/Need: Student-run community clinics are a common extracurricular experience for medical students. These clinics help provide quality medical care to primarily low-income, minority patients and give medical students additional opportunities to learn and practice their clinical skills (1). The Midvale CBC Clinic, with the University of Utah medical school, provides care to the medically underserved in the Salt Lake Valley. Since its founding, student volunteers have cared for patients, but the clinic has been run by an individual physician with many other clinical and administrative responsibilities. We sought to improve the quality of care delivered to patients, increase the learning opportunities available to students, and improve the sustainability and community engagement in the clinic by transitioning to a team-based, student leadership structure. We endeavored to optimize patient care by increasing the efficiency of clinic visits, decreasing patient wait times, and reducing mistakes. Additionally, we aimed to facilitate smooth transitions during the annual flux of medical students. To improve learning opportunities, we wanted to create an interdisciplinary environment where medical students have the opportunity to work with other healthcare trainees in order to provide more comprehensive care. This structure also required students to engage in systems-level thinking including quality improvement and clinical efficiency, which is often neglected in medical school curriculum.

Methods: Implementing the new leadership structure began with a focus on the purpose of the Midvale CBC Clinic. We considered the goals of the Midvale Clinic to clearly define the clinic’s purpose in a mission statement. We then designed a team-based leadership structure to accomplish the clinic’s mission of providing high quality patient care and exceptional educational opportunities for medical students. To address the limitations in medical student and physician availability, continual turnover of volunteers, and limited financial resources that are inevitably tied to low-income community clinics, the leadership structure is based on a multi-team leadership system with intrinsic redundancy that works closely with current clinic staff. The student leadership structure was organized and developed under the direction of 3 student co-directors. A leadership team of 2-3 clinic managers was selected for each weekly clinic shift: Tuesday evening, Wednesday evening, and Thursday morning. Monthly Pediatric Acute Care Clinics and the Diabetes Interprofessional Clinics were assigned an individual clinic manager. Roles of all student volunteers, student leaders, current staff, attending physicians, and adjunct volunteers were clearly defined. The 3 co-directors led an orientation meeting and one-on-one trainings for each of 8 clinic managers. The current structure was designed to accommodate clinic expansion; additional leadership teams can be fluidly integrated into the current structure.

Evaluation Plan: To assess the efficacy of the newly implemented team-based student leadership structure, we will design and administer surveys to patients, clinic managers, student volunteers, clinic staff, attending physicians, and interpreters. Survey questions will be designed to assess perceived quality of care, quality of student educational experience, efficiency of care, and overall patient, student, and staff satisfaction. When appropriate, questions will ask the participant to compare current experiences to their experiences prior to student leadership implementation. We will use the data from these surveys to direct focus groups consisting of attending physicians, student directors and managers, and clinic staff to discuss improvements that can be made and any areas left unaddressed in the initial iteration of leadership roles and responsibilities. New interventions will be designed and instituted based on the results of the surveys and focus group discussions.

Potential Impact/Lessons Learned: This student leadership structure for Midvale CBC Clinic should improve quality of care, educational experiences, and sustainability of a clinic that serves as the medical home for a large, underserved population. We believe that this leadership model is scalable to many student-run clinics.

References:
Student-Led Conference on Leadership: Challenging the Assumption of the Role of Medical Students
Steenbergh, Kylie, BS [1]; Zurales, Katie, BS [1]; Saltzman, Hanna, BA [1]; Pliakas, Maria, BS [1]; Pitkin, Julia, BA [2]; Mokshagundam, Shilpa, BS [2]; Thomas, Chris, BS [3]; Tsai, Tony, MBA [4]; Mangrulkar, Rajesh, MD [1]


Idea/Problem Statement: A student-led conference on leadership in medical education that promotes the value of the role of students within medical education.

Rationale/Need: Students have long served a singular role in medical education – the learner. This narrow view neglects the larger contributions students can provide in shaping the future of medical education. While many undergraduate medical education and graduate medical education programs state that they are developing the physicians leaders of tomorrow through deliberate training, the practices in doing so are variable and without clear assessment of the skills attained. As a result, students will be expected to pursue leadership opportunities within their future careers, potentially without first developing the necessary skills. In response to the recognition of the value of engaging medical students and the need for concrete experiences in leadership, the University of Michigan Medical School (UMMS), along with six other schools from the Accelerating Change in Medical Education Consortium, collaborated to host the first American Medical Association Accelerating Change in Medical Education (ACE) Student-Led Conference on Leadership in Medical Education. The conference served to develop students' leadership skills in several ways: students on the planning committee personally developed leadership skills through the organization and execution of the conference programming and evaluation, while student attendees' learned and implemented new leadership skills in interactive workshops and challenges.

Methods: The objective of the student-led conference was to introduce core leadership skills and engage students to think as empowered partners in transforming the future of medical education. Students applied skills learned throughout the conference, connected with other students and faculty to seek new opportunities, and were empowered to impact the future direction of medical education. The conference was held in August 2017 in Ann Arbor, Michigan. Conference sessions and workshops were student-designed and provided an engaging experience in developing skills in the following competencies: communicating and influencing, building teams, and problem solving. Students from ACE consortium schools had the opportunity to submit workshops, oral presentations, and poster presentations for a total of 66 presentations. Through a team-based challenge in the MedEd Impact Challenge, the skills learned were enforced in the development of potential solutions to some of the most pressing issues in medical education. The main themes of the questions were leadership curriculum development, wellness, and hierarchical culture change. Each MedEd Impact team had two hours to brainstorm and develop a solution to one of the three questions. The teams then pitched their solutions to attendees and a panel of faculty judges to determine the winners. All solutions will be provided to the ACE consortium schools to continue to encourage dialogue and engagement of student leaders.

Evaluation Plan: Conference attendees are currently evaluating the student-led conference through a survey hosted on Qualtrics. The survey evaluates individual sessions, providing targeted feedback for student presenters, as well as the conference as a whole. Additionally, students and faculty are encouraged to consider what opportunities for leadership development are currently available at their schools, what barriers they face, and where they see the future of leadership curriculum as a result of their participation at the conference. This written feedback will be triangulated with field notes taken throughout the conference. Through our evaluations, we will disseminate a national guide on the current state of leadership training in medical education and how to better engage students in leadership opportunities. The feedback will also be incorporated into the planning and implementation of future student-led conferences.

Potential Impact/Lessons Learned: Attendees returned to their institutions empowered to seek leadership opportunities and lead innovative change in their communities. The conference illustrated the evolving framework of medical education, whereby students grow from learners to teachers, scholarly contributors, and agents of change.

References:
Memed Impact Challenge: Advancing Leadership through Innovation in Medical Education
Zurales, Katie, BS [1]; Saltzman, Hanna, BA [1]; Merryman, Evan, BS [1]; Steenbergh, Kylie, BS [1]; Pliakas, Maria, BS [1]; Tsai, Tony, MBA [2]; Mangrulkar, Rajesh, MD [1]

[1] University of Michigan Medical School; [2] University of Utah School of Medicine

Idea/Problem Statement: A team-based, timed competition in which medical students utilize leadership skills to pitch solutions to the biggest challenges in medical education.

Rationale/Need: As medical schools nationwide re-envision medical education, challenging questions have emerged, from transforming curricular content to preventing student burnout. Yet students, who are closest to these challenges, are often not involved in the quest for solutions. Furthermore, leadership trainings are often filled with theory without sufficient hands-on practice; and although conference attendees are often highly-motivated and diversely-experienced, few conferences provide deliberate opportunities for the formation of meaningful relationships. To address these gaps, we designed the MedEd Impact Challenge: an innovative, team-based, student-designed and student-implemented challenge that debuted at the American Medical Association Student-Led Conference on Leadership in Medical Education on August 4-5, 2017. The MedEd Impact Challenge aimed to: 1) empower students to develop innovative solutions to critical problems within medical education; 2) train students in leadership skills and provide the opportunity to put those skills into immediate action; 3) help students gain insights into their own leadership styles while engaging with a diverse student community with different aspirations and leadership styles.

Methods: We created a problem list by asking prominent medical educators nationwide to submit pressing questions in medical education that students are uniquely positioned to answer. Using qualitative research methods [1], we created 3 key questions from over 40 submissions: How can medical schools... 1. Help students build leadership skills and prioritize leadership as a critical component of personal and professional growth? 2. Create a culture in which students are empowered to be change agents within highly stratified organizational structures? 3. Contribute to efforts to prevent student burnout and create environments in which students flourish in the midst of stress and intensity? The MedEd Impact Challenge consisted of 3 phases. The Inspiration Phase began with the Competing Values Framework exercise, in which students identified personal leadership styles [2]. Impact Teams, composed of students from different schools and with varying leadership styles, then participated in interactive workshops that addressed leadership competencies in team building, problem solving, and communication. In the Exploration Phase, students attended self-selected workshops and presentations. In the Innovation Phase, Impact Teams had 2 hours to envision solutions to their group’s question and write a proposal geared towards stakeholders in medical education. Medical educators from schools nationwide judged written proposals, and finalists orally pitched proposals to the audience and judges.

Evaluation Plan: To evaluate the quality of the solutions generated by the MedEd Impact Challenge, written solutions were submitted electronically and de-identified. Faculty judged solutions on specific criteria in 4 categories: communication, impact, creativity, and feasibility. Evaluation criteria were adapted from the University of Michigan School of Public Health’s “Innovation in Action” [3]. The top 3 written solutions from each category advanced to the oral pitch stage. Faculty judges chose 1 winner from each category based on evaluation criteria. Winning pitches promoted ideas including: building leadership through improvisation, changing culture through multidisciplinary roundtable discussions, and promoting wellness through time dedicated to ‘passion projects.’ To evaluate effectiveness of the MedEd Impact Challenge, we distributed a Qualtrics survey. Responses are currently being collected. We will thematically analyze responses for common themes [1].

Potential Impact/Lessons Learned: Students honed leadership skills through experiential learning, built meaningful connections, and developed real solutions. These solutions will be disseminated to medical educators and presented at an upcoming national AMA conference to stakeholders who are well-placed to implement these solutions.

References:
Patients’ Perceived Knowledge of and Interest In Women’s Health:  
A Study to Guide Patient Education 

DyBuncio, Christina; Reid, Jessica; Phung, Kevin 


Idea/Problem Statement: To study patient interest in and perceived knowledge of women’s health topics as well as patient educational preferences to guide patient education.

Rationale/Need: Health literacy is defined by the Institute of Medicine (IOM) as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. The 2004 IOM report on Health Literacy suggests that nearly one half of all American adults have difficulty understanding and acting upon health information. Their findings also suggest a correlation between limited health literacy skills and poor health outcomes, a relationship that remains even after controlling for socioeconomic variables. As such, the medical community promotes the importance of patient education in preventative care, compliance, self-awareness, and autonomy in healthcare decision making to improve health outcomes. The American Congress of Obstetricians and Gynecologists’ Committee Opinion on Health Literacy recommends tailoring health information to the intended user, which includes taking into consideration the patient’s age, social and cultural background, language, and literacy skills. However, with the breadth of topics encompassed by women’s health and the increasingly limited face-to-face time during patient encounters, a provider must already know which topics are most pertinent to address with each patient. Our study aims to ascertain the topics that patients want to learn about and also areas of self-perceived knowledge deficit, in order to give providers a framework in their approach to educating patients.

Methods: This is a cross-sectional needs assessment aimed at investigating patients’ baseline self-perceived knowledge level, desire to learn, and educational preferences on a variety of women’s health topics. This study has been approved by the University of Southern California Institutional Review Board. We have created a questionnaire, in English and Spanish, which is distributed in the waiting room of the Women’s Health Clinics. Participation is voluntary and anonymous. A total of 50 topics are addressed in the questionnaire, which were identified by the LAC+USC Department of Ob/Gyn Patient Education Committee as areas of perceived need by providers. For each topic, participants are asked their level of knowledge on a 5-point Likert scale and their desire to learn more about that topic (yes or no). The questionnaire also assesses demographic factors and educational preferences. A REDCap database has been created for data storage and analysis. Data collection is ongoing, with over 200 surveys collected to date. Our goal is to collect 500 responses.

Evaluation Plan: Our goal is to identify women’s health topics that patients perceive as areas of limited knowledge, topics that patients highly desire to know more about, and any intersection between the two. We will perform sub-analyses based on demographic factors and will identify how patients have learned about women’s health topics in the past and how they would prefer to learn about them in the future. Our study will contribute to previously published data and enhance approaches to patient education. Previous studies have shown that a variety of mediums are effective in disseminating patient education materials and that multi-media education is feasible to implement at large volume healthcare centers such as ours. As a needs assessment, any deficits we identify can guide interventions and outcome measurements in future studies as well as development of educational materials, with interventions tailored to those topics and learning modalities specifically desired by our patients.

Potential Impact/Lessons Learned: The outcomes of our study will provide invaluable information to guide future efforts to improve health literacy and healthcare decision making at our institution and will likely have implications in similar patient populations of urban, underserved, largely Hispanic patients.

References: 
2) ACOG 2016 Committee Opinion Health Literacy 
**ELEVATE-ing Residents as Teachers Curriculum**

Alas-Segura, Monika; Rahman, Suraiya; Salazar, Adler; Chan, Randall; Li, Erica; Vasan, Rukmani; Harlan, Greg; Zia, Stephanie  
*Keck School of Medicine of USC*

**Idea/Problem Statement:** ELEVATE is a restructured Residents as Teachers curriculum incorporating leadership training using a longitudinal workshop format with reflection

**Rationale/Need:** Residency places people in various complex situations where leadership skills and self-knowledge are crucial to outcomes. Residents are not only physician leaders but teachers to both their patients and different levels of learners. Many residents do not have much background in formal teaching and as such, the ACGME RRC requirements state that “residents must have formal education in residents as teachers (RATs)”. However, minimal guidance is provided on how to implement this curriculum, which provides the opportunity for residency programs to have innovative approaches. The “RATs” curriculum delivered in the LAC+USC Medical Center pediatrics residency program has traditionally been centered on the basic theorem of adult learning, with small breakout sessions of “how to be a senior” and provide effective feedback to learners. Both faculty and resident learners in our program expressed interest in including a formal leadership curriculum in residency. However, currently, few established curricula exist within a residency program which integrates leadership and medical education concepts. The ELEVATE (Educational Leadership Experience: a Vision Setting and Teaching Exploration) curriculum is a multimodal curriculum series which provides residents an opportunity to build a foundation of becoming a strong teacher and leader through interactive activities and self-reflection.

**Methods:** The ELEVATE team consists of inpatient and outpatient faculty as well as program leadership who design and create workshops throughout the academic year. Delivered to all post-graduate levels of pediatric and medicine-pediatric residents at our institution, this longitudinal curriculum is delivered on a quarterly basis, with three hour sessions that cover a variety of themes that span concepts in medical education, leadership, and wellness. Through a balance of didactics and workshops, these sessions provide instruction on the foundations of adult learning while integrating self-reflection and skill building. To date, the five sessions delivered have included vision setting, feedback, teaching to different levels of learners, challenges in learning, cultivating wellness and resilience, and understanding self to enhance individual leadership skills.

**Evaluation Plan:** The sessions are integrated into the residency academic year-long curriculum as 3-hour workshops, given quarterly. Educational materials are distributed in individual binders for reference and include skill-stations, faculty panels, and post-session surveys. Post-workshop surveys provide qualitative and quantitative data to assess Level 1 evaluation. Level 2 and 3 evaluation are assessed in the resident group via the use of session “passports” which contain areas for reflection and commitments to act (C2A) using “SMART” goals. The behavior we intend to inspire is increased reflection by readdressing SMART goals and using C2A, which residents revisit and revise as necessary at subsequent ELEVATE session. Program leadership also intend to use residents’ passport entries to assist housestaff in creating their individualized learning plans.

**Potential Impact/Lessons Learned:** ELEVATE curriculum goal is to improve residents’ knowledge of concepts in medical education, application of skills of vision-setting and self-reflection, and motivation towards leadership and life-long learning. The curriculum can potentially be translated to residency curriculum across the nation.

**References:**

1) ACGME Pediatric RRC Requirements.  


Promoting Professional Development through Implementation of a Structured Student Advisory Program
Bethishou, Laressa; Lewis, Jelena; Xavioer, Sharon
Chapman University School of Pharmacy

Idea/Problem Statement: Developing professional identity in health care students through implementation of a faculty driven student advisory program

Rationale/Need: To earn and maintain the trust of patients and the public, health care providers must maintain professionalism both within the workplace and beyond. While it is widely appreciated that professionalism should be taught to health care students, there is no consensus in how to best incorporate within the didactic curriculum. We believe faculty advisors can provide valuable guidance to health care students throughout their academic career to develop their professional identity. We have implemented a structured student success advisory program which implements a series of interventions to guide our students in their personal and professional development.

Methods: During the first trimester of pharmacy school, students are enrolled in a professional development course which introduces concepts of professionalism, goal setting, self-evaluation, and a career pathways workshop. Students will then meet with their faculty advisor at minimum once a trimester over the course of the three years they are pharmacy students at Chapman University. At each meeting, students will be asked to describe and discuss their short and long term personal and professional goals. We utilize SMART goal setting strategies to encourage development of specific, measurable, attainable, relevant, and timely goals. At each meeting, the advisor will guide the student in implementing a plan to meet their goals. This will be done by incorporation of self-reflection and evaluation, career planning, and development of the student e-portfolio. The advisor will also assist the student in identifying co-curricular activities to supplement their longitudinal goals. This may include opportunities for networking, research, community outreach, or personal development.

Evaluation Plan: Evaluation will be conducted with a multi-level approach. Co-curricular activities available to students will be mapped to institution-specific student learning outcomes. This will aid advisors and advisees in identifying gaps in student experiences and selecting activities to promote comprehensive personal and professional development. Additionally, the implementation of SMART goal setting and use of an e-portfolio for each student will allow for advisors to objectively determine that advisees are meeting the pre-determined expectations for each year. To evaluate overall program outcomes, cross-sectional online surveys will be disseminated through Qualtrics, and will assess a variety of parameters such as time invested by both advisors and advisees, satisfaction with program structure, and perception of impact on personal and professional development of students by both advisors and advisees. The program will be evaluated each academic year and results used for quality improvement.

Potential Impact/Lessons Learned: The intended impact is to produce health care providers who demonstrate professionalism, self-awareness, empathy, and innovation both within their professional career and in their personal interactions. We encourage our students to take pride in their profession, their academic institutions, and in

References:
The Professional Development Coach: A Novel Resource for Assisting Struggling Residents
Davila, Jose R. [1]; Baudendistel, Tom [1]; Dandekar, Abhay [1]; Minikel, Laura [1];
Sam, Danny [2]; Azevedo, Theresa [3]; Robinson, Kathleen [3]
All authors are affiliated with Kaiser Permanente Northern California, at the following locations:

Idea/Problem Statement: This project aims to examine the impact of a non-physician Professional Development Coach (PDC) on the remediation of struggling residents.

Rationale/Need: Coaches are commonly utilized to enhance performance among non-physician professionals. For resident physicians, however, remediation is traditionally carried out by clinician mentors who may lack time, resources, or the expertise needed to address the diverse needs of at-risk residents.

Methods: Struggling residents were referred to a PDC by their Program Director (PD) or Clinical Competency Committee (CCC). PDC involvement included baseline interviews with coworkers, comprehensive workplace assessments, and confidential one-on-one meetings with the resident. The PDC was not part of the CCC, and determination of the resident’s status in their program was exclusively the domain of the CCC.

Results: From 2009 to 2015, 19 residents from Internal Medicine (n=12), Pediatrics (n=3), and Obstetrics and Gynecology (n=4) were referred for coaching, representing 9.5% of all residents in these programs. Fifteen (79%) were referred as a stipulation of remediation. Each resident had a mean of 7.6 (SD=2.1) sessions over 6 months. The mean cost-per-resident was $7,600. Residents referred for coaching exhibited an average of 2.9 (SD = 1.3) behaviors of major concern, most commonly in the domains of Interpersonal Communication (56% of residents) and Patient Care (63% of residents) including poor time management, disorganization, and poor clinical judgement. At the conclusion of coaching, 14 of 19 residents (74%) successfully remained in their residency program, and five residents (26%) left their program due to personal/medical reasons (n=2) or due to ongoing performance concerns (n=3). In anonymous post-coaching surveys, PDs reported improved in behaviors in 74% of residents and were satisfied with the result of coaching in 89% of cases. All responding residents were either satisfied or highly satisfied with coaching. Of 11 behaviors, participating residents self-reported interpersonal communication, professionalism, confidence, receiving feedback, and teamwork as the five most favorably impacted by coaching. Conversely, clinical judgement, trustworthiness, time management, and organization were the least impacted.

Potential Impact/Lessons Learned: Our institutional GME experience with partnering a PDC with struggling residents was very positively received by program leadership and residents. The PDC holds promise as an additional resource in the CCC’s toolkit for optimizing the performance of struggling residents.

References:
Preparing Medical Students to Teach: The Role of Peer-peer Feedback
Fausone, Maureen [1]; Fitzgerald, Thomas, PhD [2]; Morgan, Helen, MD [1]

[1] University of Michigan Medical School; [2] University of Michigan Department of Medical Education

Idea/Problem Statement: Residents are expected to educate medical students, however, they receive very little training or feedback about their teaching before residency.

Rationale/Need: There is a gap in medical school curricula for teaching senior medical students how to teach. Peer teaching programs offer a natural opportunity for peer teaching feedback, yet there is currently limited data on the effectiveness of such programs.1 This peer-peer teaching feedback initiative was incorporated into four fourth-year residency preparation courses (RPCs) with the goals of: 1) providing students with actionable feedback on how they can improve their teaching 2) encouraging students to critically analyze effective teaching strategies by giving feedback to their peers and 3) providing an opportunity for students to practice giving quality feedback. Peer evaluations also provide faculty with useful data on the competency of future residents as educators and a starting point from which to measure future growth.

Methods: Fourth-year medical students enrolled in RPCs developed teaching sessions that they could utilize as future resident educators. Each student’s session was evaluated by three peers and one faculty member using a standardized feedback tool. Students were asked to complete a pre- and post- session survey, which used a 4-point Likert scale to evaluate whether they valued, learned from, or intended to change practice based on the feedback component of the session. Pre- and post-survey responses were linked by an anonymous identifier, and were statistically compared using paired t-tests.

Results: Of the 50 total students, 40 students completed the pre- and post- surveys (80% response rate). Students had increased confidence in their ability to teach their colleagues (pre-test=2.67, post-test =3.51, p < .00000), to identify of strengths and weaknesses in their teaching (pre-test=2.66, post-test=3.42, p =.00002), and in their ability to give specific and actionable feedback (pre-test=2.53, post-test=3.28, p=.0001). There was no statistically significant difference in students’ reported enjoyment of teaching before and after the session. Over 97% of respondents agreed or strongly agreed that creating and delivering the teaching session improved their understanding of effective teaching strategies. Greater than 95% of respondents agreed or strongly agreed that receiving feedback made the session more valuable. The same percentage of students also agreed or strongly agreed that they felt confident they could make changes to improve their teaching based on this feedback. Over 95% of responding students agreed or strongly agreed that giving feedback was a valuable part of the experience and greater than 92% of respondents agreed or strongly agreed that giving feedback helped them learn to identify effective and ineffective teaching methods.

Potential Impact/Lessons Learned: Peer feedback on medical student teaching increases students’ confidence in their ability to teach, helps them identify areas for improvement in their teaching, and improves their ability to give meaningful feedback. Peer-feedback can play a useful role in preparing students to become educators.

References:
Professionalism: How do participants describe the why of a case?
Hodgson, Carol S.; Bell, Catherine; Smyth, Penny
University of Alberta, Faculty of Medicine & Dentistry

Idea/Problem Statement: Study participants can vote on whether behavior described in a vignette is professional or not; however, this does not answer the question of why.

Rationale/Need: Context makes it difficult to define professionalism; much of its meaning lies in the choices made by trainees and physicians as part of patient care. This study uses situated learning and social constructivist theories where context and relationships affect how people learn and construct meaning about professionalism. Level of training may affect professionalism views, although one study found pre-clerkship students see professionalism similarly to clerks even with less clinical experience. Learning of professional values is heavily influenced by role modeling, so the level of training within a profession has the potential to cause disparate views on professional behaviors and lead to conflict in sharing professionalism ideals. In addition, to fully reflect the multi-disciplinary nature of modern medicine, we need to gather information on professional values from all members of the clinical workplace. This study examines professionalism views across the health care continuum.

Methods: Our research questions were: Do the terms used in discussing a professionalism case reflect how the participants from different focus groups voted on the case, i.e., if the described behavior was: unprofessional; marginally professional; or professional? What terms are used most frequently in discussing a professionalism case and do they vary by level of learner and profession? This study is part of a larger study in which we conducted 18 homogenous focus groups with 5 different groups: 1st-year medical students; 3rd-year medical students; residents; faculty; and nurses. Participants first voted anonymously using an audience response system (ARS) on all 18 cases to indicate if the behavior was: (1) unprofessional; (2) marginally professional; or (3) professional. No data were revealed until all cases had been voted on. After voting, each case was discussed after the group viewed the voting results for the case. Here only one case is described; a case where the physician doesn't reveal that the patient is a lesbian when ordering fertility tests. A convergent mixed methods design was used for data analysis. Quantitative data analysis was done first using SPSS V24 and then qualitative analyses were done using NVivo11 with further analyses to compare the two. Frequency counts were generated for numerical data and the most common 25 words in the transcripts. Filler words (e.g., just) were not included. Chi-square was used to assess the relationship between ratings and group.

Results: There were 762 participants total (1st-years n=140, but comments recorded for only 3/4 groups). The total number of comments varied by group: 37 comments/n=60 1st-years; 33 comments/n=56 3rd-years; 46 comments/n=72 residents; 89 comments/n=45 faculty; and 75 comments/n=29 nurses. Respondents were split, rating the behavior: 42% unprofessional; 42% marginally professionally; and 17% professional. Residents were most likely (67%) to describe the physician’s behavior as unprofessional; 36% of 1st-years; 39% of 3rd-years; 42% of faculty; and 10% of nurses (chi square=37.9, df=8, p=.00). Nurses were more likely to rate it marginally professional (72%), although they never used the term “marginally professional” in their comments. Faculty were more likely than any group to name the behaviors professional or unprofessional. Faculty were more likely to use a term to indicate that the physician had lied with faculty members using one of these terms 16 times vs. 1st-year medical students who only used a term related to lying 4 times. The most common term used by 1st-years was “physician;” faculty used the term far less frequently. Faculty tended to use first-person terms instead. The term “patient” was the top or second most used word except by nurses who most commonly used “couple.” The word “system” was not in the top 25 words for 1st-years or nurses, but was common for all other groups. The word “advocate” was not in the top 25 words for nurses, but was common for all other groups.

Potential Impact/Lessons Learned: Students with no clinical experience commented less often than faculty or nurses. Comments often did not reflect how participants rated the behavior. Use of the term physician by 1st-years may reflect early stage professional identity formation as faculty were more likely to use the first person.

References:
Student-Driven Development of a Bioethics Enrichment Pathway (BEEP)
Merkulova, Yekaterina; Hessburg, John; Stomel, Zev; Powderly, Kathleen
SUNY Downstate Medical Center

Idea/Problem Statement: A pathway that utilizes personalized, professional reflection and exercises to develop skills to solve ethical problems in a professional setting.

Rationale/Need: The pathway aims to fill a gap in formal bioethics content in our required medical curriculum, which consists of several lectures in the first two years, and two narrative professionalism sessions and two ethics sessions in the clinical years. The creators of the pathway felt that the ability to develop an individualized approach for working out real-life ethical situations was missing in their formal training, and wanted to provide an opportunity for students to gain a more substantive foundation in bioethics. What sets the pathway apart from the existing bioethics education is that the pathway builds in time for personal reflection and professional mentorship from collaborating faculty members and peer mentors, who facilitate classroom and small group sessions. Students will prepare a project that explores a bioethical area of individual interest, and continued engagement in bioethics is encouraged via participation in activities of the Divisions of Medical Ethics and Humanities. The structure that includes faculty and peer mentorship in a small group setting provides for active engagement that is not supported by current lecture format in the required curriculum.

Methods: In collaboration with faculty members and clinical ethicists at our institution, medical and MD/PhD students designed an initiative consisting of a year-long course in year one or two of medical school, followed by periodic workshops and lectures throughout their program. The pilot year included 25 first year and 3 second year students (13% and 1.5% of the class, respectively), at maximum capacity for the pilot year despite greater interest. The first part consisted of 90-minute evening sessions, with dinner courtesy of the ethics department. Each year the course focuses in-depth on a specific topic. The pilot year focused on neuroethics and brain death. Future topics include maternal-fetal and perinatal ethics, health disparities, and genetics and genomics. The first two sessions detailed general concepts in bioethics and the topic of the year in an interactive lecture format, led by formally trained ethicists. The third session was a narrative medicine session led by an experienced facilitator. The remaining sessions consisted of small group discussions led by peer facilitators, where students further explored topics of interest to them as they prepared a project, options for which included a case study, poster or oral presentation, manuscript, or scripted and filmed clinical scenario. The course is student-centered and student-driven to maximize participants’ active engagement.

Evaluation Plan: We have completed the pilot year of this pathway, and are in the process of evaluating the course for the implementation of the second iteration in the fall. 25 of the 28 participants are now in the process of finishing their projects, and are being guided by five student peer mentors, with each mentor assigned to two to three projects. The remaining three participated in the pilot course as second year students, and will complete the requirements during their fourth year. The pathway is a registered, zero-credit enrichment course that includes a formal recognition of participation upon completion. Our goal is to formalize the structure and content of the pathway in the 2017-2018 school year, and begin to gather data regarding participants’ attitudes and knowledge before and after completion of the pathway to help guide the pathway moving forward.

Potential Impact/Lessons Learned: The pathway will fill a gap in bioethics education by providing opportunities for active engagement of students via small group sessions and mentorship. The pathway will also help students develop individualized approaches for working out ethical situations in clinical and research settings.

References:
2) Tom L. Beauchamp and James F. Childress, Principles of Biomedical Ethics. 7th Ed, October 2012.
Engagement Matters
Tangonan, Kevin
Adventist Health, White Memorial Medical Center

Idea/Problem Statement: A structured nurse-patient interaction process “What’s Important to Me” to enhance nursing engagement in an inpatient teaching setting

Rationale/Need: Technology, while often embraced for its contributions in efficiency, often times moves us away from personal interactions (1). This disconnect occasionally results in disengagement and less job satisfaction on the caregiver side, as well as, more frustration and non-compliance on the patient side (2). These sentiments were reflected in our institution’s employee engagement and patient satisfaction scores. Thus, we decided that we needed to build systems to assist our healthcare providers with making connections more quickly for their sake as well as their patients. The focus on this intervention was on our nursing personnel. The “What Matter’s to Me” conversation tool was first developed in Glasgow, Scotland by the Pediatric unit and then used in the geriatric unit (3). After demonstrating its success, the use of the tool was expanded and used system wide (Clyde hospital system). Recently, this tool was showcased at the Institute of Health Improvement (IHI). The use of the tool was associated with a decrease in patient falls and medication errors. Nurses are at the front lines with regards to patient care. By utilizing a structured provider-patient interaction to foster dialogue and introduce a more wholistic approach to patient care, we hope that indirectly nursing engagement increases as well.

Methods: This intervention will be focused on 30 inpatient nurses in a teaching unit within an urban hospital serving a primarily Hispanic population. A baseline survey will be conducted to measure Nursing Engagement using a standardized set of questions with responses graded with a value of 1 (Not at all) through 5 (All the time). The next step is to coach the Nursing staff on the implementation of the “What Matters to Me” worksheet that will initially be utilized for all patients in the identified unit. The goal of this study will be to conduct a time series study, administering questionnaires every six months to gauge the intervention’s effect on Nursing engagement over the course of a year.

Evaluation Plan: This study hinges on the implementation of a worksheet that creates the opportunity for a standardized interaction between provider and patient. While providers will not necessarily be learning a new skill, it is the hope of those involved in the study that this interaction will positively impact the quality of patient care. “What Matters to Me” is a low-cost intervention that could easily be implemented hospital-wide. The intervention takes minimal training and will hopefully be utilized by not just Nursing, but amongst the entirety of the hospital staff. Use of this worksheet represents a shift in culture within health care towards a more personal interaction. The Gallop engagement scores for this unit will be compared pre and post, as well as to all other units (controls) to see if there is a significant differences.

Potential Impact/Lessons Learned: Eventually, “What Matters to Me” will be rolled out amongst all the nursing floors. The long-term goal is to see improved patient satisfaction scores and Gallop employee engagement scores on the units that are participating. Other hospitals could adopt the tool and our training model.

References:
2) Studer, Quint. “Results that last.” Measurement 101 (2008):89-104
Don’t Drop the Baton – How to Improve Patient Handoff between the Emergency Room and Critical Care

Combs, Meri
Hendrick Medical Center

Idea/Problem Statement: An interactive curriculum to enhance communication, teamwork and utilization of a standardized handoff between Emergency Room and Critical Care nurses

Rationale/Need: The transfer of patients from one department to another has been identified as a high-risk point in patient care (2). In the acute care setting, communication failures lead to increases in patient harm, length of stay, and resource usage – they also lead to staff dissatisfaction and higher turnover (1). Poor communication also increases frustration and poor time utilization of the receiving nurse when handoff report is inconsistent or incomplete. Adequate communication and exchange of information are considered crucial to safe health care delivery, in that up to two-thirds of adverse events in hospitals are related to miscommunication (3). In our facility, Critical Care nurses have asked for a standardized patient handoff format to be developed, implemented, and utilized in collaboration with Emergency Room nurses. SBAR (Situation, Background, Assessment, and Recommendation) is a familiar tool to most nurses, and can be used to create a consistent format for information to be sent, and creates an expectation for information to be received (3). Standardizing communication is essential for developing teamwork among departments that fosters a culture of patient safety and quality outcomes. The proposed intervention will provide training to utilize SBAR to facilitate safe and effective patient handoffs between the two departments.

Methods: The proposed curriculum is designed to introduce the concept of a standardized patient handoff, bringing together the prior knowledge of both Emergency Room (ER) and Critical Care (CC) nurses (n=160). The curriculum’s goal is to improve communication and build teamwork and will be repeated 10 times (n=16 each). The initial group of 16, all senior nurses, will pilot the workshop and help develop the standardized tool that will be taught throughout the other nine sessions. Across six months each nurse will attend one 4-hour session that will begin with review of an actual case where poor handoff resulted in an adverse patient event. After a brief introduction to SBAR, participants will then be paired together to form 8 teams. Each team will brainstorm individually to discuss barriers to effective handoffs and then reform to share ideas with the group, providing an opportunity to share perspectives form both ends of the handoff (ER and CC). The workshop will then move to the practice phase where each team will practice three separate handovers with varied levels of complexity and challenge. Everyone will have the opportunity to be an observer/feedback provider. Brief training on use of observation forms will be provided in a 5-minute demo prior to the start of round one. The team with the least amount of “baton drops” (missed steps in the process) will win a $25 gift card for each member. The final hour will be used to debrief and plan for smooth implementation of this process.

Evaluation Plan: The program evaluation will include measures of accountability, learner reaction, learning, and learner on the job behavior. For accountability, we will track attendance to ensure full participation. Learner reaction will be measured via a post-implementation survey that assesses staff satisfaction with the new process, including their perception of how communication and teamwork among departments has improved with education. Individual learning will be measured with a post-test that covers key learning concepts regarding SBAR presented in class, as well as a class evaluation to elicit learner feedback on the course. Behavior will be measured by tracking the implementation of the SBAR format of patient handoff through chart review to assess documentation and compliance with using the tool consistently. This may also be achieved by working with the Risk Management department to evaluate the number of patient events that occurred before and after the standardization of handoff.

Potential Impact/Lessons Learned: Successful implementation of a standardized patient handoff format used between the Emergency Room and Critical Care utilizing SBAR can be rolled out house-wide to be utilized at every level of patient handoff. The workshop model could also be adopted by other health systems.

References:
Health Systems Science in Community Oriented Primary Care (COPC)
Navarro, Isaac; Ruddy, Meaghan
The Wright Center for GME

Idea/Problem Statement: An existing COPC-based family medicine residency made more robust by the explicit, intentional addition of modules in health systems science (HSS).

Rationale/Need: With the current continuous and rapidly changing environment of health care delivery and finance, medical learners need to be equipped with a knowledge and skill set that will prepare them to be leaders in this growth. The health systems science enhancement to the extant Community Oriented Primary Care (COPC) rotation of our National Family Medicine Residency program focuses on interprofessional care delivery, health system analytics, and health systems finance. Given that residents are learning in a community health center (CHC) environment, the health systems science curriculum focuses the role of community health physicians in the overall health system and aims to strengthen each learner's ability to be a physician leader.

Methods: Modules specific to HSS operationalization in CHCs have been added to the extant month-long COPC rotations, three of which occur each training year for a spiraled, longitudinal COPC experience. The HSS enhanced modules include a didactic component as well as a case review that can be done via a virtual CHC software or via facilitated powerpoint. These modules will be included during regularly scheduled COPC conferences and facilitated by the Director of COPC. The modules include suggestions for how to put the content into practical use throughout the longitudinal COPC experience which includes 6 PDSAs per training year as well as a three-year COPC specific project.

Evaluation Plan: Rotation: Milestone-mapped HSS questions added to the extant COPC rotation evaluation, implemented this academic year for interns only. This new evaluation has comment boxes for faculty feedback on their value in the clinical learning environment. The evaluation and iterations pertinent to second and third year resident work will be spiraled up with this 2017-18 intern class allowing for a gradual, coherent rollout. PDSAs: The Wright Center for GME uses a proprietary PDSA tracking tool for evaluation of all PDSA activity. COPC Project: Evaluated by the Director of COPC and site-level COPC faculty leads in phases including a community needs assessment and longitudinal PDSA. Modules and cases: Intern residents will be given existing medical school CHC-based HSS cases to review and provide feedback on making the cases more robust for resident-level engagement. As the curriculum spirals, the cases will be used in teaching sessions with correlate metrics used to assess progress.

Potential Impact/Lessons Learned: Alignment of COPC-based residency work with practice management and related needs of the community health centers in which these residents are based.

References:
A Needs Assessment to Reduce Childhood Obesity and Increase Compliance with Recommended Management
Gomez, Ulysses
Adventist Health, White Memorial Family Medicine Residency

Idea/Problem Statement: Reduce childhood obesity by increasing Family Medicine residents’ adherence to AAP guidelines for the clinical management of pediatric obesity.

Rationale/Need: Since the 1970’s childhood obesity has more than tripled in the United States. According to the CDC, the national prevalence of childhood obesity is 17%. In the County of Los Angeles Health, the overall prevalence of childhood obesity is 23%. Within the county of Los Angeles, prevalence rates differ with the East Los Angeles region at 32.9%, and the Boyle Heights area at 26.4% (1) Obese children are more likely to become obese adults who will suffer metabolic syndrome, increasing their risk for diabetes, stroke and heart disease. Obese children are more likely to manifest disease sequelae earlier than their adult-onset obesity counterparts. And, obese children are more likely to suffer obesity-related comorbidities, such as, OSA, NAFLD with progression to cirrhosis, GERD, cholelithiasis, diabetes, HTN, HLD, CAD, PCOS, SCFE, and also anxiety and depressive disorders due to issues of body image and/or being victims of bullying (2). The clinical management of childhood obesity is complex. Studies suggest physicians are not comfortable, do not feel sufficiently skilled with managing childhood obesity, and believe there is a lack of referral resources (nutritionist and parent educators) for its management. For example, in a study of 356 pediatricians only 12% reported high self-efficacy in managing obesity, despite 39% believed that clinical interventions would be effective (3).

Methods: In 2015, the American Academy of Pediatrics (AAP) released an algorithm for the assessment and management of childhood obesity based on the 2007 Expert Committee Recommendations. Preliminary data suggests that the Family Medicine residents at Family Care Specialists Suite 230 in Boyle Heights do not follow aforementioned childhood obesity guidelines. Select cases show that some children have the diagnosis of obesity delayed up to 2 to 3 years, which results in loss of valuable time for intervention. This delay in diagnosis is sometimes supported by the thought that the child will "grow out of it", however, studies show that obese children are more likely to be obese adults and suffer from the associated co-morbidities. I intend to survey current Family Medicine residents about their attitudes in regard to childhood obesity. I will assess their current perspective as to how well they believe childhood obesity is managed, and also evaluate their knowledge about appropriate management and intervention. I will then present current statistics to reveal current practice statistics and then teach about the AAP recommendations. A second survey will be performed after the lecture series to see how much is learned.

Evaluation Plan: The survey will evaluate the Family Medicine residents’ attitudes about childhood obesity, evaluate their knowledge in regard to appropriate management and intervention, as well as assess their self-perceived adherence to the American Academy of Pediatrics guidelines before and after the intervention. If data collections permits, I intend to compare the perceived practice habits versus actual practice patterns.

Potential Impact/Lessons Learned: Childhood obesity in Boyle Heights is rampant and it is essential for it to be addressed in light of the accelerated morbidity that occurs in children in comparison to their adult counterparts. As such, clinicians must first be made aware of the issue so that the practice guidelines are followed.

References:
Evaluation of Adherence to Guidelines for Pediatric Acute Asthma Management by ED Setting
Reed, Jennifer
Adventist Health, White Memorial Medical Center

Idea/Problem Statement: Assess the adherence to current evidence based guidelines in a community hospital setting.

Rationale/Need: The United States EDs have shown great variability in asthma care. There exists current evidence based guidelines with regards to specific medications given and specific doses and within a specific timeline. Poor adherence to the NIH Guidelines may result in unnecessary admissions for children presenting to the ED with exacerbations, and increased return to ED visits. Evaluation of current practices in a community hospital is needed to evaluate areas of potential improvement. Our study will address this challenge by assessing current practices at the WMMC ED, identify most pivotal areas for improvement and evaluate possible barriers to implementation of a pediatric asthma pathway. Based on the results of this study, we plan to implement a pediatric asthma pathway in our emergency department. Improvement in asthma management in the ED has potential to decrease length of stay in the ED, unnecessary admissions, and return to ED/re admission rates.

Methods: Retrospective audit of Emergency Department practices inclusion criteria; 2-18yo, diagnosed with wheezing or acute asthma exacerbation. Exclusion criteria; chronic pulmonary conditions other than asthma Evaluate appropriateness of albuterol and steroid dosing. Evaluate time to initial assessment, interval assessment, and time to medication administration. Compare this data with current NIH guidelines to evaluate areas of adherence and non adherence.

Evaluation Plan: Using data of the appropriateness of albuterol and steroid dosing, time to assessment and re evaluation, and time to administration, I can do the following; Compare this data with current NIH guidelines to evaluate areas of adherence and non adherence Identify areas for potential improvement and propose a treatment pathway respecting current treatment evidence based guidelines.

Potential Impact/Lessons Learned: Improved management of acute exacerbation asthma management to decrease length of stay in the ED, unnecessary admissions, and re ED visits/admissions.

References:
1) Pearson WS, Goates SA, Harrykissoon SD, Miller SA. State-Based Medicaid Costs for Pediatric Asthma Emergency Department Visits. Prev Chronic Dis 2014;11:140139. DOI: http://dx.doi.org/10.5888/pcd11.140139
Use of Lean Six Sigma (LSS) to Prepare Family Medicine Residents for Practice in the 21st Century
Norton, Tracey Lee, DO, FAAFP; Choctaw, William, MD; La Scala, Nena; Ronquillo, Denise V.
Citrus Valley Health Partners Family Medicine Residency Program

Idea/Problem Statement: LSS Certification of family medicine residents to prepare them for success in an evolving health care system

Rationale/Need: It has been close to two decades since the Institute of Medicine published results of projects evaluating the quality of healthcare in the United States. Serious risks to patient safety, variability in the quality of care, and widespread healthcare disparities were now codified (Kohn et al). In the past decade, the Next Accreditation System (NAS) came on line followed by the Clinical Learning Environment Review (CLER) Program. CLER is a component of NAS that provides feedback to sponsoring institutions in six areas: patient safety; health care quality; care transitions; supervision; duty hours and fatigue management and mitigation; and professionalism. The CLER program promotes institutional integration of residents in activities seeking to improve quality of care and patient safety. Although programs across the country have been working to implement quality improvement/patient safety (QI/PS) initiatives it has been a struggle. In 2015 Wong reported in his review of literature that in many programs faculty are unable to role model properly, and instances of significant variation in resident patient safety practices are common. The proposed project will be a 3-year project that meets all of the recommendations made by Windish and colleagues for successful QI/PS curricula including hospital culture, trained faculty, structured curricula and learner buy in. This initial one-year element focuses on first year residents and the Lean portion of their LSS learning.

Methods: The project began in July 2017 and will engage 10 residents each year in a new family medicine residency program. The initial curriculum includes 4 hours of classroom work led by Certified LSS Black Belts, process experts that focus on the principles, strategies, tools and methods that diminish waste and improve value. The project phase follows, with 5 resident pairs working with the experts to identify an issue and select a project. Projects implemented in September are completed in 6 months. A key element of the curriculum is the culture in which it is being delivered: LSS certified program director and core faculty in a hospital system and federally qualified health center dedicated to use of LSS as foundational elements of the culture. The goal for year one of the curriculum is for all family medicine residents to 1) build a mindset of continuous quality improvement and 2) to utilize the principles and methods of lean to develop and complete a lean project, a multi-step effort to identify waste, develop a "solution", implement the solution, assess results, and report findings. In March of year 2 residents begin Six Sigma training. PE will immerse residents in 6 multidisciplinary teams of CVHP employees. Teams complete projects addressing real opportunities for improvement in quality and patient safety at CVHP. Lean looks at waste; Six Sigma addresses process defects. Improvements must be statistically significant to qualify for Green Belt level certification in LSS.

Evaluation Plan: A systematic evaluation of the LSS curriculum will be ongoing and demonstrate curricular cycles of improvement and redesign. Success and/or impact will be evaluated by surveying the residents, their team members, faculty and the Process Excellence team, also by examining the Lean and Green Belt projects: design, improvements, and sustainability. Residents will evaluate the curriculum and complete a survey that includes self-assessment of baseline knowledge, improvement knowledge, application, utility, perceived competence, learning styles, and satisfaction with the curriculum. Looking forward, assuming residents report growth in their improvement knowledge and skills through LSS training during residency, it will be important to see if the gains are sustained beyond graduation and upon establishing clinical practices. We will survey the presence, design, and outcomes of graduates’ improvement projects at intervals beyond residency completion to assess the ongoing impact.

Potential Impact/Lessons Learned: A unique feature of this project is the integration of residents into a sponsoring institution’s commitment to cultural change. At CVHP, system wide participation in LSS with faculty and residents training in interdisciplinary teams creates immersion and promotes personal investment in improvement.

References:
Improving the Management of Adults with HTN in Clinic
Himeles, Darren
Adventist Health, White Memorial Medical Center

Idea/Problem Statement: To increase resident awareness of best practices in hypertension management and increase resident confidence in managing hypertension in clinic.

Rationale/Need: Hypertension is one of the most common reasons for a clinic visit for non-pregnant adults and is the most common indication for prescription medication. Although hypertension is common, proper management can be a daunting task since it entails many important lifestyle interventions, many classes of medicines, and different blood pressure goals depending on the patient’s age and comorbidities. Management is further complicated by the fact that there are many major medical organizations that offer different guidelines for the management of hypertension and these guidelines have changed significantly over the years. There is a need for significant improvement in the ability of residents to manage adult hypertension in clinic and that is the need that this project is aimed to fulfill.

Methods: All family medicine residents at White Memorial Medical Center shall take a hypertension management survey which will assess each resident’s knowledge of and confidence in implementing hypertension best practices. The intervention will consist of two things: 1) A PowerPoint presentation teaching the residents about proper hypertension management. 2) A hypertension management worksheet which will be available to residents to use during clinic. This intervention will last for 6 months. At the end of the intervention, the residents will take a similar survey to measure how their knowledge and confidence in hypertension management have increased over the course of the intervention.

Evaluation Plan: The pre-intervention survey and post-intervention survey will be used to measure how resident knowledge and confidence in hypertension management have changed over the course of the intervention. My goal is to achieve at least a 20% increase in resident scores on the surveys.

Potential Impact/Lessons Learned: Implementation of this project will increase WMMC FM residents’ awareness of best practices in HTN management and increase resident confidence in managing HTN in clinic. Similar projects could then be implemented at other FM residencies leading to wide-spread improvement in care of HTN in clinic.

References:
A Novel Approach to Increase Housestaff Incident Reporting
Ferozali, Fozia; McGaughey, Betsy
Cedars-Sinai Medical Center

Idea/Problem Statement: Housestaff will increase incident reporting after receiving an instructional guide for accessing the online form as well as an incentive for reporting.

Rationale/Need: The Accreditation Council for Graduate Medical Education's (ACGME) Clinical Learning Environment Review (CLER) Program found that nationally most residents and fellows are aware of the process for reporting safety events, but seldom use it. The goal of this educational initiative was to assure that residents and fellows were familiar with the current reporting process and to mitigate barriers to reporting by residents. Instructional guides for filing patient safety incident reports were created and disseminated to all housestaff in the context of a limited incentive period. “Education and training programs for adults are conducted for five primary purposes, one of which is to assist organizations in achieving desired results and adapting to change.”

Methods: A task force was established in 2016 to address the CLER visit findings. A literature search was conducted with respect to increased resident reporting of safety events. The approach agreed upon involved creating an educational instruction guide for reporting as well as a temporary incentive to allow residents to (a) become familiar with the reporting system and (b) gain a better understanding of the types of events that should be reported. While novel, this approach is consistent with the findings of a 2011 study by Scott et al., which found that offering an incentive led to an increase in resident-reported adverse events. The task force at Cedars-Sinai implemented an incentive program for the last quarter of 2016. The incentive was designed such that any housestaff member who entered at least one incident report during the quarter received a gift voucher. An educational guide was created with instructions specific to how to enter an incident report and the types of events that should be reported. This was attached to a broadcast e-mail to all housestaff. All entries were processed by the Graduate Medical Education (GME) office for the gift voucher. The GME and Medical Education staff reviewed the resident entries.

Evaluation Plan: Resource and Outcomes Management provided a weekly report of resident-entered incident reports. Prior to the incentive project, there were approximately 9 incident reports filed per year by housestaff. The number of incident reports filed during the incentive period appears as follows: 17 for October 2016; 18 for November 2016; 56 for December 2016. The types of issues reported included the following categories: Medication, Discharge, Delay in Care, Device/Equipment Issues, Policy/Process, Handoff, Communication. These incident reports contributed to the overall safety program and provided critical insights for process improvement initiatives.

Potential Impact/Lessons Learned: The number of housestaff-filed incident reports increased after implementation of an educational guide to incident reporting as well as a limited incentive.

References:
Identifying Barriers and Solutions to Improve Medication Adherence
For Latino Underserved Diabetics
Sala, Feliz; Banuelos, Emilio; Mota, Andrea; Perdomo, Jennifer; Solorzano, Walter;
Solis, Joel; Hochman, Michael; Reilly, Jo Marie
University of Southern California

Idea/Problem Statement: There remain poorly understood obstacles to adequate medication adherence within Latino patients who are managing diabetes.

Rationale/Need: According to the CDC, Diabetes is a leading cause of death in the Latino/Hispanic population of the United States. The American Diabetes Association (ADA), states that appropriate self-management and medication adherence is a key factor in successful disease management of patients with diabetes. Within the Latino population living with diabetes, there remains little understanding of the obstacles to successful self-management behaviors including medication adherence. These persistent obstacles are associated with increased mortality, healthcare costs and complications of diabetes.

Methods: Our study population includes individuals who are over the age of 18, identify as Latino/Hispanic/Chicano, and have been diagnosed with type 1 or type 2 diabetes for at-least six months prior to the beginning of the study. Participants will also need to be prescribed some form of medication for the management of their disease and receive care from one of four clinics in Los Angeles county which include Family Care Specialists Medical Group, Clinica Romero-Marengo, Universal Community Health Center, and Eisner Health. At each site, investigators administer a one-time, in-person survey that will aid to elucidate the patient’s subjective opinions about the challenges they face in adhering to medications prescribed for glycemic control. The investigator coordinates with their respective physician and medical assistant to identify which patients the investigator approaches. Glycemic control will also be analyzed. Proper glycemic control will be characterized as a hemoglobin A1c level of less than 7.4% and poor glycemic control as a hemoglobin A1c level of greater than 7.5% based on the ADA guidelines. After obtaining proper written informed consent and HIPAA authorization, the survey will be administered to the participants in a private area. Upon completion of the survey, they will receive a $10 visa gift card. Individuals who cannot make legal decisions on their own or are pregnant are excluded from the study.

Results: Preliminary findings through an independent t-test across HbA1c comparing controlled versus uncontrolled groups show a statistically significant difference in responses (p=0.046) between the following intervention: Weekly conversation with a personal health coach to gain better control of your diabetes. Where patients whose A1c is uncontrolled demonstrate a preference for this intervention over patients whose A1c is controlled. Our goal is to finalize a thorough analysis of our data to gather more insights into potential interventions that could be applied with our patient population. We hypothesize that our results will be generalizable across the spectrum of urban, underserved cities within the United States who share similar Latino/Hispanic populations as ours among them. Within the local community, we aim to use the expected results to create interventions that will effectively address these barriers. If factors that influence medication adherence vary significantly from one site to another, multiple interventions will be developed to accommodate the needs of the respective sites.

Potential Impact/Lessons Learned: To learn how factors such as socioeconomic status, education level and insurance status influences the perceived barriers to medication adherence among Latino, underserved adult patients and whether their self-identified interventions result in positive diabetes management outcomes.

References:
1) Dr. Jo Marie Reilly
2) Dr. Michael Hochman
3) Dr. Carmel Kadrnka
**Diabetes Management Education Effects on Hispanic Patient Outcomes**

Nieto-Rodriguez, Angelina [1]; Gonzalez, Cesar [1]; Zaks, Camilo, MD [2]; Zamudio, Anthony, PhD [2]; Reilly, Jo Marie, MD [2]


**Idea/Problem Statement:** Improve diabetes health management in patients from underserved neighborhood.

**Rationale/Need:** A problem among the diabetic Latino population is that of health literacy. Many individuals face a language barrier and do not have access to adequate diabetes management information. Many diabetic patients are not able to manage their diabetes outside of the hospital setting because of a lack of understanding of the lifestyle change necessary for diabetic patients. By implementing diabetic management group appointments diabetic patients will learn adequate skills to manage their diet and incorporate healthy exercises into their schedule. The knowledge gained through the diabetic management curriculum will help patients manage diabetes and improve blood glucose and HbA1c levels.

**Methods:** Intervention focused on patients with hemoglobin A1C of equal to or greater than 7.0 with Spanish as their primary language. A program was developed to improve diabetes health management in Spanish speaking patients attending the Eisner Family Medical Center in Downtown Los Angeles. This was facilitated through a series of twelve classes over the six-month period. Six of the twelve classes focused on diabetic education, including basic physiology of diabetes, portion control and exercise regimen. The other six classes addressed wellness, stress and focused on how to cope with chronic illness. Classes were held by Family Medicine physicians from the clinic, two medical students and two medical assistants. The week before a class, patients were called to remind them that the class would be held the Friday of that week. Classes were held on every other Friday from 2:00 PM - 4:00 PM for 6 months. At every class, the patients would get vital signs taken, including blood pressure, weight, and blood glucose level, and the values were charted. During the sessions, each patient would have a 15-minute meeting with their perspective primary care provider. After each patient met with the physician to discuss progress on diabetes health maintenance, the medical students would present the lesson they prepared with Dr. Reilly, Dr. Zaks, and Dr. Zamudio for an hour. The last 15 minutes were reserved for the patients to bring up any topics that required discussion in greater depth.

**Results:** Twelve patients total were enrolled in the classes. There was an average of three to four patients per session with the least being one patient and the highest attendance being six. One patient attended all but one class and some patients brought family members (daughter and granddaughter) to sessions to include them in their own diabetes management. A feedback session was provided for patients to express obstacles they faced in attending the classes. Obstacles in attending sessions included transportation issues, getting time off work, and family responsibilities. Similarly, in a study, Careyva et al found that up to 40.48% of patient reported not being able to attend class because of “work and/or other responsibilities.”1 Family responsibilities explained in evaluations included taking care of children and others in the immediate or extended family. This coincided with the patient’s preference to conduct group visits in the evening.

**Potential Impact/Lessons Learned:** Through this series of group diabetes didactic sessions, obstacles of implementing diabetes management education were elucidated for use in formatting of future programs.

**References:**

First year resident performance of enhanced contact precautions eight months after hands-on training
Dixon, Lisa R., MD; Meyer, Lynne, PhD, MPH; Stalvey, Carolyn, MD
University of Florida College of Medicine, Gainesville, FL

Idea/Problem Statement: Most incoming interns report prior training in contact precautions, however the majority were unable to adequately do so under direct observation.

Rationale/Need: Clostridium difficile is a toxin-producing pathogen classically associated with antibiotic-associated colitis. Dramatic increases in the incidence and severity of healthcare-associated C. difficile infection have occurred since 2000 (1); and the incidence of community-associated C. difficile infection appears to be increasing (2). Management of patients with suspected infection must include infection control policies. Our institution, like many others, requires enhanced contact precautions when dealing with these patients, and there are specifically regimented procedures for donning gowns and gloves as well as de-gowning. Despite widespread knowledge that consistent adherence to contact precautions is a cornerstone to prevention, studies continue to demonstrate poor compliance (3).

Methods: At our institution, all incoming first year residents participate in an initial Observed Structured Clinical Examination (OSCE) during orientation as well as an end-of-PGY1-year OSCE. In June 2016, 151 incoming residents participated in a station to evaluate their ability to properly put on and take off gown and gloves in a scenario requiring enhanced contact precautions. A trained evaluator using an 18-point checklist developed by our institution’s infection control team and OSCE committee graded each intern. If a resident did not appropriately perform any item, they were recorded as having failed the station. Residents also completed a survey prior to the station detailing what (if any) prior training in enhanced contact precautions methods they had received. At the end of the half-day OSCE, each intern participated in a workshop with infection control staff to teach proper technique. Each intern received a copy of their results, and a video created by our institution’s infection control team was shown detailing proper technique. Afterwards, all interns rehearsed proper gowning and gloving procedures with immediate feedback. The OSCE Director reinforced the proper technique and common errors during presentations given to each program 2 months later. During this presentation, each intern was again given their individual results from the initial assessment. Approximately 8 months later, 146 of these same residents were retested using the same checklist and standards.

Results: Of the 151 residents who were assessed in June 2016 (prior to beginning their residency), 67% reported that they had received prior training on how to appropriately put on and take off gown and gloves, and 73% of these reported that they were taught by observation of others. During this first assessment, 99% of the interns failed to properly put on or take off gown and gloves. After hands on post-OSCE workshop, the OSCE director’s presentation, and 8 months of internship, the interns were retested in early spring 2017. Their performance improved, and the failure rate dropped to 75% (statistically significant). It should also be noted that many of the individual items on the checklist showed statistical improvement.

Potential Impact/Lessons Learned: Directed, hands-on training after demonstration of deficiencies led to a statistically significant improvement in the resident’s performance of gowning and gloving, even many months after training took place.

References:
A Stepwise Approach to Increasing Scholarly Activity During Residency
Sigman, Lauren; Tabatabai, Ramin
LAC+USC Medical Center, Department of Emergency Medicine

Idea/Problem Statement: A stepwise, clearly delineated pathway for residents to meet the ACGME requirements for scholarly activity during residency.

Rationale/Need: The American College of Graduate Medical Education (ACGME) requires that emergency medicine (EM) residency programs “must advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.” To this end, the guidelines state that “residents should participate in scholarly activity” during their time in residency and should be supported by the program in doing so.” Although no published literature discussing barriers to meeting this “scholarly activity requirement” have been identified, local focus group data at a large academic EM residency program show many residents experience difficulty in achieving this requirement. Additionally, in recent years, the number of scholarly projects completed by residents at this EM residency has been steadily declining. Based on focus group data, barriers to completing the scholarly project requirement are activation energy and a knowledge gap on how to create high-quality scholarly work. We aim to increase the ease and efficiency of completing the ACGME scholarly activity requirement, and to help residents go beyond this requirement to contribute to the EM literature. In doing so, residents would also be enhancing their personal curriculum vitae and are thereby improving their qualification for future jobs.

Methods: Our methods are to create an easy pathway for residents to turn one well-researched case or topic into multiple deliverable academic products. A how-to guide with detailed instructions on how to create each deliverable will be provided to residents to help overcome activation energy and knowledge barriers. One example of this approach is how to utilize a case presentation toward developing scholarly deliverables. Residents will start with a case-based blog post published on the local program website, reviewed for quality by faculty from the program. This is a less time-consuming and intimidating first step than a national publication. Residents can then easily use the groundwork from this project to create a lecture to be delivered at Grand Rounds. Advancement to this step qualifies residents for consideration to participate in a discussion of their case on a national EM Podcast, which has over 20,000 subscribers, in which faculty at this institution are involved. Their case can then also be converted into abstracts and case reports to submit to conferences and journals. Each step increases the resident’s visibility, from the local program level to a national level. Additionally, each step adds a deliverable academic product to their CV with minimal work required to convert one step to the next. This project has the added benefit of increasing resident participation in Grand Rounds, and of providing high-quality blog-posts and publications for the local residency website.

Evaluation Plan: We will evaluate the success of our project by monitoring the number of scholarly activities completed by each resident yearly, which is information already tracked by residency administration. We will also collect quantitative and qualitative survey data from residents on the ease of completing scholarly projects before and after the implementation of our project.

Potential Impact/Lessons Learned: Residents will be able to complete the scholarly activity requirement more easily during residency. They will also graduate residency with more confidence in their ability to participate in scholarly projects and will have an impressive list of academic products to help them secure future jobs.

References:
Increasing Interest among Residents in Medical Education.  
An Informal Approach to Making Change  
Messman, Anne; Olsen, Erik; Pearson, Claire  
Wayne State University School of Medicine

Idea/Problem Statement: Residency leadership must keep up with changes in medical education. Residents are often the impetus to this change, so let's engage them.

Rationale/Need: Many institutions do not have a formal support system in place for medical education research, even institutions with robust clinical research. In addition to a lack of adequate support, medical educators may find it difficult to perform medical education research because they are often limited to the size of their particular residency program. It is with these challenges in mind that the (City Name Blinded) Medical Education Research Group (XMERG) was formed. There are four emergency medicine residencies in close proximity in (City Name Blinded) and XMERG sought to combine the efforts of the medical educators at these four institutions to perform joint research collaborations. Meetings are open to all faculty and residents, so residents can share ideas and create medical education research projects with the potential to use all four residency programs in their studies, a sample size of roughly 150 residents.

Methods: Our group was established by emailing academic and administrative leaders in each of the four residency programs to discern which faculty members were interested in participating in a collaborative group. We then created a drop box where articles are posted as well as an area to post ideas and possible projects. In addition to email, we also use a messaging application called “Slack ©” so that we can quickly and easily communicate with one another. With Slack, text messages can be sent to all members of XMERG or separate “channels” can be created for targeted individuals to receive the message. This allows sub-teams within XMERG to form and communicate quickly. The “general” channels, which all members are a part of, allow for brainstorming and development of ideas. This brainstorming can include posting images, PDF’s, documents or links to websites or Google drive or Dropbox. These functions are all in sync and searchable. Furthermore, the Slack application allows for face to face calls to be made to individuals or to groups. There is both a mobile application and a desktop application. We currently meet every other month to share ideas and create research projects. At the XMERG meetings, residents learn about opportunities to become involved in medical education projects at their own program, and can see what projects are ongoing and brainstorm ideas for new projects.

Evaluation Plan: A common problem among medical educators is they may excel at teaching but lack scholarly activity, particularly research. By encouraging residents to participate in curriculum changes, residency leadership and faculty interested in medical education can collaborate to advance their scholarship. One example is a third-year resident working with his associate program director, who was going to implement a change to the reading curriculum at his residency program. The two collaborated to create a pre/post-survey assessing the curriculum change both in satisfaction of participants and if the residents were spending more time reading with the change. The resident has presented this project at 4 medical conferences, including 2 national conferences, and a manuscript is pending review. XMERG has found that residents are interested in medical education and, given an avenue to explore this field, have conducted successful research and have gained knowledge in medical education research.

Potential Impact/Lessons Learned: The impact of XMERG is noticeable in the initial months of its existence, with participation in meetings, new ideas, active projects, and the first new accepted abstracts. By soliciting involvement from residents and providing a structure for faculty to collaborate, people have answered the call.

References:
Summer Studentships: Who with, How many, and When?
Vohra, Mohit; Birkman, Clair; Hodgson, Carol S
University of Alberta, Faculty of Medicine & Dentistry

Idea/Problem Statement: There is a shortage of physician scientists to meet the needs for biomedical research. Do summer studentships increase students’ interest in research?

Rationale/Need: The University of Alberta, Faculty of Medicine & Dentistry (FoMD) has one of the largest and longest running summer studentship programs in Canada. This year marks the program’s 50th anniversary. Approximately 180 students each year complete a summer studentship. The cost to run the program is substantial, with costs for 2015 approximately $1,002,400 for 181 studentships. There is a shortage of physician scientists in North America and the problem is likely to worsen over time. (1,2) Little is known about summer studentships, why students complete them, what level of student (e.g., undergraduate vs. medical student) is most likely to participate and, most importantly, why students participate. As a preliminary step, we conducted a descriptive study to determine the number of students participating over 5 years of the program, percentage that were medical students, and how often student worked with the same supervisor.

Methods: In our study we first want to describe our sample by answering the following research questions: (1) who has completed summer studentships in the FoMD over the past five years; (2) what types of students (e.g., undergraduate vs. medical) complete them; (3) how many studentships do students complete over the study period; and (4) do students complete multiple studentships with the same supervisor? Our sample consists of all students completing a FoMD summer studentship who presented at the annual Research Office Summer Studentship Research Day (2012-2016). Information on student names, supervisors, project titles, and year of participation are all publically available based on published Research Day programs. The email addresses of students and supervisors were obtained by searching the publically available University of Alberta (UA) online directory, as well as Google searches. The UA website was searched for all science and engineering undergraduate and professional school convocations to extract lists of graduates from each educational program to determine the type of student. Descriptive statistics were generated using SPSS V24 for: number of participants/year, type of student; number of years participating/student; total number of different supervisors and their departments; average number of students/supervisor; and average number of supervisors/student. All data were publically available and therefore the study did not require ethics approval.

Results: The final studentship database included 739 students, of which 197 were medical students (27%). The number of studentships varied by year: n=199 (2012); n=168 (2013); n=185 (2014); n=179 (2015); and n=183 (2016). Studentships offered through the Research Office were for four months. Students’ monthly stipends increased each year so that the mean cost for the program was: $948,880/year with a maximum of $1,098,000 in 2016. The number of studentships varied; most students completed only one (80%), but 124 students completed two (17%), 19 completed three (3%), 3 completed four (.4%), and 1 completed five studentships over the study period (2012-2016). Students who completed more than one studentship were likely to have the same supervisor over multiple years. For example, of those who completed two studentships, 56% had the same supervisor both years. One of the students who completed four studentships had the same supervisor all four years, and the one student who completed five studentships had the same supervisor three of the years. There was variability in participation by medical students over the years: in 2012 n=41 (21%); 2013 n=64 (38%); 2014 n=80 (43%); 2015 n=51 (28%); and 2016 (28%). There were 445 different faculty members as primary supervisor. Of those, most (56%) were a supervisor only once; however, 22% did two, 10% did three, and 4% did four. There was one faculty member who had 12 summer students during the five years of the study.

Potential Impact/Lessons Learned: It is unknown if studentships increase research interest. We found many students work with the same supervisor over years, increasing the chance for research productivity. Many students participate and the programs are costly, but if they increase students’ research interest, they may be worth it.

References:
Mentoring Medical Students in Obstetrics/Gynecology and Otolaryngology Research: A Novel Program

Diaz, Lucero, BA [1]; Anderson, Mitchell, MS [2]; Poceta, Joanna, BA [3]; Nguyen, Nancy T., MD [4]; Ritterman Weintraub, Miranda L., PhD, MPH [4]; Liang, Jonathan, MD, FARS [4]; Zaritsky, Eve, MD [4]


Idea/Problem Statement: A summer research program for second-year medical students in Otolaryngology and Ob/Gyn designed to promote physician-scientist-led clinical research.

Rationale/Need: Physician-scientists are a crucial link between basic sciences and patient care. However, over the past few years, fewer physicians have been engaging in research (1). In response, Kaiser Permanente Oakland created a Summer Clinical Otolaryngology and Obstetrics/Gynecology (Ob/Gyn) Research (SCORE-Oto and SCORE-Ob) program to mentor and teach medical students about clinical research.

Methods: The SCORE program was developed in 2016 at our institution. In 2017, the 8-week program accepted four medical students in Otolaryngology and two in Ob/Gyn from over 90 applicants. Eighty percent of the students' time was dedicated to clinical research endeavors, including data collection and analysis, chart review, abstract/manuscript writing and end-of-program oral presentations. Faculty and resident mentors were selected based on students' interests, and mentors provided weekly guidance and feedback through the duration of the program. Twenty percent of the students’ time was spent shadowing faculty in the operating room and outpatient clinics; Ob/Gyn students also shadowed in labor and delivery. All students attended weekly didactic seminar series—covering topics in clinical research, health disparities and medical education—and specialty-specific conferences. At the end of the program, medical students were invited to continue work on projects in progress.

Evaluation Plan: Upon program completion, students, residents, and faculty completed a survey qualitatively evaluating the program. Residents and faculty unanimously stated that they valued the opportunity to mentor students and appreciated the support medical students provided them on their research projects. All students reported an improved understanding of clinical research, an increased interest in the field in which they did research, and an increased likelihood that they would pursue future research opportunities due to the program. Students also highlighted the benefit of having these experiences early on in their medical education.

Potential Impact/Lessons Learned: Medical students’ early exposure and mentorship in clinical research greatly expanded their interest, knowledge and experience in specialty-specific research.

References:
Preparing Medical Student for Participation in Bench Research

Win, Sanda
Keck School of Medicine of USC, Department of Medicine

Idea/Problem Statement: A five-hour orientation to research, to help first year medical students prepare to be part of a bench research team and develop their own project.

Rationale/Need: Critical thinking skills are essential in medicine. One of the four recommendations from the 2010 Carnegie Report (1) was that students should develop of “habits of inquiry and innovation.” Participation in scientific research is one way to develop these skills (2). In addition, LCME (Standard 7.3) requires that medical schools ensure that students are able to generate hypotheses and test them, to build the skills needed to discuss research with patients, and to develop an understanding of the responsible conduct of research (3). Undergraduate medical education research can be challenging for students and supervisors. Students lack time and have many competing demands. The same is true for faculty. The proposed project is to develop a formal five-hour curriculum that researchers could utilize with small groups or individual medical students to introduce them to medical research within their own labs.

Methods: The project will develop a 5-hour curriculum “Orientation to Bench Research”. This curriculum is intended to be shared with researchers nationally, who want to enhance their work with medical students. The ultimate learners would be medical students who desire to be part of a bench research project. The curriculum will be developed in Fall 2017, shared at the IME Conference in February 2018, and then piloted in the summer of 2018 with 1-4 medical students. In the five sessions the students would work with a researcher to build an understanding of the basic principles of: 1) my goals for being part of a research team; 2) responsibilities of student and of mentor; 3) review of scientific method as applied in the mentor’s lab; 4) ethical conduct of research and 5) time management for the student researcher. At the end of the five-hour unit the students would be ready to move into preparation of their own project where they would: 1) select a topic, 2) select and appropriate supervisor/mentor, 3) set up regular meetings, and 4) across time develop their hypothesis/questions, methods to address them, gather data, answer their questions, prepare a report and share it with others (locally or nationally). The progress of each student participant in the pilot “orientation” will be tracked. Their feedback with be sought and incorporated into the final curriculum package.

Evaluation Plan: The program evaluation will incorporate the following elements: 1) tracking to ensure that the curriculum is developed and piloted as planned; 2) evaluation of the curricular unit by at least one content and one process expert; 3) assessment of learner knowledge of the content of the 5-session curriculum using a online quiz; 4) assessment of learner reaction through use of a tailored questionnaire using survey monkey or Qualtrics; 5) monitoring the research efforts of students who have participated in the 5-hour orientation to research, and 6) over the long term, tracking of any adoption of the curriculum by other faculty locally or nationally. Six months after participation, each student will be interviewed to provide feedback and suggestions for the final curriculum. The goal is to have a curriculum ready to share by June 2018.

Potential Impact/Lessons Learned: If this curriculum is successful it could be made available online for bench researchers in any field to utilize. It could help researchers and students begin their work together with a clear understanding of their mutual pathway.

References:
3) LCME. Functions and Structure of a Medical School Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree, Liaison Committee for Medical Education, 2014 (Standard 7.3).
Importance of Longitudinal Scholarly Concentrations within Medical School Curricula
Alvarez, Paul; Vijay, Ammu
UNC School of Medicine

Idea/Problem Statement: Implementation of longitudinal scholarly concentrations within medical curricula aimed to further student involvement in specific aspects of medicine.

Rationale/Need: Medical students frequently begin their careers with tailored interests in a specific field of medicine, such as rural healthcare or business administration, and medical school administrations highly value this diversity of aspirations. Unfortunately, students commonly do not have a means to explore their specific interests by their lack of access to resources and their already busy schedules within their current medical school curriculum, which can lead to burnout (1). Allowing students to apply for optional four year longitudinal scholarly concentrations will provide them the opportunity to not only maintain their interest, but also build the skills they will need to pursue their goals in the context of their medical curriculum. Scholarly concentrations are an excellent way for students to formally express their career interests and goals and connect with a mentor in that field to enact meaningful change across the field of medicine at an early stage in their careers (2).

Methods: At the UNC School of Medicine, there are currently six scholarly concentrations that students are allowed to choose from. Biannually, all students in any year of medical school are invited to apply to one of them and individual directors review applications to select a small group of students to participate in the concentration. The available concentrations are: Physician Leadership in Quality and Safety, Medical Education, Care of Older Patients, Leadership, Humanities and Social Sciences, and Rural and Underserved Populations. Applications request a 1-2 page personal statement and resume to be attached and students are carefully selected based on interest in the program, explanation of how it will advance the student’s career choice, and the experience that the student brings to the program. The scholarly concentration programs are not for credit and are not a requirement for graduation, but are designed to help students achieve their career goals and tailor their individual interests by aligning electives and experiences in a longitudinal fashion. Each program’s curriculum differs, but typically involves requiring an elective in the preclinical years and completing a research project or individual study by the time of graduation, while also requiring students to complete interval tasks, connect with an appropriate mentor, and attend events all throughout the program. Each program is intentionally designed to be flexible, especially during the clinical years.

Evaluation Plan: The programs will be frequently evaluated using surveys to determine quality of educational content, timing of various activities, and support of the student during their time in the program. An important factor of evaluation will also be the time each student ends up taking to complete the scholarly concentration and the amount of hours a week, on average, students take to complete required activities. Students will be subjectively evaluated by their mentor as well. Tasks will need to be completed with adherence to deadlines in order to successfully receive a completion of Scholarly Concentration program. Each program will require some form of portfolio to be completed, whether that is presenting in front of peers, presenting at a national conference, or submitting their work to a journal.

Potential Impact/Lessons Learned: Medical students who participate in a scholarly concentration will be given the opportunity to individualize their medical curriculum in an effort to build the foundation needed to make a lasting impact within that aspect of medicine in residency and beyond.

References:
1) Kwatra SG, Rimoin, LP. Encouraging medical students to explore career tracks within medicine may help them avoid burnout. Acad. Med. 2012; 87(12): 1645.
Librarians Flip Out: Leveraging Librarians’ Skills to Teach Self-Directed Learning Competencies.

Tagge, Natalie; Pierce, Jenny
Temple University Health Sciences Libraries

Idea/Problem Statement: Using a flipped classroom model that incorporates video and librarian expertise, 1st semester medical students will develop self directed learning.

Rationale/Need: LCME standard 6.3 and the proposed EPA 7 require that medical students have self-directed learning skills by graduation. Beginning in the first year of medical school, students need opportunities to develop these skills so that when confronted with a clinical question, they can think critically about appropriate resources to search for the answer and evaluate the appropriateness and accuracy of the information found. At Temple University Lewis Katz School of Medicine (LKSOM) faculty observed that preclinical medical students had difficulty locating and evaluating information. Our flipped classroom model, the Clinical Reasoning Conference, seamlessly embeds self-directed learning skill development into first year medical school curriculum. Integrating librarians into the flipped classroom provides expertise in searching and evaluating biomedical information.

Methods: The intervention takes place in the fall of the first year of medical school in the second Clinical Reasoning Conference, a flipped classroom learning experience. The pre-work content consists of six videos covering the following topics: navigating the library website, using research articles, review articles, textbooks and point of care tools to answer clinical questions, searching PubMed and DynaMed Plus, and evaluating health sciences information. Pre-work also includes three cases for the students to review, and a quiz on the video content. During class time, faculty review the quiz questions with time for discussion. Next questions on the first case are revealed in LCMS+. Students work in small groups to answer the questions. A random group is called to present their answers, including their process, to the class with immediate feedback from faculty and librarians. Another group is required to document the answers and the feedback comments. These documents are posted on LCMS+. The process is repeated for each case. Cases are designed to require students use each of the information sources covered in the videos. The key outcome objective is that students will recognize when they need outside information to answer questions and will understand the difference between information sources, such as, point of care and research articles, in order to select the most appropriate source for their purpose.

Evaluation Plan: In 2016-2017 faculty, librarians and students deemed the library-led CRC a success. Faculty reported substantial improvements in the information sources first year medical students used in subsequent CRCs and in other parts of the curriculum. However no formal evaluation took place. Faculty already assess student learning through a standard rubric. This year an additional rubric will be used to assess effectiveness of the librarian led intervention. The rubric will evaluate the presenting group’s skills in inquiry, evaluation of evidence and communication of evidence as demonstrated in their presentation. Rubric data will be available by the conference.

Potential Impact/Lessons Learned: Students will develop competency in identifying when they need outside information, selecting and searching resources, and evaluating medical information before their 3rd year clinical rotations.

References:
Bibliographic Coding and Integration of a Librarian into Pharmaceutics Course Content
[1] Norris Medical Library, University of Southern California, Los Angeles CA;
[2] School of Pharmacy, University of Southern California, Los Angeles CA;
[3] At time of work described in poster, School of Pharmacy, University of Southern California, Los Angeles, CA; currently, Bentley University, Waltham, MA.

Idea/Problem Statement: Does librarian-faculty collaboration improve the ability of students to meet standards calling for critical analysis and application of literature?

Rationale/Need: Accreditation standards for Pharm D students state that students must be able to access and apply data from relevant information resources. To meet this standard, a problem-based learning course in pharmaceutics was created in 1996 and run annually. In 2010, a librarian began collaborating with course faculty and new instructional methods were used to teach discovery and retrieval of information. It was necessary to know if the class design as a whole was meeting standards and if the integration of the librarian changed student citing behaviors in the course case studies, yet no existing research methodologies allowed for this.

Methods: Bibliometric coding has been used to examine library collections and their relevance to a researcher population, and to assess impact of instruction on student behavior. This method was adapted to assess whether students met standards and the impact of the librarian collaboration. A codebook was designed to include types of materials anticipated to be used by students while conducting case studies. Four coders independently coded case study assignments from 1996 through 2016. Cross-coder reliability measures were performed. A single data set was derived from the coding and was analyzed using Excel.

Results: Analysis of cited items showed an increase in both the number of citations and quality of cited items after integration of the librarian. Prior to the collaboration, in 2008, 203 items were cited as sources for case studies and 57 (28%) were articles or conference posters. In 2012, 2 years after the collaboration was launched, 576 items were cited and 252 (43%) were articles or conference posters. In the same timespan and subsequently, citations to drug monographs, patents, and computer programs increased, and citations to personal communications and free websites decreased. Accreditation standards clearly indicate that primary resources (articles, conference posters, patents, and software programs) are preferred to tertiary sources for student analysis, and students clearly used primary materials more often after the collaboration began.

Potential Impact/Lessons Learned: Education standards for many disciplines require students to access and use high-quality information sources. Collaborating with librarians is a way to integrate access and use into coursework. The methodology offers a way to assess whether students are using preferred information sources.

References:
Proposal for Funded, Summer Service-Learning Opportunities for First-Year USC Medical Students
Hsiao, Victor; Reilly, Jo Marie
Keck School of Medicine of USC

Idea/Problem Statement: Proposal for funded summer service-learning program designed to support first-year USC medical students' professional development and service exposure.

Rationale/Need: Per the Liaison Committee on Medical Education (LCME), service-learning is defined as educational experiences that involve "1) medical students’ service to the community in activities that respond to community-identified concerns, 2) student preparation, and 3) student reflection on the relationships among their participation in the activity, their medical school curriculum, and their roles as citizens and medical professionals" [1]. Current LCME standards state that medical school curricula must provide "sufficient opportunities for, encourages, and supports medical student participation in service-learning and community service activities" [1]. Although community service opportunities are available and may address community-identified concerns, these activities are mostly one-sided in nature and do not include sufficient student preparation and reflection. Unfortunately, unlike summer research projects, service-learning is also rarely emphasized and there are little to no resources or funding available to interested students. Yet service-learning, which is "a reciprocal interaction," has been suggested to increase 1) academic learning and professional development, 2) personal development, and 3) enhanced civism and social responsibility [2]. Providing funded service-learning opportunities would allow for this LCME requirement to be realized in more of its entirety and further develop current medical students into more culturally-competent and astute future doctors.

Methods: The intervention would provide 5 first-year USC medical students with $2500 for a summer service-learning opportunity in a population group of their choice. One faculty member with experience in service-learning would be identified to oversee the intervention and be given a stipend of $2500 for his or her time. Total cost per summer would be $15,000. Interested students would apply in advance, explaining their population choice and how such an opportunity would equip them for their future medical career. Projects must be a minimum of six weeks. The intervention would be divided into 3 two-month sections (pre-summer training, summer service-learning, and post-summer follow-up) with weekly meetings and required written reflections. During training, students would discuss the concept of service-learning and the importance of learning about community-identified concerns first (through observation, open-ended question asking, and an open-mind) and then seeking to address these needs through service. While in the field, students would not meet but would be required to submit weekly reflections describing what they learned in that given week. When students return, they would discuss these findings in focus groups and how their experiences might affect their future medical practice. Following the six months, students would be asked to describe their takeaways from the program in an extended reflection. All training and reflections would be led and responded to by the faculty member.

Evaluation Plan: Training sessions would be evaluated through students' weekly reflections describing their understandings of service-learning and its applications in their community of choice. To evaluate students' program satisfaction, the impact of financially supporting the students to be involved with service-learning, the amount of newly learned or developed knowledge and skills, and the degree to which the program influenced their interests to work in underserved communities in the future, individual interviews would be conducted, recorded, transcribed, and analyzed for themes. Qualitative data would yield richer details about students' experiences and provide opportunities for discovering previously unexpected themes. Participants would be asked to submit a yearly written response describing the program's effect on their current stage of medical practice, including their current involvement in underserved communities, until completing medical school.

Potential Impact/Lessons Learned: Such a program would allow for a LCME requirement to be more fully realized but would more importantly provide first-year USC medical students with the financial resources and training to better identify and meet community-identified concerns in their future medical careers.

References:
1) Liaison Committee on Medical Education. (2016). Functions and Structure of a Medical School. Liaison Committee on Medical Education.
Developing a 3D Anatomically Realistic Model for Neonatal Chest Tube Insertion
Mele, Patricia; Cavanaugh, Sean; Whiting, Annemarie; Sridhar, Shanthy
State University of New York at Stony Brook; NYU Winthrop Hospital

Idea/Problem Statement: To develop a realistic task trainer and curriculum to promote attainment of technical proficiency for neonatal chest tube placement.

Rationale/Need: Placement of neonatal chest tubes is an emergent, life-saving maneuver. Simulation presents the best opportunity for teaching this technique in a non-emergent, safe environment. There are major ethical considerations in allowing trainees involvement on invasive procedures in such a vulnerable population. Accrediting organizations, healthcare and liability insurers are requiring training that supports the attainment of technical proficiencies to reduce hospital liability and promote patient safety. Historically, animal models such as game hens, baby back ribs, chickens, rabbits, ferrets and even cats have previously been used in teaching the technique which has fallen into disfavor. With this in mind, we set out to develop a novel model that could be integrated into our existing neonatal curriculum. It was essential that we allow the learners to practice all steps, from incision to application of dressing.

Methods: Our innovative models are based on actual clinical measurements, enabling an anatomically correct rib cage and intercostal spaces for both preterm and term infants. The thorax was created with 3D printing. The model is then wrapped in a constructed skin, which is tightly secured to pegs, allowing visualization and palpation of the ribs. This is a crucial addition, as this is how landmarks are identified when placing thoracostomy tubes. The skin has distinct dermis, fat, and muscle layers. The adipose layer is much softer than the dermis layer and allows for creation of the subcutaneous tract. The model also has space occupying chambers for air and fluid. The removal of fluid as well as air is crucial for training, as anterior versus posterior tube placement is required. A pericardial sac is created, the sac can be fluid filled to facilitate pericardiocentesis. The model has the ability for several interventions and procedures. With this model learners will be able to: Identify anatomical landmarks for proper intercostal space placement Needle aspiration for pneumothorax or effusion Transillumination Chest tube placement Injection of Lidocaine Performing the incision and dissection, creating a subcutaneous tract/tunnel Palpating the superior portion of the rib and feeling the “pop” through the parietal pleura into the cavity. Perform maneuver to direct the tube anteriorly or posteriorly, Suturing the tube in place and applying appropriate dressing. Pericardiocentesis

Evaluation Plan: Clinical competencies requires a description of milestones in development with a learning trajectory within sub-competency from beginner to highly proficient. Conquering and retaining skills with limited exposure is impracticable. In an effort to improve clinical and technical skills, a paradigm shift was essential toward simulation education methods to educate health care providers. Experiential learning is necessary for the attainment of psychomotor skills and learning. In theory it describes the importance of repeated practice and regular reinforcement, diligent support with expert assistance tailored to each learner's needs. Hence, learning within a professional framework (apprenticeship theory), and the effective element of learning (the effect of behavior on learning). Evaluation of effectiveness will be performed with online anonymous survey post simulation.

Potential Impact/Lessons Learned: Practice can improve procedure-related complications, decrease serious complications and morbidity and mortality. We are confident that this cost effective model, which is multi-functional, can provide realistic simulation of critical invasive procedures in the newborn that a practitioner would face

References:
Surgical Mentorship: Does a Focused Mentorship Program Improve Resident Skill Acquisition
Phung, Kevin; Dancz, Christin;
Keck School of Medicine of USC

Idea/Problem Statement: In an era of work-hour restrictions and decreasing surgical volume, we seek to find more efficient ways to improve the surgical skills of residents

Rationale/Need: Practice is a mainstay of surgical training, however there are many changes to the educational environment in surgical residency program and competing demands on resident time. These changes include resident work-hour restrictions, new surgical technologies, decreasing surgical volume, and concerns about costs, efficiency, and patient safety, which has led to an overall decrease in surgical experience. At a time when medical mistakes are estimated to be responsible for 250,000 deaths per year, the stakes are high to provide excellent, but efficient surgical training. Surgical skills simulation has played an increasing role in the acquisition of technical skills. Prospective trials have demonstrated that practice on low-fidelity box trainers results in fewer errors and higher scores on global assessments during in vivo procedures. Furthermore, task specific simulations have been shown to be a valid, cost-effective means to improve operating room performance for OB/GYN residents.

Methods: This is an observational study of an educational intervention taking place within an Obstetrics and Gynecology residency program, which is implementing a surgical mentorship program as part of their core curriculum. Current PGY1 residents (class of 2020) will undergo a baseline assessment of surgical skills mid-way through the year. This baseline assessment of surgical skills will use validated, objective skills measures including: American College of Surgery Objective Assessments of suturing and knot tying, photographs of suture lines for blinded assessment from two expert surgeons, and self-assessment of skill, comfort and confidence. They will then be assigned surgical mentors with a guided mentorship curriculum centered on focused surgical tasks. They will meet with their mentors at least 3 times, or until their technical skills for each of the tasks are deemed proficient. They will then be re-assessed at the beginning of their PGY2 year in the same areas. The mentorship curriculum will also be administered at the beginning of the year for all incoming PGY1 residents (class of 2021). Surgical skills will be assessed at 6 months and compared to the skills for the preceding class (class of 2020). All resident participants will be surveyed on their opinions about the mentorship program.

Results: As this is a two year intervention, only the first year of data is collected from the PGY1 class of 2020. Data will be compared to the class of 2021 at this academic year's end. Using the validated Objective Structured Assessment of Technical Skills (OSATS), the pre-intervention "Overall Technique" median score increased from 2/6 to 5/6 in the post-intervention assessment (p <0.05). This same significant increase was seen with the median score for simple interrupted stitch task (8/10 to 10/10, p<0.05) and figure-of-eight task (7/10 to 9/10, p<0.05). There was an increase score in the simple running stitch (8/10 to 9/10) and running locked stitch (8/10 to 9/10) but this was not statistically significant. Timing for each task was significantly improved across all tasks (p<0.05), with median time improving as follows: simple interrupted (38.2 secs to 20.7 secs), figure-of-eight (52.2 secs to 26.5 secs), simple running (421.1 secs to 261.1 secs), and running locked (468.3 secs to 336.0 secs). Lastly in regards to self-assessment of confidence on a scale of 1-5 (1=poor, 5=excellent), an overall increase in confidence was seen across all tasks combined (median 3 to 4, p<0.05). Once the data from the class of 2021 is collected and analyzed, we will be able to assess the effectiveness of this mentorship program vs the traditional curriculum, as the program was instituted half-way through the academic year for the class of 2020, but started immediately for the class of 2021.

Potential Impact/Lessons Learned: This program has the potential to impact surgical training of residents across OB/GYN residencies nationally, as it allows learners to deliberately and efficiently practice and master defined skills in a controlled, standardized and low risk setting with one-on-one faculty guidance and mentorship.

References:
3) Makary MA, Daniel M. Medical error-the third leading cause of death in the US. BMJ 2016;353:i2139
Analysis of Simulated Patient Interviews as a Teaching and Resident Assessment Tool
Spyrou, Peter; Lerman, Alexander
Westchester Medical Center

Idea/Problem Statement: Challenging simulated patient interviews used to teach and assess trainee empathy and case formulation skills.

Rationale/Need: Interviewing is a critical skill for both psychiatric and non-psychiatrist clinicians. Many patients fail to disclose important information, due to shame, fear of the interviewer’s response, secondary gain, or a variety of other factors. Our current findings indicate that beginning interviewers tend to have difficulty with such patients. This training builds skills in understanding and engaging non-disclosing subjects, through a collaborative process of group and self-study (Shea 1998).

Methods: Learners in our simulation center conduct videotaped interviews with professional actors portraying challenging patients (i.e. paranoid, self-deceptive, psychopathic). Videos are evaluated and rated by a team of trained learner/raters using scales to assess basic interviewing, empathy, and advanced interviewing techniques (identification of discrepancies, confrontation, management of interviewer’s anxiety, etc. Every effort is made to reduce anxiety and engage learners in a non-judgmental, constructive and affirmative discussion process. Results are shared privately + included in didactic presentations to groups of learners. Further research data will focus assessment of skill development over training, and correlation between interviewing/formulation skills and other benchmarks of training progress. Interviews are conducted through the year, with feedback and assessment occurring thought the academic calendar. This program is already under way, and has generated > 100 hours of interview material.

Evaluation Plan: This advanced simulated interview program has been highly successful and generated interest and participation among residents. Unlike patient material, SP interviews have no privacy concerns and can be widely used in supervision, didactics and resident assessment. Qualitative assessments have added depth to evaluation and feedback to learners. Rating assessment tools focus on four domains: basic interviewing, empathy, formulation guided interviewing, rapport. The experience of rating interviews, and watching other learners engage the identical clinical scenario is unique to the simulated patient exercise. Both psychiatric residents and medical students have enjoyed participating.

Potential Impact/Lessons Learned: Take interviewing beyond fact-collection and teach learners how to use emotional attunement and case formulation to achieve deeper knowledge of patients under their care.

References:
Idea/Problem Statement: Use of simulation to enhance the skills and confidence of Pediatric and Medicine/Pediatric residents in handling pediatric crisis situations

Rationale/Need: Pediatric critical care education now requires supplemental education. Limitations, such as duty hours restrictions and low incidence of critically ill children make it challenging to confidently fulfill pediatric resident competencies as required by the Accreditation Council for Graduate Medical Education (ACGME) (1). This is particularly true for crisis situations. We define “crisis situations” as the events just prior to and including code blue scenarios, such as respiratory failure and shock. Pediatric residents are expected to be able to initially manage patients in crisis situations, and their current exposure and confidence is lacking. Informal questioning of current residents and recent graduates from our residency at a large, public hospital indicates that our program reaffirms this. When queried, learners wish there were more opportunities to practice these rarely utilized skills. Simulation is a well establish methodology to enhance learner skills in Pediatrics (3). Through increased exposure, it reminds and reinforces principles learned in textbooks and allows for practical application (5). Technical, communication, and team-building skills were shown to improve through simulation (2, 4, 5). Simulation has also been used to assess readiness for community hospitals in taking care of pediatric patients (6), making it a translatable educational tool. Thus, we propose a simulation-based curriculum to increase exposure to crisis situations for pediatric residents.

Methods: The learners will be residents from Pediatrics and Medicine/Pediatrics rotating through Pediatric Critical Care in 2018-19 (n=34). Each resident will participate in one 3-hour simulation session (3 different scenarios each month from a set of 6 cases). Since all residents rotate twice during their specialty training, a second set of scenarios will be developed for the 2019-20 academic year. Each session will be limited to 3 learners (12 per year) to optimize safe, small group learning and allow each learner to lead an entire scenario. Each one-hour simulation would be divided roughly into three parts: the set-up (15 minutes), the simulation (15 minutes), debriefing (30 minutes). The initial three topics will be selected from the following: respiratory failure, increased intracranial pressure, and septic shock. After each scenario, we will debrief the session to allow for learner reflection and a quick didactic discussion of key clinical elements.

Evaluation Plan: Accountability: We will track to ensure that the scenarios are developed using best educational practices and delivered as planned. Attendance will be recorded to ensure full resident participation. Learner reaction: Initial learner reaction data will be gathered at the end of each session and again at the end of the academic year to gauge longer-term perspectives. Learning: Post-test on case contents to estimate group performance. Performance on relevant topics on the in-service examinations will be compared for any changes in relative performance. Structured observation will allow us to assess key skills. Any skills where performance levels are low will result in modification through extra practice time with an instructor. Behavior: Commitment to change will be collected at the end of each session and tracked for types of changes. In the end of rotation evaluation, learners will be asked how they utilized the information/skills from the simulation during the rotation.

Potential Impact/Lessons Learned: The cases should be transferable to outpatient and general Pediatrics, as well as other specialties and can be expanded to include multidisciplinary teams and use of non-technical skills, such as conversation between team members and delivering difficult news to patients and their families.

References:
A Curriculum for Personalized Medicine:  
Cardiac Tissue Engineering on 3D CAD Printed Substrates  
Shoji, Ryan [1]; Chavez, Natali [1, 2]; LaBoy, Melony [1, 2]; Tran, Tiffany [1]; Solinap, Valerie [1, 3]; Lyons, Brandon [1]; Ceron-Espinosa, Brian [1]; Aguilar, Maribel [1]; Miller, Justin [1]; James Harber, PhD [1, 4]  

Idea/Problem Statement: Personalized medicine in cardiology lacks a correlate undergraduate training program that is addressed by this 3D stem cell to functional structures.

Rationale/Need: Maintenance and therapy of the heart and oral cavity together command the majority of the health care budget of the United States. The premedical undergraduate and graduate level Cardiac Tissue Engineering 3D curriculum (CTE3D) addresses the training gap for critical skills and knowledge regarding personalized autologous cardiac therapy. CTE3D models a contemporary scenario wherein cardiac tissue derived from the patient is grown in laboratory tissue culture, modified genetically and returned to the patient as therapy. Over ten summers at Oxnard College, CTE3D was developed as personalized medicine curriculum. Students participate for six weeks to regenerate beating cardiac tissue from mouse stem cells on fibrin matrices clasp by 3D printed substrates. Also, the synergistic technology of simple classroom based oral microbiome sequencing suddenly emerged as a technology to reveal insights for disease susceptibilities including risks for inflammatory states relevant to cardiology.

Methods: Module 1: The daily group meeting discussions are posted to YouTube and google docs for sharing within the CTE3D laboratory team. See: https://www.youtube.com/channel/UCBhZaO6OlvK8dc-RPUHVjQQ Personalized medicine, tissue regeneration, and advanced cell culture sterile techniques are discussed. P19 CL6 stem cells, materials to maintain cell cultures are provided to wake up freezer stocks. Cells are monitored using inverted microscopes, digital cameras, HD monitors and imaging software. Module 2: Instruction in sterile laboratory techniques initiates. The team is encouraged to peer mentor each other’s work in the biosafety cabinet. Daily discussions include a journal club exploring the latest literature on the manipulation of the cell-signaling pathways (wnt/B-catenin) by exogenous and genetic factors for “direct differentiation” from fibroblasts or stem cells to cardiac cells. Basic controls for cardiac differentiation are established using dimethyl sulfoxide (DMSO) and maintained in fibrin matrices with gelatin. At 14 days contractile behavior (“beating”) and pacemaker structures predictably appear. Module 3: Trends in manipulating electrically responsive tissues, novel biomaterials and cell delivery form the basis of a literature search. Students are given access to CAD software and a 3D printer, various suture materials, fibrin components and differentiation factors. The students have typically engineered novel ways to enhance contractile behavior in this module.

Results: Students typically produce posters and presentations for fall and spring semester undergraduate research presentations. CTE3D developed over nine years and is consistent with “Vision and Change” objectives. The outcomes include students engaged with active learning, improved inter-faculty cooperation, and increased interaction between STEM students from multiple disciplines. Shifting from the long-repeated classical experiments and towards discovery-based research experiments encouraged students to behave like scientists and investigate unexpected results with new experiments. The student team pragmatically learned the scientific pedagogy of experimental design, and inclusion of correct controls from previous experiments. Teaching a reiterative approach to learning is core to the CTE3D learning community goal of optimizing results with new experiments. In being presented with this challenge, students showed increased enthusiasm for inquiry-based research and demonstrated all six of the core “Vision and Change” competencies. After six weeks in 2017, the students generated novel suture based cell scaffold that demonstrated superior myocardial contractile behavior. This “beating thread” enhanced flexibility for “patient treatment delivery”, exceeding the instructor’s expectations (for the stated goal of a visible beating therapeutic “patch”, first achieved in 2015). Assessment tools were used to determine student satisfaction and success following completion of the project.

Potential Impact/Lessons Learned: The CTE3D cardiology curriculum targets the premedical undergraduate. This curriculum teaches important aspects of personalized medicine and is appropriate for medical students. CTE3D is an active-learning pedagogy implementable in semester courses, consistent with NSF Vision and Change strategy.

References:  
1) Harber, (chapter author) for biotechnology teaching pedagogy in http://logos-press.com/books/biotechnology_education.php
3) CTE3D Laboratory curriculum repository https://www.youtube.com/watch?v=OmFyJ3ynn1k
Simulation-Based Training for MSIV Medical Students to Build Skills in Documentation and Coding

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Idea/Problem Statement: Combining high-fidelity simulation with debriefing to build learner skills in documentation and coding in the electronic medical record (EMR).

Rationale/Need: Documentation in the EMR is a critical component of healthcare delivery. The EMR tells the story of a patient’s clinical course, serves as a means of communication between healthcare providers, is a legal document, and is a resource for revenue generation through billing. Although proper documentation in the medical record is a major driver behind appropriate reimbursement, very little formal education pertaining to this topic has been taught in residency training1. Because of this, multiple emergency medicine programs have adopted lecture-based interventions, with 95% of U.S. emergency medicine programs stating they provide at least one operational-based lecture on documentation, billing and coding prior to resident graduation per a recent survey conducted by two different institutions2. Simulation has the potential to add to this passive training mode through practice with immediate feedback. Simulation has been shown to be a more effective educational delivery tool than didactics alone in emergency medicine3. No studies could be located that utilize high-fidelity simulation to enhance EMR documentation skills. The objective of our study is to evaluate the feasibility and effectiveness of a simulation-based educational intervention for teaching medical students appropriate EMR documentation.

Methods: In this IRB-approved study, approximately 150 fourth-year medical students on their emergency medicine rotation will participate in a 4-hour session in the simulation center on the UCI main campus. There are two sessions each month with 6-7 students per session, across 10 months. During the first segment of the educational experience, students will see three different mannequins acting as patients, all with chief complaints of varying severity that are commonly seen in the emergency department. They will have to document each of the patients’ emergency room visits. They will then participate in case-based session on documentation and billing that demonstrates how their level of documentation would be coded in comparison to the “standard” for the three cases that saw. The goal for the final activity is to document each case with sufficient information to allow appropriate coding by the “expert.” In the final activity student will see three mannequins acting as patients, all with chief different complaints of varying severity that matches the severity of the initial three cases.

Evaluation Plan: There are three parts to the evaluation. 1) Attendance will be taken at each session to ensure complete participation and measure accountability. 2) In order to assess learner reactions, a satisfaction survey will be completed by each participant after their session. 3) Learning and behavior will be measured via comparison of learner documentation to the standard for each case. After the course, each student’s “charts” will be coded by a member of the emergency department coding team based on the “standard” for each case. A comparison will be made pre-intervention versus post intervention to compare the percent of students with sufficient document for accurate coding.

Potential Impact/Lessons Learned: If this model proves to make a significant difference it could be shared with others in emergency medicine (or duplicated by any health care profession) who wish to enhance documentation within the electronic medical record.

References:
Implementation of Training and Skills Competency Assessment for Medical Assistants in an FP Clinic
Lopez, Maria Cynthia; Alvarado, Maritza
Adventist Health, White Memorial Medical Center

Idea/Problem Statement: Enhance resident skills in training and assessing competency skills of medical assistants in a family medicine residency health center.

Rationale/Need: In our FHC’s quest to better function as a patient centered medical home (PCMH), we must increase patient care efficiency and create an atmosphere where teams of medical staff share common goals. One area of focus is the assessment & improvement of the competency of our medical assistants (MAs). Medical assistants are an important part of any medical team. Physicians must depend on them for a variety of tasks and cannot function efficiently without their support. Medical literature indicates that a significantly large percentage of MAs have problems accurately and correctly performing tasks such as measuring blood pressure, administering injections, and drawing specified volumes into syringes. Reliable and accurate completion of these basic tasks is imperative to the overall health and treatment of our patients. By implementing a uniform MA assessment and by providing resident led lectures and formal training for our medical assistants, our goal is to function better as a team and ultimately to provide better quality patient care.

Methods: Family Medicine residents will learn to train and assess medical assistant performance by: 1) Administering a needs assessment survey; 2) Developing several training modules to provide training to medical assistants; 3) Implementing a pretest and posttest for each training module; and 4) Developing an skills assessment form.

Evaluation Plan: Rating form to assess resident and medical assistant perception of usefulness of conducting this quality improvement project, what they learned and how they plan to utilize what they learned in their future practice.

Potential Impact/Lessons Learned: 1) Provide an example of training and evaluation of medical assistant roles and responsibilities that residents can implement in their own PCMH practices 2) increase patient care efficiency and create an atmosphere where teams of medical staff share common goals

References:
Idea/Problem Statement: Motivation, Mindset and the Professional Identity Formation of Medical Students in the 21st Century

Rationale/Need: According to a study commissioned by The Carnegie Foundation professional identity formation “should be the backbone of medical education, building on an essential foundation of clinical competence, communication and interpersonal skills, and ethical and legal understanding, and extending to aspirational goals in performance excellence, accountability, humanism and altruism.” Regrettably, however, unbecoming attitudes and behaviors modeled implicitly by senior faculty and supervisors in the learning environment may be internalized by impressionable medical students who are insufficiently equipped to cope with distressing clinical encounters - particularly when these are compounded by the unavoidable physical and mental fatigue common in medical training – resulting in emotional exhaustion, depersonalization and lower motivation. At this time counseling services and wellness messaging are standard practice; however explicitly equipping students with the skills to thrive (not just survive) in the challenging clinical environment is a curriculum imperative for medical schools. As such, this project utilizes a theoretical foundation grounded in the science of well-being and organizing constructs based on Mindset models, Grit and Resilience to develop a workshop that will facilitate burnout-resistant professional identity formation (PIF).

Methods: During their Internal Medicine clerkship rotation, students will attend a 90-minute faculty-led PIF non-graded interactive workshop. (5 students per session x 8 sessions per block x 6 clerkship =240 students). They arrive prepared for interaction after watching 3 TEDTalks to enhance understanding of the Growth Mindset; Grit, and Resilience. The workshop opens with a Jigsaw activity - small breakout groups discuss and record key points recalled from the videos and how they are applying these. Then spokespersons for each group share the Jigsaws with all participants enabling the leader to determine material discussions for the remainder of the workshop. Discussion options are a brief review of the key principles or challenges students face in applying the principles. (Key Principles=Components of a physician’s professional identity that are expected by the profession and society in the 21st century and examples from the videos to illustrate character traits, behaviors and skills that support and detract from optimum professional identity formation. Challenges=Time-management, the ‘hidden curriculum’ and fear of failure.) Small groups reconvene and members reflect on their own sense of self as a physician-in-formation, sharing strengths they currently possess and the challenges they have faced in clinical education to date that tests these strengths. At the conclusion of the workshop, each student receives a pocket card ‘take-away’ illustrating Growth and Fixed Mindsets.

Evaluation Plan: The workshop will the 4-part Kirkpatrick Model to evaluate its effectiveness in delivering intended outcomes as follows: 1) Reaction – standard session evaluation forma (Likert scale) will record participants’ satisfaction with workshop content and perceptions of its relevance to their medical training; 2) Learning- standard session evaluation forms (Likert scale) will record the degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment; 3) Behavior – commitment and motivation to utilize workshop material will be evaluated using a post-session reflection exercise in which the participants record in 500 words or less how they have utilized the knowledge, skills, attitudes and confidence during the clerkship rotation; 4) Results – session assessment forms (Likert scale) will be completed by the leader to record attendance and perceptions of the participants’ engagement and the likelihood of their commitment to utilize workshop material

Potential Impact/Lessons Learned: If successful, this workshop could be adapted for use by training programs in other healthcare professions and across medical education specialties to support formation of a burnout-resistant professional identity in their learners.

References:
Merit Badges: A Para-Curriculum to Develop In-Depth Clinical Skills during Medical School
Payne, Anthony [1]; Wood, Elena [1]; Pettigrew, David [2]; Tawfik, Huda [1]; Spartz, Helena [1]; Wallach, Paul [1]
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[2] College of Health Professions, University of Findlay

Idea/Problem Statement: Allow medical students to pursue optional in-depth training in focused clinical areas and receive an internal institutional credential – a merit badge

Rationale/Need: Traditional undergraduate medical curricula emphasize foundational knowledge and skills. There is not much realistic difference between the knowledge and skills of an advanced 4th year medical student and a new intern. We believe that advanced medical students can develop limited entrustability in focused clinical areas while still pursuing their medical degree. Therefore, we propose an internal institutional credential, called a Merit Badge, to allow exceptional, ambitious medical students to acquire knowledge and skills in focused clinical areas of interest. Students will have the opportunity to apply this knowledge and skill under appropriate supervision. A student enrolling in a Merit Badge program interacts with clerkship preceptors at a more advanced level of knowledge and skill development. Having earned a Merit Badge, the student can be given more responsibility in patient care. The ultimate goal is the opportunity for advanced medical students to apply knowledge and skills at a more in-depth level in a focused clinical area that interests them.

Methods: Four categories of Merit Badges were identified – clinical skills/procedures; health screening; patient behavior change; and management/treatment of specific conditions. Qualification criteria for Merit Badges were delineated, focusing on health conditions that are: widely prevalent in the United States; not immediately life-threatening; have a long clinical course prior to complications; have valid, reliable, and non-invasive testing; have treatment(s) that are medically effective, cost-effective, not controversial, and minimally invasive. Students will enroll into each Merit Badge program, contingent on an approval process. Students must be in good academic standing to enroll. The knowledge phase will be self-paced and online, so that students from all campuses and clinical sites can participate. This phase will include sequential content assessment. A high level of competence is required to pass. The acquisition/practice phase will consist of matching students with clinical faculty with appropriate expertise, allowing the student to practice skills and knowledge application in “simulated” patient settings – with standardized patients, high fidelity simulators, task trainers, or in OSCE settings. The progressive entrustment phase will entail students practicing skills and/or knowledge application in real patient settings, under appropriate faculty supervision. This phase consists of feedback from preceptors, until the student obtains a high level of competence.

Evaluation Plan: The merit badge program will be evaluated via progressive achievement of predetermined milestones. The knowledge phase will be assessed through standardized testing short answer written examination. Critical assessment is completed by preceptors comparing student answers to current guidelines of best practice, or comparison to an expert’s interpretation. The acquisition/practice phase will be assessed by preceptors and will pass the milestones by accurately explaining and demonstrating application of the knowledge or skill in a simulated setting. During the progressive entrustment phase students will be assessed by preceptors under supervision in clinical settings. Given this is a pilot of the Merit Badge program, program evaluation will be initially accomplished by surveys and focus group interviews of students, program alumni, and faculty on content delivery and usability of each phase.

Potential Impact/Lessons Learned: Merit Badges will provide opportunities for students to distinguish themselves by demonstrating advanced competence and entrustability in clinical focused areas while on clerkships. We believe that this advanced training will be of significant value as the student begins graduate medical education.

References:
2) Recommendations for Clinical Skills Curricula for Undergraduate Medical Education
Caring for Children with Medical Complexities; An Introductory Curriculum for Medical Students  
Barqadle, Fatuma; Gay, Anna; Trost, Margaret  
Children's Hospital Los Angeles, Keck School of Medicine of USC

Idea/Problem Statement: A patient-centered curriculum to foster informed empathy and enhance fourth year medical students' knowledge on children with medical complexities.

Rationale/Need: The landscape of pediatrics has changed over the past few decades due to advances in medicine and technology. One special patient population that has consequently emerged is children with medical complexities (CMCs) which are children with chronic, severe health conditions, functional limitations, substantial health service needs and high resources utilization (1). In 2013, it was estimated that children with medical complexities account for as much as one-third of health care spending for all children as well as an increased percentage of all pediatric hospitalizations and readmissions (1). Because of this, future health care providers require specialized education and training on how to provide patient centered, compassionate and holistic care to CMCs and their families (2). In a survey of pediatric educators involved in complex care, 60% reported that while their institution had a complex care mission, there was no connection to undergraduate medical education (2). As an academic institution and regional referral center, Children’s Hospital of Los Angeles has a high number of CMCs in both outpatient clinics and inpatient settings. This allows rotating medical students numerous opportunities to interact with this population. However, there is currently no formalized CMC-curriculum in place and the exposure and education students receive varies. The proposed curriculum addresses this need and will be incorporated into our existing fourth year hospital medicine elective.

Methods: During a four-week hospital medicine elective, fourth-year medical students (8-12 per year) will participate in an 8-hour CMC curriculum. The curriculum will be a hybrid of classroom and clinical time with the goal of fostering informed empathy and building student knowledge and skills. The curriculum will focus on: 1) specific terms and definitions that apply to CMCs; 2) obtaining a complete social history and performing a resource and needs assessment; 3) situations and scenarios CMCs face during a hospitalization; 4) roles of a multi-disciplinary team in the care of CMCs in both the inpatient and outpatient settings; and 5) the unique narratives of families of CMCs and challenges they face. Classroom activities will include: brief didactics, video clips to stimulate case-based discussion, interview of a parent of a CMC, reflective writing exercises and a resource scavenger hunt. In their clinical activities students will: 1) work with a hospitalist one-on-one to apply their classroom learning and build skills in obtaining histories, 2) shadow and interview other members of a patient’s care team (nurses, care coordinators, respiratory therapists, physical therapists etc.); and 3) take part in an immersive activity to experience what CMCs face daily (i.e. use a wheelchair).

Evaluation Plan: The evaluation will examine accountability, learner reaction, learning and behavior. Accountability: We will track the curriculum throughout 2018-2019 to log the number of students and their participation in all activities. Reaction: Student reaction will be assessed throughout the four weeks using standard session evaluation forms and through a formalized program evaluation completed at the end of the rotation. Learning: 1) Successful completion of all written assignments (reflections and resource list for a CMC patient/family); 2) Pre-post assessment of knowledge on and attitudes towards CMCs; and 3) Direct observation of skills in obtaining a social and needs assessment. Behavior: A follow-up questionnaire (and interview if required) will be conducted in August 2019 to query how these new pediatric residents are utilizing the skills acquired. To provide a comparison group, a similar questionnaire will be given to all new CHLA (n=30) residents who did not participate in the rotation.

Potential Impact/Lessons Learned: Successful implementation of this program may lead to its incorporation into the USC pediatric core curriculum and serve as a blueprint for not only other specialties at USC but also other programs looking to enhance the training of future health care professionals on CMCs (i.e. nursing schools).

References:
1) Berry, J., Agrawal, R., Cohen, E. et al. The Landscape of Medical Care for Children With Medical Complexity. Children's Hospital Association, Alexandria, Va; 2013:1–16.
Idea/Problem Statement: Use of small group teaching to help medical students identify and share community resources for developmentally at risk pediatric patients.

Rationale/Need: Identifying key community resources for developmentally delayed children is a core component of the Council on Medical Student Education in Pediatrics (COMSEP) MS3 Curriculum. This is important because approximately 15% of children 3-17 years of age in the United States have one or more developmental disabilities. The need for advocacy is clear. Very little research could be located on medical student advocacy, however Belkowitz (2014) found that advocacy training with medical student can be effective. Structured medical student training in community advocacy for developmentally at-risk pediatric patients is currently lacking at our institution. To better prepare our students as patient advocates, our proposed intervention is to integrate an advocacy curriculum into existing case-based teaching sessions.

Methods: The primary participants of the curriculum will be the Year III medical students during their pediatric clerkship, n=170 per academic year. All students already attend 2-4 small group, case-based teaching sessions focused on clinical reasoning skills. Using an expanded case model, the proposed curriculum will integrate a community resources component to each session. The primary instructors for the teaching sessions are the clerkship directors, although guest faculty also may attend. All participating faculty will receive instructions on the three community resources each student should become familiar with when caring for children with developmental disabilities: regional center, school-based special education, and California Children Services (CCS). During each session, various teaching methods will be utilized to foster discussion and reflection amongst the students, including audience response systems, games, debriefing, and a commitment to act. Finally, a community resource guide will be provided to all students at the start of the clerkship so they utilize the guide throughout their 6-week rotation. Students will participate in three didactic sessions and be encouraged to apply their knowledge with their own patients with developmental delays or disabilities. The learner outcome objective is that all students will be able to identify important resources and share those resources when working with their own patients in pediatrics.

Evaluation Plan: The evaluation will include the following elements: 1) tracking to ensure that all student received the three session; 2) learner reaction to the new element will be assessed using a standard session evaluation form (one form to assess the three-session series); 3) learning will be assessed with a pre-post assessment using audience response system (anonymous, for program evaluation only); and 4) learner use of the information will be assessed using a questionnaire in the third session querying how they have utilized the resource information with their patients, as well as any other advocacy that they have done during the past two weeks. The student will also be asked to make a commitment for how they might serve as advocates through providing information about community resources in future rotation or in future care of pediatric patients.

Potential Impact/Lessons Learned: If this model of integrating an important topic, like advocacy, into existing case-based sessions for students proves to be effective, it could be adopted in any health care profession to promote advocacy or other patient-centered care with their students.

References:
Idea/Problem Statement: To develop formal Tele-Neurology training program for medical students during their Clerkship designed to give hands-on experience in tele-medicine.

Rationale/Need: A formalized training in telemedicine is still not widely offered in most medical specialties, which creates a huge gap between what medical students are being offered during their years of training and what the medical market is looking for as we experience a rapidly growing and ever-expanding demand on telemedicine clinic coverage for most medical specialties. In neurology, while physically examining the patients constitute a crucial part of initial evaluations, some portions of the assessment can be done using remote communication technology by observation, while others need to be performed by a health professional on the patient site under direct instructions. Neurological exam can be tricky in such environment, limited focused cognitive, cranial nerve, movement and gait exam can be performed remotely. Patients residing in rural areas that lack a specialized neurologist can be the perfect example for Tele-Neurology encounter. At University of Texas Medical Branch, well developed and active telemedicine practice exists for many years. Yet this modality has not be utilized for medical students. Informal interviews and discussions with medical students revealed that they lack exposure to Tele-medicine and consider this modality very important for their future practice. We started gradually implementing Tele-Neurology clinic during Neurology clerkship on weekly basis where a small group of medical students, mostly in their last year, have their first ever exposure to it.

Methods: In a pilot study, 21 medical students (sixteen 4th year and five 3rd year) participated in a one full day neurology telemedicine clinic with the faculty during their four-week neurology clerkship. Telemedicine-clinic preparation session, and assessment tool were modified during this pilot period. The intervention will focus on all student enrollment in telemedicine during their Neurology Clerkship. Pre-clinic instruction session consisted of overview of telemedicine principles, specifics of interview taking and observational neurological examination, role of supporting staff at remote site, equipment demonstration, connectivity requirements and troubleshooting, privacy standards, videoconferencing etiquette, patient education, record keeping, reading assignments on common diseases. In-clinic hands-on experience was guided by faculty by first demonstrating technique, and then by allowing student to interview 3-5 patients. Students also practiced to conduct observed neurological examination using instructions to remote site healthcare provider under faculty supervision. Encounter was concluded by delivery of test results, formulation of management plan and patient education. At the end of the clinic day there was a debriefing session when students shared their experiences, and faculty provided insight about their overall performance, achieving their goals and expectations taking into account that for most students this was their first telemedicine experience.

Evaluation Plan: We will conduct pretest and post-test to evaluate gained knowledge about tele-medicine basics. Skill development assessment tool will include: effectiveness of interview in obtaining history, observational skills in conducting examination at remote site and clarity of the instructions, effectiveness if inter-professional communication with other health professionals, ability to interpret results of common tests and explain to the patient, effectiveness of documentation. Immediate program evaluation will be provided by the students including insight if the clinic has enriched their medical knowledge, capability of conduction relatively quick focused neurological encounter, physical examination, discussing diagnostic work up and management plan. All 21 students in this pilot study answered positively to these questions. All participating students expressed desire to participate in more similar clinics. All envisioned using this technology in their future career regardless of chosen path.

Potential Impact/Lessons Learned: This pilot study demonstrated benefits of formal telemedicine training and feasibility of using Tele-Neurology clinic as a model for development specific skills and techniques necessary for medical students in digital era.

References:
1) Telemedicine and Telehealth: The Potential to Improve Rural Access to Care. Nelson R.
2) Evaluation of the Education "Clinical Telemedicine/e-Health" in the Curriculum of Medical Students at the University of Zurich. Brockes C1, Grischott T1, Duktiewicz M2, Schmidt-Weitmann S1.
3) The evolution of publication hotspots in the field of telemedicine from 1962 to 2015 and differences among six countries. Wang Y1, Zhao Y1, Zheng J1, Zhang A1, Dong H2.
Situational Leadership
Yanofsky, Samuel, MD, MSEd; Nyquist, Julie G., PhD
Children’s Hospital Los Angeles, Keck School of Medicine of the University of Southern California;
Keck School of Medicine of the University of Southern California

Workshop Description: Effective leaders adapt their leadership style to the needs of their followers. Learn how to diagnose "follower" readiness and select the style of leadership that matches each stage. Enjoy the discussion and games as you learn how to better lead your "followers."

Workshop Rationale:
Leadership in medical education requires flexibility. Leadership style needs to be matched to the level of the follower. This is true in clinical, administrative, and educational settings. This model is consistent with the basic principle that learning is developmental and utilizes this theoretical basis. The purpose of this workshop is to introduce the skills required to incorporate this model into ongoing leadership.

Intended workshop participants:
This session is intended for participants from any health care profession who currently lead others in the clinical, administrative or educational setting.

Learner outcome objectives:
By the end of this session, participants will be able to:
1) Discuss uses of situational leadership model
2) Describe stages of development for followers
3) Select leadership techniques to match follower development

Instructional methods/content, activities, schedule:
Session Description (include content and activities, if applicable):
This workshop focuses on an individualized approach to utilizing the Hersey-Blanchard model of Situational Leadership.

1) Introduction to Session (Large group Activity – 10 minutes)
2) Personal Story – (Small group activity - 10 minutes) People at each table introduce self.
3) Situational Teaching – (Large group – 15 minutes) describe the Hersey-Blanchard Model of Situational Leadership (tailoring leadership style to the developmental level of the follower
4) Small Group Practice Identifying Followers at each Level of Situational Teaching Model and debriefing (25 minutes). Each table will use the worksheet to generate answers, which will be shared on large post-a-note pads.
5) Group Practice with Situational Leadership (20 minutes) Each table will receive a set of scenarios and a list of leadership strategies. For each scenario the groups will a) identify the developmental level of follower and b) select techniques to match the level of the follower. In the debriefing we will go around the room asking each table to either provide their answer or to expand upon an answer already provided.
6) Conclusion and Commitment to Change (individual – 10 minutes) The workshop will be summarized with a take home message, and each participant will complete the session evaluation, including a commitment to change/act stating what they will do differently based on what has been learned.
Workshop Description: This interactive and participatory workshop will explore the components of medical educator vitality as well as potential threats to wellness and life balance. More specifically, participants will explore the dimensions of meaning, mindfulness, healthy collaboration and cynicism reduction. Activities will incorporate humanities, self-reflection and mindfulness approaches.

Workshop Rationale
The AMA, AAMC, ACGME and other national organizations are concerned about the wellness and vitality of our current and future health care workforce. The ACGME has recently added new program requirements for wellness initiatives for both residents AND faculty. Wellness and vitality are essential components of training for both medical students and residents, yet faculty must be trained in engaging and effective approaches. Moreover, they must be encouraged and supported to achieve their own optimal vitality in the face of very demanding teaching, clinical and research careers.

Learner Outcome Objectives:
By the conclusion of this session, participants will:
1) deepen their understanding of academician vitality and potential threats,
2) explore the dimensions of meaningful practice, mindful practice, collaborative practice, and sustaining practices,
3) Receive multiple vitality and wellbeing strategies (and teaching approaches) to take and use, and
4) have their own vitality increased and positively impacted

Intended Participants:
Open to all

Activity Timeline:
15 Minutes: Introductions of presenter, participants and themes
30 Minutes: Deep dive into the healing power of humanities and mindfulness
15 Minutes: Overview of vitality model and components
20 Minutes: Reflective writing
10 Minutes: Conclusions/Discussion/Questions
"Is that your final answer?"
How to develop, implement, and tailor an exciting game show program
Chou, Erica; Lauck, Sara
Medical College of Wisconsin

Workshop Description: Years of gam-show-style teaching that has received rave reviews from medical students and residents culminates in this exciting and interactive workshop. Through playing games such as Family Feud®, Cranium®, Minute to Win It®, and more, we will share our game show teaching expertise that is a veritable "wheel of fortune." This workshop aims to provide you with the skills and excitement to design and implement your own game show sessions. And that is our "final answer."

Workshop Rationale:
Innovative learning techniques are needed to engage today's learners. Game show formats are being used as an alternative to traditional didactic lectures in medical education. Using game format in teaching encourages active learning experiences stimulating higher thinking, such as analysis, synthesis, and evaluation. Through creating versions of games such as Family Feud®, Cranium®, Pyramid®, Minute to Win It®, Weakest Link®, and many more, we have expertise that is a veritable "wheel of fortune" to share with the workshop participants. Through hosting and studying this format, we have found that students perceive these game show sessions to be not only fun, but effective ways to learn pediatric topics. Students find the sessions to have a higher impact on their pediatric knowledge than other teaching activities and to be equally influential as direct patient care.

Learner Outcome Objectives:
By completion of this workshop attendees will be able to:
1) Design creative teaching sessions using specific game show formats
2) Apply techniques to become engaging and effective hosts/facilitators
3) Effectively troubleshoot gaming pitfalls
4) Implement effective game show teaching sessions

Intended Participants:
This workshop is designed for any individuals who educate learners. This includes faculty, residents, medical students and other educators.

Methods:
This workshop aims to provide participants with the skills and excitement to design and implement their own game show sessions. First, small groups will share their teaching experiences using games and game shows as a group. Next, we will discuss the benefits and drawbacks of this teaching method based on current literature and share evidence from our own program. Teams will then compete in a "Mega-Game" that contains elements of multiple individual games and game shows, while learning strategies to achieve game show teaching success. Tips include matching learning objectives to appropriate game show formats, effective ways for hosting and facilitating game show format teaching sessions, and troubleshooting pitfalls. Prizes will be awarded and example templates will be shared.

Activity Timeline:
(5 minutes) Share previous gaming experience as a group
(75 minutes) Play a "Mega-Game" which will contain examples of multiple games to demonstrate:
• Gaming literature and our game show teaching experience
• The matching of learning objectives to format
• The learner type targeted by certain games
• How to be an engaging host
• How to troubleshoot game pitfalls
(10 minutes) Provide other game templates to peruse

Take Home Tools:
Participants will be given the tools to successfully create and host their own game show sessions. Participants will be provided access to game show templates created by the authors.
Idea/Problem Statement: Using bedside observation, games, and simulation to improve non-technical skills, including Situation Awareness (SA) in pediatric residents.

Rationale/Need: With the Institute of Medicine, Institute for Healthcare Improvement (IHI) and Joint Commission’s focus on creating safer hospital environments, we look to High Reliability Organizations (HRO), like aviation, to borrow practices proven to reduce harm and save lives. HROs focus on human factors training to reduce safety events, and such training can be translated to the complex environment of clinical care. These Non-Technical Skills (NTS), including SA, leadership and teamwork, have been studied as an error prevention strategy in the fields of surgery, anesthesia and emergency medicine. SA for clinicians has been defined as “gathering information, recognizing and understanding, and anticipating future states”, and “updating the team” (1). In the UK, a simulated SA training program has been implemented with first year medical students using small group observation exercises and Gibb’s model of reflection to support SA training in safe and controlled environment (2). Both NTS and SA assessment tools have been developed and validated in a number of clinical settings, including the operating room and emergency department (3). At CHLA, we have a local QI effort called “SA” designed to build a shared mental model, mitigation and escalation plan for patients at risk for safety events. Working in this system faculty report ongoing SA failures of trainees. Currently, no formal NTS/SA training exists for our residents. The curriculum proposed here is intended to fill that gap.

Methods: The participants will be the 32 first-year pediatric residents at Children’s Hospital Los Angeles (CHLA). Learners will first be introduced to the concepts of Situational Awareness (SA) through a brief (15 min) self-study module. The module will open with an example of an SA failure tied to a poor clinical outcome, review the concept of SA. The module will end with an introduction to the bedside observation exercises that the learner will be participating in, using a brief video clip (i.e. Bourne Identity Movie clip). During their ward blocks learners will then participate in two, one-hour sessions to build SA skills, enhancing their ability to look and listen deeply, linking that observation to judgement, and ultimately to care planning. These skill-building game-based sessions will consist of 1) a brief didactic on a key element of SA and 2) four SA observations, with a facilitator, using patients as confederates to practice observational skills. Interns will work in groups of 3-5. They will be allowed one minute in the patient room, which will contain cues and hazards. Their job is to observe and gather information. Debriefing will be done after each environment is observed, allowing for learners to share ideas, interpret findings and anticipate patient care or safety issues. Each session will conclude with a structured reflective exercise to encourage integration of new ideas.

Evaluation Plan: Accountability will be assessed through tracking the percentage of residents who complete each element of the training. Learner reaction will be assessed through use of a standardized session evaluation forms. Learning will be evaluated in a formative fashion, using direct observation during the SA games and mock codes. Additionally, learners will do a formal standardized high-fidelity simulation using the SA Global Assessment Tool (Endsley 1995). Behavior change will be measured by a yet to be identified tool, likely auditing to be done by supervising faculty. Additionally, since we already rigorously track and review the utilization of the CHLA “SA” tool on the pediatric wards, we will be able to perform a time series analysis of resident SA failures pre- and post-intervention.

Potential Impact/Lessons Learned: Use of games and simulation is a fun, learner focused, low risk approach to improve NTS and SA, allowing learners to develop essential skills needed to transform our hospitals into HROs. This approach is scalable to learner level and applicable across a variety of fields in healthcare and beyond.

References:
Using Interactive Fiction to Teach Pediatric Residents about Child Abuse

Christman, Grant [1,2]; Schrager, Sheree [1]; Callahan, Kelly [3,4]
[1] Children’s Hospital Los Angeles, Keck School of Medicine of USC;
[4] University of California, Los Angeles

Idea/Problem Statement: To develop a serious game based on an interactive fiction model to train pediatric residents in the diagnosis and management of child physical abuse

Rationale/Need: Research has repeatedly demonstrated that e-learning methods are as effective for medical education as traditional methods of instruction, such as in-person lectures, but research comparing different e-learning modalities is less developed [1]. Gamification of learning, such as through point systems or leaderboards, can effectively motivate medical trainees, who are often ambitious and competitive [2]. There are few examples of interactive, branching narrative being used as a teaching tool in medical education, such as one that was recently used in a virtual patient curriculum for psychiatric residents [3]. Computer-based interactive fiction gaming (IF), a modality that combines serious gaming with narrative, has not been studied in medical education. Immersion in a narrative, with the learner becoming a character in a story that is fictional but supplies realistic consequences for medical decisions, may bring an emotional force to learning that is absent from other modalities, and may be particularly poignant for complex topics like child abuse. Education in child abuse is considered a standard part of pediatric residency training, and accounts for 4% of the typical board certification exam issued by the American Board of Pediatrics (according to published 2017 content guidelines). Residents at the institution in this study have access to 2 – 3 one-hour lectures on child abuse during the academic year, each of which is typically attended by about a third of the residents.

Methods: Participants in the study will be enrolled from the three classes of pediatric residents training at a single university-affiliated children’s hospital (n=96). Prior to the study, all participants will take a short survey composed of Likert-type items addressing their previous experience and perceived competence, and a knowledge test validated by a group of board-certified child abuse pediatricians. Participants will be randomized into one of two groups. Control participants will complete a traditional e-learning module on child physical abuse created in Articulate Storyline 2. This module is interactive, incorporating short patient case vignettes, images of exam findings, MCQs, and diagrams with point-click functionality. The experimental group will complete a choice-based interactive fiction game with a branching narrative structure. In the game, the player character is introduced as a recently recruited attending pediatrician at a university-affiliated children’s hospital. An outside hospital calls requesting to transfer an 18-month-old girl who presents with fussiness and an unusual skin finding. As is often the case in actual pediatric practice, it is not initially clear that the case involves child abuse, nor is it revealed to the player that this is an abuse-related learning experience. As the player makes choices in communication, diagnosis, and management, the story evolves over four acts, culminating in an outcome for the patient and her family.

Evaluation Plan: The game will award points for optimal communication and management choices. Participants can earn a total of 10 points, correlating with a patient outcome: missed diagnosis, delayed diagnosis, or timely diagnosis. A score of 11/10 will be awarded for extraordinary performance, with the recognition that the patient’s sibling has also been a victim of abuse. Participants will complete a survey specific to the method of instruction that will capture information about what elements they found most memorable and how they would change their practice as physicians. Data on usage patterns will be collected via the LMS, including time spent interacting with the module. For the interactive fiction module, information will be captured about specific choices made, internal game scores, number of attempts to play, and number of branching paths explored. Two weeks after, all participants will repeat the attitude survey and knowledge test, and we will compare changes in outcomes between groups.

Potential Impact/Lessons Learned: Interactive fiction has the potential to deliver engaging, memorable, and emotionally powerful learning experiences on serious topics like child abuse, in which decision-making is complex and choices can have life-changing consequences.

References:
**Burnout Prevention and Resiliency Building Curriculum for Emergency Medicine Residents**

Jain, Aarti, MD; Tabatabai, Ramin, MD; Johnson, Megan, MD; Torres-Ness, Craig, MD; Fishel, Tobi, MD; Nyquist, Julie, PhD; Steiner, Shara, DO, MACM

*LAC+USC Medical Center*

**Idea/Problem Statement:** Use of structured peer support groups and facilitated discussion to promote well-being and prevent burnout in emergency medicine residents.

**Rationale/Need:** It is well established that resident physicians experience high degrees of stress, burnout, and depression during and after their training programs (1-3). In a recent large study involving interns entering medical residency, the proportion of participants who met criteria for depression increased from 3.9% pre-residency to 25.7% during intern year alone (1). Burnout not only places strain on the practicing provider, but can impact patient care as well. A study performed at two emergency medicine programs showed a 57.1% physician burnout rate, with increased burnout correlating to higher frequencies of self-reported suboptimal patient care (2). The ACGME has recently amended its policy to require residency programs to “educate faculty members and residents in identification of the symptoms of burnout, depression, and substance abuse” and to “provide access to appropriate tools for self-screening” (3). In November 2016, an anonymous online survey was distributed to all 68 residents of the LAC+USC Emergency Medicine Department to examine the need for a physician wellness curriculum. Among the 57 respondents, 60% had feelings of isolation either “some of the time” or “often” and 35% reported struggling with mental health, substance abuse, or relationship issues at some point during residency. In order to address these findings, we are proposing a burnout prevention and resiliency building curriculum at the LAC+USC Emergency Medicine (EM) Residency Program.

**Methods:** The participants in this curriculum will include 68 PGY1-PGY4 emergency medicine residents. As a core strategy, we have selected use of facilitated group discussions and a peer support system. This model has been employed elsewhere to successfully decrease rates of burnout in practicing physicians (3). Our wellbeing curriculum will utilize multiple teaching techniques including small group discussion, debriefing, facilitation, and self-reflection to engage residents in burnout self-assessment and resiliency building. The 68 current LAC+USC emergency medicine residents will be divided into groups of eight or nine for the duration of the program; at minimum, each group will include two residents representing each PGY1-PGY4 training level. Small group discussions will be scheduled into the final hours of protected grand rounds educational conference time, and will occur once every six weeks from July-June for a total of eight sessions. Each session will include facilitated discussion of a given wellness topic and structured mindfulness exercises. Sample topics include: growth mindset, building grit, self-compassion, fatigue, work-like integration, and finding meaning in daily work. Program sessions will be led by either PGY4 residents or recent alumni of the residency program, none of whom evaluate residents. Group leaders have been selected and have all agreed to complete a three hour counseling training session prior to the initiation of the program.

**Evaluation Plan:** The program evaluation will include four levels: accountability, participant reaction, participant behavior, and participant well-being. For accountability, we will monitor the curriculum to log the topics addressed, mindfulness exercises utilized, and attendance. For participant reaction, we will utilize standard session evaluations and end-of-program focus groups conducted by an external evaluator. Participant well-being will be measured through a pre-post assessment utilizing the Single Item Burnout Measure and the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). Behavior change will be tracked using commitment to act forms with follow up self-report on actions taken and barriers faced in sessions. This feedback will also allow the program leadership to identify and address any systems issues that residents report at our “check-points.” The focus groups sessions will gather data about changes in attitude or behavior as a result of the program.

**Potential Impact/Lessons Learned:** As burnout becomes more widely recognized, the demand for curricular innovations to promote wellbeing is increasing. If this program is successful, it could serve as a model for other residency programs as well as educational programs in other health professions.

**References:**


Working Together: An Interprofessional Objective Structured Clinical Encounter (iOSCE)
Milanes, Liana; Jones, Nicole
Family and Community Medicine, UCSF Fresno

Idea/Problem Statement: Interprofessional objective structured clinical encounter of a family medicine resident, nursing undergraduate, and pharmacy doctoral student.

Rationale/Need: Collaborative practice has long been recognized as a means to both improve quality of care and decrease health care costs. Multiple professional associations including the Accreditation Council for Graduate Medical Education, American Association of Colleges of Nursing, and the American Association of Colleges of Pharmacy have incorporated interprofessional (IPE) skills into their training curriculum. Further highlighting the importance of these skills, recently, six of the leading health education associations created the Interprofessional Education Collaborative (IPEC). IPEC outlines six core IPE competencies as best practices.(1) In an effort to let trainees develop skills in these competencies, medical education has seen increased interest in interprofessional activities. As a result of some of the work done thus far, we know creating IPE activities can be logistically challenging and lead to wandering curriculum. As a solution, we know OSCEs can be an accessible and reliable tool for educating and assessing IPE competencies. (2, 3) The iOSCE will provide the opportunity for learners to practice team activities with other health care professionals and begin the work of mastering IPE competencies.

Methods: All activities will take place one morning in a simulation lab. At the start, all learners and participating faculty will receive an “Intro to iOSCE” lecture summarizing IPEC competencies, learning objectives, real world applications and logistics for the day. There will be a total of 27 participants divided into nine teams; each team will consist of a family medicine resident, nursing undergraduate, and pharmacy doctoral student. Three teams will independently participate in the same simulated clinical case while the other six teams watch remotely in real time. All teams will rotate until everyone has observed and directly participated. There will be 2 faculty from each discipline for a total of six faculty observers, three observing directly and three facilitating the peer observation rooms. Before starting the clinical encounter, each team will receive a brief summary sheet of the case, including profession specific content. Each participating team will have five minutes pre-simulation to review the case and discuss strategy; ten minutes of encounter; and a twenty minute debrief with the direct faculty observer. Teams observing will discuss the encounter. The day will end with an hour-long overall debrief, facilitated by all participating faculty, emphasizing IPE as well as profession specific content. The curriculum and clinical case will be developed interprofessionally to focus on IPE roles/responsibilities and communication competencies.

Evaluation Plan: A 360⁰ evaluation will be conducted; learners will complete a pre-and post- survey, faculty and peer observers will complete a validated behavioral checklist, and faculty will lead structured debriefs gathering qualitative responses. Residents will participate annually allowing us to measure longitudinal change. Pre-and post-surveys will measure change in attitude toward IPE education, self-efficacy for IPE communication, and previous experience and satisfaction with simulation. Additionally, the pre-survey will measure frequency and quality of IPE interactions over the past year, which will be analyzed for change over time. During each encounter, faculty and peer observers will complete the patient-oriented behavioral checklist. Immediately after the exercise, faculty will lead a debrief based on a semi-structured format, which will be recorded by an external observer. After all encounters are over, all faculty will lead a debrief with all learners, focusing on the IPE experience.

Potential Impact/Lessons Learned: An annual iOSCE would serve to review interprofessional competencies, stimulate self-reflection, highlight progress, and suggest areas of improvement for individual learners.

References:
A Longitudinal, Systems-Focused Morbidity and Mortality Curriculum for Emergency Medicine Residents
Zarzar, Rochelle; Hart, Danielle
Hennepin County Medical Center

Idea/Problem Statement: Use of a longitudinal, systems-focused M&M curriculum to encourage Emergency Medicine resident integration of quality and patient safety concepts

Rationale/Need: With preventable medical errors now representing the third leading cause of death in the US, there is a clear national need to improve medical training in error prevention and patient safety. (1) National surveys of medical trainees show that trainees have limited knowledge regarding patient safety and feel that additional training in medical errors is necessary. (2,3) Morbidity and Mortality (M&M) conference has long been a cornerstone of medical education and is used widely throughout residency programs of multiple specialties. Traditionally, M&M conference has focused on the review of specific patient cases and the performance of individual providers. This emphasis on individual provider decisions has limited the venue’s ability to assist learners in building knowledge and skills related to systems change and patient safety. Our program plans to adopt a new model making M&M conference a longitudinal, curricular process. Review of cases will be linked to types of errors and a variety of methods for error prevention and system enhancement will be incorporated across time. Ultimately, residents will develop new quality improvement knowledge and initiatives to prevent medical errors and improve patient safety in our Emergency Department.

Methods: Once a month, Emergency Medicine (PGY 1-3) and combined Emergency Medicine/Internal Medicine (PGY 1-5) residents (n = 47) will participate in a 50-minute M&M conference. These sessions will be a part of the residency program’s yearly conference curriculum, which is protected educational time for the residents. Through the review of patient cases, residents will identify gaps in quality and patient safety and will help to develop and integrate quality improvement initiatives. Residents will practice analyzing cases to: 1) identify the type of error; 2) link the error to systems issues; 3) recommend changes in departmental policy or procedures to prevent this type of error in the future. Once residents build these analytical skills, the curriculum will move to metacognitive and reflective skills as learners identify their own errors for self and team-based analysis. By the end of the program, each learner will develop a quality improvement project to prevent a medical error exemplified by one of their own patient cases.

Evaluation Plan: At the end of each session, learner reactions will be surveyed. Resident understanding of patient safety and medical errors will be compared through a pre and post-curriculum knowledge assessment. Learner understanding of content will also be assessed through in-conference analysis of cases. Learner reaction will be evaluated by resident participation and willingness to volunteer personal errors for review, while learner behavior will be assessed by changes made through individual commitments to act. Finally, improvements from implemented department-wide quality initiatives will be tracked to assess the impact of the curriculum beyond the learners.

Potential Impact/Lessons Learned: By equipping residents with a better understanding of medical errors from a systems, quality, and patient safety perspective, we hope to reduce the overall number of medical errors and improve patient safety. If successful, this longitudinal M&M curriculum could be implemented by programs nationally.

References:
Qualitative Data Analysis: An Introduction  
Vo, Anne, PhD  
Keck School of Medicine of the University of Southern California

Workshop Description:  
This hands-on workshop offers participants an opportunity to practice analyzing qualitative data that are collected using surveys. Activities will be integrated throughout the session to build participants’ analytic tool kit. Practice data will be provided. Participants need to bring a laptop or mobile device with MS Excel preinstalled.

Workshop Rationale:  
Research conducted in medical education settings often involves limited sample size and does not lend itself to statistical and significance tests. The medical education community has begun embracing qualitative methods as a means to better understand intervention mechanisms and to shed light on non-significant statistical results. The purpose of this workshop is to introduce techniques and strategies for working with and analyzing narrative data.

Learner Outcome Objectives:  
By the end of this session, participants will be able to:  
1) Describe strategies for coding and analyzing categorized data (i.e., nominal data)  
2) Describe strategies for coding and analyzing uncategorized data (i.e., narrative data)  
3) Be able to identify advantages and disadvantages of collecting nominal and narrative data

Intended Participants:  
This session is intended for participants with beginner-level experience analyzing narrative and text data in medical education research. Individuals who hold leadership and support positions within their environments (e.g., program directors, coordinators, assistants, analysts) will benefit from this session.

Instructional Methods:  
A number of different pedagogical approaches will be used throughout the workshop to help participants attain the learning objectives outlined above. Examples include lecture (LEC), demonstration (DEMO), large group discussion (LGD), and hands-on activities (HOA). Use of each approach is mapped on to the session agenda that appears below.

Getting to Know You - LGD (10 mins.)  
Background on Qualitative Inquiry - LEC (10 mins.)  
Working with Categorized Data - DEMO (7 mins.), HOA (10 mins.), LGD (5 mins.)  
Working with Uncategorized Data  
LEC (7 mins.), DEMO (10 mins.), HOA (15 mins.), LGD (5 mins.)  
Session Wrap-Up/Feedback - LGD - 10 mins.
Workshop Description: Physicians are automatically leaders of their teams, but medical school curricula are lacking in ways to teach skills related to team building and leadership. This workshop will use fun, easy activities to effectively build leadership attitudes and skills as it relates to team building. Participants will leave with an evidence based model for team development and a concrete method to improve team building skills for their home institutions.

Workshop Plan: Outcomes of this workshop include an understanding of the Tuckman Team Development Model and how to realistically implement it, example of team resume that can be taken back to home institution, knowledge about forming and leading a team in its initial stage, through an evidence based method and based on each person’s individual leadership style, and evidence for the Tuckman Model and how it can be directly applied to medical education. Intended participants include anyone working in teams in medicine, so this includes all learners at every level (medical students, residents, faculty, and administration).

This workshop will begin with the Competing Values Framework, which helps participants choose a leadership style. Then, we will discuss the strengths/weaknesses of each style and how that relates to working in a team. Groups will be formed, ideally with each person representing a unique style. Teams will work together to complete two challenges: 1) the rope challenge, which will not use the Tuckman Model, and 2) the calculator challenge, which will use the Tuckman Model. This will allow participants to actively apply the Tuckman Model while seeing its effectiveness firsthand. The rope challenge will involve the group, while all blindfolded, to search for a piece of rope nearby and create a perfect square with that rope. Rules for the activity include that group members cannot let go of the rope, change sides, or move around participants, but they can slide down the rope. Then, teams will be given a short, unstructured break. During this time, some teams will most likely debrief and come up with a better plan for the ask, while some teams will not. Then, the groups will be instructed to repeat the activity.

Afterwards, we will introduce the Tuckman Team Development Model, which involves 5 stages: a) Forming: promoting safety and acceptance into the group, b) Storming: conflict, c) Norming: debrief and revision to approach, d) Performing: reworking through the conflict together, and e) Transforming: affirming the team.

Using these 5 stages, we will do the calculator challenge to show how much more effective this model is than going into a team activity without any structure. The Forming stage includes a specific icebreaker with introduction of name, role in medicine, and leadership style from the Competing Values framework. Then, groups will discuss strengths and weaknesses of each person’s leadership style. They will then set a team resume, with a worksheet discussing contributions that each member brings to the team and any conflicts that could arise. The Storming stage is when the conflict is introduced. Plates numbered 1-20 are placed inside a circle made from rope to make the calculator. When facilitator says “go,” group must take turns touching and saying aloud numbers 1-20 in order while timing themselves. Specific rules include that everyone in the group must touch a number, only one person can touch each number, and everyone must remain on the outside of the perimeter of the rope circle and can only reach their hand into the circle to touch their number. Norming involves a formal debrief with revision of plan for the conflict. Team resume is updated with new plan and any other changes. The Performing stage allows groups to work through the conflict again, when the groups will be much more effective at the task. Then, group members and their roles will be affirmed for the Transforming stage. At the end of the session, debrief and reflection will be done to ensure connection back to medicine, leadership, and education.
Discussion Description: This facilitator-led open discussion will explore both the barriers and successful strategies used to attract, retain, and promote women in academic medicine. The session is designed for participants at all levels of experience within academic medicine who wish to appreciate and share personal narratives as well as brainstorm proactive, growth mindset-focused strategies to further the advancement and parity of women in medicine. The ultimate goal of this open discussion is to identify a generalizable set of best practices that can be implemented by women in academic medicine.

Workshop Rationale:
The advancement of women has become a critical issue in all sectors. While the number of women in the workforce has increased, women still have not gained parity with male counterparts in many industries, including medicine.(1, 2) Data…derived from the 2014 Women in Medicine and Science Survey illustrate that women remain underrepresented at key career stages – in particular among senior faculty ranks, department chairs, and medical school deans.(3) Closing the wage gap and helping women achieve equity with men requires an understanding of the culture and barriers challenging advancement as well as a focus on strategies to diminish obstacles impeding desired and deserved successes for women throughout medicine. Our intervention will explore both the barriers and successful strategies used to attract, retain, and promote women in medicine. We hope to develop a generalizable set of best practices that can be implemented within various contexts to improve professional opportunities.

Methods:
A Likert scale and free text survey will be distributed via email to women in academic and clinical medicine across the United States during Phase One of the project. Qualitative and quantitative analyses of the responses will reveal common cultural aspects and barriers challenging advancement for women practicing across a wide spectrum of roles and responsibilities within medicine. The survey will also focus on understanding strategies used to gain promotion, advancement, and improved quality of life professionally. Once collected and analyzed, the data will inform the approach, topics, and activities for a face-to-face workshop at the 2018 IME Conference, which will comprise Phase Two of the project. The goals of the workshop are to deepen our understanding of survey data through conversation, sharing of narratives, and brainstorming. During Phase Three, the information gathered at the workshop in conjunction with the survey data (all identified/anonymous), will be further analyzed and reported in the form of a generalizable set of best practices that can be implemented by women in medicine within various contexts.

Evaluation Plan:
Accountability in the form of response rate will be evaluated in Phase One of the project. During Phase Two, learner reaction to the workshop will be evaluated through participant satisfaction surveys as well as level of engagement in the workshop activities and discussion as observed by the workshop facilitators. Learner behavior will be evaluated through a Commitment-to-Act with longitudinal follow-up six weeks after the workshop. Ideally, participants from Phases One and Two will be amenable to being contacted by the project coordinators after Phase Three (dissemination of best practices) in order to evaluate reaction and changes in behavior and/or professional status.

Impact:
The goal is to impact the lives of individual women in medicine, and albeit ambitious, the culture of medicine as a whole. We aim to at least start a conversation around proactive, growth mindset-focused strategies to further the advancement and parity of women in medicine.

References:
2) Nasmith L. Where are the women leaders in medicine? Medical Post. 2006;42(8):19.
Presenters’ Bios

Abraham, Reeni A., MD
Reeni Abraham received her MD from Texas Tech University. She then completed her Internal Medicine Residency training at Albert Einstein Montefiore in the Bronx where she served on faculty for two years as an Academic Hospitalist in the Jack D. Weiler Hospitalist Division. Travelling across the world, she worked in New Zealand for six months as an internist specialist at the Gisborne Tairawhiti Hospital which serves the largest population of indigenous Maori in the country. Returning to her home state of Texas in 2009, she began working at UT Southwestern, one of the largest medical schools in the country. She is intimately involved in medical education through her role as the Internal Medicine Clerkship Co-Director and chair of the Internal Medicine Residency Advising Committee. Her clinical efforts are focused on Academic Hospitalist Medicine and Palliative Care. Her passions are empathy in medicine, patient-physician communication and the professional development of physicians.

Abrams, Madeleine, LCSW
Madeleine Seifter Abrams is Director of Family Studies in the Department of Psychiatry at Albert Einstein College of Medicine and is responsible for all teaching and supervision in the area of family and systems. In her additional role as Clinical Coordinator for the East Campus of the program, she manages the educational program for residents rotating at a state psychiatric facility serving people with serious mental illness. She has presented widely at national and international conferences often with residents and fellows she has mentored. Further, she has published on topics of family, systems, academic subjects including new training models and innovative curricula, as well as on adolescence, siblings, and trauma.

Advani, Raina, MSII
Raina is currently in her second year of study at the University of Michigan Medical School. She serves on the executive board of Doctors of Tomorrow as the Director of Mentorship, and is the co-president of the South Asian Medical Student Association. She is a member of the Patient Safety and Quality Improvement Path of Excellence. In her first year, she participated in electives in Clinical Reasoning and Medical Spanish. This past summer she spent time doing research on contraceptive usage in adolescents under the Affordable Care Act with the University of Michigan Department of Obstetrics and Gynecology. Prior to matriculating to medical school, she received a B.A. in Psychology and Sociology from the University of California Berkeley, and completed the Post-Baccalaureate Premedical Program and Columbia University.

Aguiniga, Lola, LCSW
Ms. Aguiniga is a Licensed Clinical Social Worker and member of the Behavioral Science team in the Department of Family & Community Medicine. She is an experienced Mental Health Clinician and also has significant experience in the area of Cross-Cultural Proficiency (CCP), having served for many years as the head of CCP for Fresno County Behavioral Health. She teaches at CSU-Fresno in the graduate program for Clinical Social Work.

Alas-Segura, Monika, MD
Originally a Bay Area native, Monika attended Dominican University of California in San Rafael, CA. She attended the Keck School of Medicine of the University of Southern California where she earned her MD degree in May 2012. She pursued her lifelong passion to become a pediatrician, graduating from the Los Angeles County + University of Southern California Pediatrics Program in June 2015 and completed a chief residency year June 2016. Monika’s desire to continue to work with an underserved population and to continue training future physicians led to her appointment as an Assistant Professor of Clinical Pediatrics and Associate Pediatrics Residency Program Director at the University of Southern California. In her short time on faculty, she has participated in resident curriculum development – assisting in the revamping of the residents as teachers’ curriculum. Monika chairs the clinical competency committee and has an active role in leadership and logistical planning in the primary care clinic. Currently, she spends her time seeing her own panel of patients in the primary care setting, supervising residents in...
both the outpatient and inpatient settings. Her academic interests include curriculum and leadership development, advocacy for underserved populations and health literacy.

Aliedeh, Hashem M.
Hashem M. Aliedeh is a senior medical student studying in the faculty of medicine, Mutah University, Karak, Jordan. He finished the fourth year and started the clinical fifth year. He is characterized by his deep thought and being highly attracted to the TTA approach. He is planning to invest his future years in implementing this innovative methodology in medical realm.

Aliedeh, Mohammad A., PhD
Mohmmad A. Aliedeh is an Assistant Professor in the Department of Chemical Engineering, Mutah University, Karak, Jordan. He completed his Ph.D. at New Mexico State University, Las Cruces, NM, USA, and his undergraduate and Master studies at Jordan University of Science and Technology (JUST), Irbid, Jordan. From 1992 to 1994 he worked as an operation engineer for Jordan Sulphochemical Company, Zerqa, Jordan. His research interests include Multi-Phase Flow, Turbulence Modeling, Phosphogypsum Recycling Process, and Engineering Education, Thinking-Based Reform. Recently, he developed and published a new Educational Reform Approach that is called Transparent Thinking Approach (TTA).

Alvarado, Maritza, MD, PhD
Maritza Alvarado is a second year Family Medicine resident at Adventist Health White Memorial Medical Center in Los Angeles. She graduated from the University of Illinois, Medical Scholars Program in 2016 with a MD and PhD in Neuroscience.

Alvarez, Paul, MSIII
Paul Alvarez is currently a 3rd year medical student at the University of North Carolina School of Medicine. His interests include pursuing a surgical residency as well as medical education as it relates to clinical mentorship. He also intends to be actively involved in hospital administration during his career, while conducting research to effect change at a higher level. Currently, he is already making strides towards developing as a leader in medicine as he is involved in student government at UNC.

Anderson, Mitchell P., MSIII
Mitchell is a Tufts University School of Medicine MD Candidate, Class of 2020. He also earned while at Tufts University a M.S. in Biomedical Science in 2015. At the University of California, Los Angeles he garnered a B.S. with a double major in the subjects of Integrated Biology and Physiology Environmental Science, with a minor in Environmental Systems and Society.

Appukutty, Abhinav, BSE
Abhinav Appukutty is a student at the University of Michigan Medical School in Ann Arbor, MI, and completed his undergraduate degree in biomedical engineering at UM in 2017. He currently serves as the Co-President of Sling Health - Ann Arbor and as the Director of New Chapter Development of the Sling Health Innovator Network, through which he helps foster a culture of medical innovation and interdisciplinary collaboration across university campuses. He is interested in using his engineering background and future medical degree to facilitate medical education and promote discovery, innovation, and quality improvement to benefit healthcare systems. Email: aappukut@umich.edu

Ashraf, Mahela, MD
Mahela Ashraf is a psychiatry resident physician at Central Michigan University College of Medicine (CMED) in Saginaw, MI. Dr. Ashraf completed her BS in English from the University of Michigan - Ann Arbor. To foster her interest in the sciences, she worked as a research assistant in the Pediatrics Genetics Department for four years. Additionally, Dr. Ashraf pursued research at the University of Michigan Center for Human Growth and Development, in particular, the Obesity Study - which was a maternal feeding study investigating childhood obesity, parenting behavior, and self-regulation. Dr. Ashraf was a brigade volunteer in Honduras with UM-Honduras Medical/Public Health Brigade and vice president of the UM-Ghana Medical Brigade. With a passion for teaching, Dr. Ashraf began working for America Reads Tutoring Corps and tutored elementary students in Detroit, MI. Between completing her
undergraduate studies and joining the inaugural class at CMED, Dr. Ashraf worked as a Patient Services Assistant in the Surgery Department at C.S. Mott Children’s Hospital. Dr. Ashraf held additional positions as: writer for Oath Committee, co-founder and vice-president of Student National Medical Association CMED, researcher alongside Dr. Sandra Howell on patient advocacy in Surgery/Oncology, and CMED Clinical Site Advisory Committee member. Lastly, the role Dr. Ashraf holds dearest in life is that of an aspiring writer with a genuine focus on understanding the human experience.

Austin, Armaity Vaghaiwalla, MD, MPH, FAAFP, ABoIM
Armaity Vaghaiwalla Austin is Associate Clinical Professor in the Department of Family Medicine at Keck School of Medicine and is a Faculty at CHMC/USC Family Medicine Residency at California Hospital. She is the Founding Faculty and Course Director of Integrative Medicine curriculum for medical students at KSOM USC. She is Co-Chair of the Education Committee at Institute for Integrative Health at USC. She enjoys traveling, photography, music, reading, and yoga.

Awad, John, MD
Dr. Awad is currently an Internal Medicine categorical resident physician employed at Kaiser Los Angeles Medical Center. Prior to his employment, John received his formal medical education at George Washington University in Washington, D.C. There, he was highly involved in the HOPE association and Justice for Juniors (JFJ)—two nonprofit organizations devoted to meeting the needs of various underserved populations in the nation’s capital. Through HOPE and JFJ, John helped rehabilitate juveniles awaiting trial for various criminal offenses, tutored elementary school students at local Randolph Elementary, and assisted individual members of the homeless population of DC in finding necessary resources for employment and other basic needs. As a student, he also partnered with Be the Match to arrange a class-wide bone marrow registry donor drive and raise awareness for the necessity of bone marrow donation. For his humanism in medicine and service to others, he was inducted into the Arnold P. Gold Humanism Honor Society. Prior to medical school, he attended the University of Southern California, where he majored in Health Promotion and Disease Prevention. During this time, he helped found a local free medical clinic for the uninsured of Glendora and Covina, served as a high school basketball coach for his church, and educated inner-city Los Angeles elementary school youth in the health sciences through participation in the Joint Educational Project (JEP) at USC.

Banuelos Mota, Andrea, MSII
Andrea is a second-year medical student at the Keck School of Medicine of USC. She obtained her undergraduate degree at UC Berkeley and worked in the non-profit field for several years before beginning medical school. She is proud to be the first in her family to complete elementary school, high school, obtain an undergraduate degree and pursue a career in medicine. Andrea grew up in a low-income community in the Los Angeles area and is the daughter of Mexican immigrants. Through her humble upbringing, she learned to appreciate the value of an education and realized that not everyone has the privilege to pursue his or her educational dreams. For that reason, she has worked hard throughout her school years. From a young age, Andrea has had a passion for serving communities like the one where she grew up. She knows first-hand the struggles that low-income underserved community members endure and she wants to do her part towards alleviating those struggles—particularly those related to health care and health care access. This passion has driven her desire to pursue a career in medicine through which she aspires to become a primary care physician and practice in a low-income minority community.

Barnett, William R.
William R. Barnett is the Quality Improvement & Patient Safety Educational Officer for Internal Medicine Residency at the University of Toledo. His approach to clinical quality improvement is focused in utilizing tools and techniques from his background in Lean and Six Sigma. As a certified quality engineer, he possesses a thorough understanding of quality systems, process analysis, and human factors. Previously, William worked for the University of Toledo Medical Center as an analyst in the Quality Management Department. He graduated from Eastern Michigan University with an M.S. in Quality Management and from the University of Detroit-Mercy with an M.A. in Financial Economics. Currently, he is a doctoral student in the Research & Measurement program at the University of Toledo.
Barqadle, Fatuma, MD
Fatuma Barqadle is a first year hospital medicine fellow at Children’s Hospital of Los Angeles/University of Southern California where she is also pursuing a Master of Academic Medicine. She completed her pediatric residency at INOVA Children’s Hospital in Northern Virginia. Her research and scholarly interests are in medically complex patients, inpatient complex care models/programs and undergraduate medical education. She is currently working on developing a complex care curriculum for fourth year medical students.

Bell, Catherine, BA
Catherine Bell has a BA degree in psychology and is currently pursuing a teaching credential in primary education at the University of Alberta. She is a research assistant in the IDEAS Office in the Faculty of Medicine & Dentistry at the University of Alberta. She has a strong interest in early childhood education and improving care for people with disabilities.

Benferhat, Anees, MD
Dr. Benferhat is a graduate of Icahn School of Medicine at Mount Sinai in New York, NY. He is currently a third-year resident in psychiatry at Montefiore Medical Center/Albert Einstein College of Medicine in New York City. He has been taking improvisational theater classes since 2010, and along with Dr. DellaCava, he teaches a medical improv course to third year medical students at Albert Einstein College of Medicine. In addition to improv and medical education, his interests include child and adolescent psychiatry, psychodynamic psychotherapy, mindfulness, and global and immigrant health.

Bennallack, Guy, DO
Guy Bennallack is a PGY-3 resident with Marian Family Medicine Residency in Santa Maria, California. He is currently chair of the residency's didactic committee and is committed to improving the educational program for our residency. In his free time he enjoys the outdoors, is an avid surfer on the Central California coast and enjoys spending time with his wife Lauren and their dog Bentley.

Besinque, Kathleen, PharmD, MSEd, FASHP, FCSHP, FCPhA
Kathleen Besinque is a Professor of Pharmacy Practice and Director of Experiential Education at the Chapman University School of Pharmacy. She also holds a voluntary appointment as Adjunct Clinical Professor of Medical Education with the Keck School of Medicine. She received both her Doctor of Pharmacy degree and an MSEd. from the University of Southern California. After receiving her Doctor of Pharmacy degree, she completed a PGY1 post-graduate residency with the Veterans Affairs and USC School of Pharmacy specializing in Ambulatory Care. She has worked in academic pharmacy for many years in the areas of women’s health and experiential education. She is actively involved at the leadership level with several pharmacy professional organizations.

Bhatia, Parul, MD
Dr. Parul Bhatia is a Clinical Associate Professor (clinician-educator) of Pediatrics at the Keck School of Medicine USC (KSOM) and general pediatric attending at Children’s Hospital Los Angeles (CHLA). Her primary teaching role is as the co-director of the year III/IV pediatric core clerkship at KSOM, and she is actively involved in didactic and clinical education for the CHLA pediatric residency program. Dr. Bhatia started and is co-lead instructor for a Pediatrics course in the Dornsife College of Letters, Arts, and Sciences at USC. She is the AAP California Chapter 2 Champion for Early Hearing Detection and Intervention, and is the former Regional Network Member for the National Center for Hearing Assessment and Management for the states Alaska, Arizona, California and Nevada. She has mentored several residents and students, and is a three-time recipient of the Year III Faculty Teaching Award and Year IV Faculty Teaching Award at the KSOM.

Birkman, Clair, MLIS
Clair Birkman received a Master's of Library and Information Science from UCLA in 1999. Upon graduation, she joined the National Library of Medicine’s (NLM’s) Regional Medical Library program, where she contributed to outreach and education activities for the NLM throughout the pacific southwest region of the US. In 2000, she began at the University of California San Francisco, where she served as Education Liaison to the School of Nursing and Social and Behavioral Sciences, teaching extensively as
well as providing research support for faculty and graduate students. In 2005, Ms. Birkman joined the University of Colorado Denver's Area Health Education Center, where she provided instruction and research support for clinical preceptors throughout the state of Colorado, as well as teaching in the School of Medicine’s Teaching Scholars Program. She came to the University of Alberta in 2012, and since that time has taught in the Faculty of Medicine & Dentistry’s (FoMD’s) Teaching Scholars Program, and provided research support to faculty in the FoMD.

Blanks, Dominique
Dominique Blanks is a program assistant for community engagement at Wayne State University School of Medicine (WSUSOM). She is a MPA candidate specializing in Healthcare Services Management and Policy and holds a bachelor’s degree in Social Relations and Public Policy from MSU’s distinguished James Madison College. Ms. Blanks has volunteered at WSUSOM free clinics for the last 3 years. She is extremely passionate about helping underserved populations in Detroit and conducts research on the impact of student volunteering in the community.

Brazile, Tiffany, MSIV
Tiffany Brazile is a 4th year medical student and Medical Education Scholar at the Geisel School of Medicine at Dartmouth. At Geisel she has been an active participant in curriculum redesign as a medical student representative. Additionally, she proposed and has been co-developing an elective course for both medical and engineering students to accelerate collaboration on medical innovation projects, supported by Douglas Van Citters at the Thayer School of Engineering. Tiffany is also a mentor for “1000 Girls, 1000 Futures”, a program for female high school students interested in STEM careers, sponsored by the New York Academy of Sciences’ Global STEM Alliance.

Bruzik, James, PhD
James Bruzik received his undergraduate degree Magna Cum Laude from Case Western Reserve University with majors in Biochemistry and Chemistry. Subsequently, he went to Yale University as a graduate student in Molecular Biophysics & Biochemistry working in the laboratory of Dr. Joan Steitz. There, he published several papers stemming from the discovery of the mechanism of trans-splicing; a gene expression pathway utilized in many lower eukaryotes, including human parasites. Dr. Bruzik then moved to Harvard University working with Dr. Tom Maniatis as a Jane Coffin Childs Fellow furthering his study of trans-splicing, including demonstration of this novel reaction in human cells. Subsequently, he moved to Case Western Reserve University School of Medicine as a founding member of the Center for RNA Molecular Biology. There he established his laboratory garnering a New Investigator Award from the Burroughs Welcome Fund as well as awards from the American Cancer Society and National Institutes of Health R01 funding. In addition to research, Dr. Bruzik taught undergraduate, graduate and medical students. He became involved in the curriculum revision project at CWRU SOM leading to his leadership of a large block of the first year. He was also appointed Dean for Medical Student Research. Currently, Dr. Bruzik is an Associate Dean at Saba University SOM as well as Medical University of the Americas.

Bunin, Jessica L., MD
Dr. Bunin is Associate Program Director in Internal Medicine at Tripler Army Medical Center in Honolulu. A graduate of the United States Military Academy at West Point, Dr. Bunin received her MD degree from Tulane University, and completed a combined Internal Medicine-Psychiatry Residency, and a Critical Care Fellowship at the National Military Medical Center in Washington, DC. She is currently Director of Critical Care Medicine at Tripler Army Medical Center in Honolulu.

Calton, Rakesh, MD, MHM, MBA, MPhil (HHSM), FACHE, CHE
Rakesh Calton completed his undergraduate medical degree and post graduate training in Internal medicine from prestigious Christian Medical College, India. Dr. Calton has more than 25 years of clinical practice, medical teaching, clinical research, and healthcare management. Dr. Calton is a board certified healthcare executive (FACHE) and a Certified Healthcare Executive (CHE) of the Canadian College of Health Leaders. He has a Master’s Degree in Hospitals and Health Systems Management, and a Master’s in Business Administration. Dr. Calton obtained his most recent Master’s degree in Healthcare Management from the DeGroot School of Business, McMaster University, Ontario. Dr. Calton was the
Administrator/Assistant Professor in Medicine and an Executive Director of large multidisciplinary hospitals prior to immigrating to Canada in 2010. Dr. Calton is an avid researcher and has many publications to his credit. Dr. Calton has been teaching in Caribbean Medical Colleges since 2012 and is currently a Professor of Clinical Skills/Systems and Diseases, at Saba University School of Medicine, Saba.

Cassell, Anna, MSII
Anna Cassell is a second year medical student at the University of Utah School of Medicine. She holds a BA in Human Biology Anthropology and Science in Human Culture from Northwestern University. She has a Masters in Primary Care Research from the University of Cambridge where she studied the epidemiology of multimorbidity in primary care. At the University of Utah, she serves as second year class President, Co-Director for the Midvale CBC Clinic, and President of the American Medical Women’s Association. Her research interests include medical school curriculum, sports related concussions, and developing and implementing novel ways to approach primary medical care. In her free time, she enjoys backpacking, mountain biking, trail running, and skiing.

Castaneda, Peris, MSII
Peris Castaneda is a second-year medical student at the University of Michigan Medical School, where she is involved in medical education as the Curriculum Representative for the Interprofessional Clinical Experience course and for the Chief Concern course. She is also a member of the Scholarship of Teaching and Learning Path of Excellence at UMMS. She received her B.A. in Environmental Analysis from Pomona College and her M.A. in Teaching from Dominican University.

Chang, Todd P., MD, MACM
Todd P. Chang is a graduate of the Master’s in Academic Medicine program from Keck School of Medicine in 2014, and is currently Associate Professor of Pediatrics (Educational Scholar) for the Keck School of Medicine at University of Southern California. His clinical training is in Pediatric Emergency Medicine and currently works shifts at Children's Hospital Los Angeles. Todd's career focus has been on scholarly approaches to using simulation, virtual reality, and serious games approaches for medical education to influence patient-level outcomes. He is currently working on multiple grant-funded studies examining the calculated uses of mannequin-based simulation, gamification, and virtual emergency departments on provider motivation, knowledge, efficiency, and stress physiology. He serves on the Pediatric Emergency Medicine Collaborative Research Committee (AAP) and the Pediatric Emergency Research Networks steering committees and the International Network for Simulation in Pediatric Innovation, Research, & Education (INSPIRE).

Chang, Willie, MSC
Willie Chang is an MSc in Applied Computing student at the University of Toronto and a System Administrator and research assistant at the Centre for Computational Medicine, SickKids Hospital for Sick Children, Toronto. He specializes in computational biology and speech/audio processing. Previously, he worked at the Centre for Bioinformatics, McGill University, Montreal.

Chatfield, Amy J., MLS
Amy J. Chatfield is an Information Services Librarian and liaison to the School of Pharmacy at the University of Southern California's Norris Medical Library. prior to joining USC, she worked at the UCLA Louise M. Darling Biomedical Library. She received her MLS from Wayne State University (Detroit, Michigan) and her undergraduate degree from the University of Michigan.

Chavez, Natali
Natali Chavez is currently a premedical university undergraduate student in biology with minors in applied physics and chemistry. She works as a quality improvement analyst for a diabetes clinic, volunteers with UCLA/COPE healthcare solutions at St. John’s Hospital Oxnard and tutors her peers. She enjoys trail running, exploring the Channel Islands ocean ecosystem by ship and will participate in a Smithsonian Institution/NSF sponsored research expedition to the north pole in 2018.
Chawla, Neil, MD
Dr. Neil Chawla is an Associate Physician with the Southern California Permanente Medical Group. He completed his medical degree at the Keck School of Medicine at USC in 2011 and came to Kaiser Permanente Los Angeles for internship and residency in Family Medicine. Dr. Chawla then completed the Community Medicine fellowship in 2015, during which time he developed a mentorship pipeline program for high school students interested in health careers and started a summer program for college and medical students to teach local high school students about the social determinants of health. Dr. Chawla currently serves as Clinical Faculty in the Department of Family Medicine at Kaiser Permanente Los Angeles Medical Center, where he has a blended practice of primary care, urgent care, and hospital medicine. He is the co-director of the Health Policy and Social Mission Collaboration, which runs a two-week elective in health policy for resident physicians. He also teaches students and residents at Kaiser Permanente and at the UCLA Mobile Clinic, and is a Longitudinal Clinical Primary Care Mentor for USC-Keck medical students. He holds a Clinical Assistant Professor position in the Department of Family Medicine at Charles R. Drew University of Medicine and Science and the UCLA David Geffen School of Medicine.

Chlebowski, Meghan, MD
Dr. Meghan Chlebowski earned her Doctor of Medicine degree from the University of Missouri - Kansas City School of Medicine and her Bachelor of Chemistry degree from the University of Missouri - Kansas City. She is a board-certified pediatrician in Missouri and completed her fellowship in pediatric cardiology in June 2017. She is pursuing specialized training in pediatric cardiac intensive care and is currently completing a second fellowship in pediatric critical care medicine at St. Louis Children's Hospital. She is also currently pursuing a Master of Health Professions Education from the University of Missouri - Kansas City. Dr. Chlebowski is passionate about health professions education, particularly as it relates to the education of patients and families. She is currently developing a collection of lesion-specific technology-based educational modules for patients and families with different types of congenital heart disease.

Chou, Erica, MD
Erica Chou is an Assistant Professor of Pediatrics in the section of Hospital Medicine at the Medical College of Wisconsin. Medical education is her academic focus. She is the co-director of the M2 Foundational Capstone course, which focuses on preparing medical students for their third-year clinical clerkships. She also serves as a clinical facilitator for the biochemistry case-based discussion sessions and Bench-to-Bedside course. She is most proud of the gameshow format teaching sessions for the pediatric clerkship that she developed along with Sara Lauck, MD. The sessions were very well received by students and were the basis for creating this workshop, which has been presented both locally and at national conferences.

Chou, Jonathan C., MSIII
Jonathan C. Chou is a third-year medical student at the Keck School of Medicine of USC. He holds a B.A. (Hons.) in English from Brown University and an M.S. in Narrative Medicine from Columbia University. At Keck, he was a representative of the Medical Humanities Interest Group and the Psychiatry Student Interest Group. In 2015, he was awarded a Narrative Medicine Fellowship to complete research on the feasibility and effectiveness of personal narrative writing workshops with medical students and patients with HIV.

Christman, Grant, MD
Dr. Christman is a pediatric hospitalist at Children's Hospital Los Angeles and Director of Education of the Division of Hospital Medicine. He is also a student in the Master of Academic Medicine program at 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. His current projects include: peer learning communities for observation and feedback on family centered rounds; child abuse e-learning modules for residents; and developing interactive fiction as a modality for medical education.
Clifton, Maurice, MD, MSED, MBA
Maurice Clifton received his undergraduate degree from Harvey Mudd College in Chemistry. He then joined the U.S. Peace Corps where he taught fresh-water fisheries for two years in Guatemala. He went to medical school at the University of Washington, and subsequently completed his internship and residency at Cedars Sinai Medical Center. After practicing primary care at a county clinic in Los Angeles, he completed a fellowship in Adolescent Medicine at Children’s Hospital of Los Angeles. Moving to Pittsburgh after his fellowship, he completed a Master’s degree in Medical Education at the University of Southern California. Using his M.S.Ed degree, he was named Director of Student Advising in the Office of Student Affairs at the University of Pittsburgh School of Medicine, he was responsible for the advising program, and Director of the Advanced Clinical Education Center, where he developed the Standardized Patient Program. Dr. Clifton then transitioned to Associate Dean for Admissions and Student Affairs at Mercer University School of Medicine and was subsequently named Senior Associate Dean for Academic Affairs at the Commonwealth Medical College where he was responsible for the admissions, student affairs, and the curriculum. He obtained his most recent Master’s degree at the Wharton School, where he attended the Executive MBA program and he currently is an Associate Dean at Saba University School of Medicine and the Medical University of the Americas.

Collins, Sarah, MBA, PhD
Sarah Collins serves on a small team of academic professionals and physicians responsible for administration and direction of the Internal Medicine clinical core clerkship and UME electives at one of the largest medical schools in the country. A newcomer to medical education, Sarah Collins has enjoyed a 20-year career in post-secondary education most of which was dedicated to directing grant-funded and at-risk and adult learner programs that supported students’ success in the academic environment. Her research experience centers on the effectiveness of educational programs to enable at-risk students to be academically successful, and she believes that her foremost responsibility as a ‘scholarly administrator’ is to help students fulfill the academic achievement promises made to themselves and their families as they envision and make plans for their future.

Colt, Alexandra, MSIII
Alexandra Colt is a third-year medical student at the Keck School of Medicine of USC and hopes to go into pediatrics. She was thrilled to be able to combine her love of teaching and kids to improve their health and well-being in this study. She was particularly impressed with the students’ interest in the science of sleep and caffeine, their desire to learn, and willingness to change habits in order to improve their sleep. She is enthusiastic about presenting the results of this project to teachers, parents, and medical professionals so as to improve the lives of as many kids as possible. She is grateful to the Bravo High School administration for their support of this project. She is very appreciative to her research mentor, Dr. Jo Marie Reilly, for her dedication and unending support, and to her friends and family who have encouraged and supported her, especially during medical school.

Combs, Meri, RN, FNP, MSN, BC-RN, CCRN
Meri Combs is currently the Critical Care Nurse Manager at Hendrick Medical Center in Abilene, Texas. She is responsible for the 24 bed combined Critical Care unit, and serves on many hospital and department committees that focus on quality and evidence-based care and practices. She is also a Family Nurse Practitioner and Physician Assistant. Her career has involved direct patient care, management, and administration; and most recently, a passion for education and the growth and development of others. email: mericomb@usc.edu or mcombs@hendrickhealth.org

Cooley-Wilder, Sabrina, MD
Sabrina Cooley-Wilder is an Urgent Care physician at Memorial Care Medical Group in Huntington beach, CA. She has mentored Family Medicine residents at Kaiser Permanente Orange County from 2014-2016, and UCI medical students from 2017-current. She has been board certified in Family Medicine since 2014. Dr. Cooley-Wilder is a graduate of the Ohio State University College of Medicine, and completed her Family Medicine residency training at Kaiser Permanente Orange County in 2014. She proudly served 4 years in the Navy from 2006-2010. She has a special interest in Residents and medical students with academic difficulties. She recently published an article called “Resident in
Difficulty” documenting her own struggles as a Resident physician in a personal essay in the Society of Teachers of Family Medicine May 2016 issue.

**Cruz, Moises, MD**
Dr. Cruz serves as Program Director for both the Kaiser Permanente Southern California Community Medicine Fellowship and the combined Internal Medicine/MPH track. He is Co-Director for the KP Resident Elective in Health Policy and holds an appointment as Assistant Clinical Professor of Medicine at UCLA David Geffen School of Medicine. Dr. Cruz completed his residency in Internal Medicine at Kaiser Permanente Los Angeles Medical Center and received his medical degree from the University of California San Diego. He holds a Master's in Public Health from the University of California, Berkeley. Dr. Cruz is dedicated to improving health access for underserved populations and to eliminating health disparities.

**Dancz, Christina, MD**
Dr. Christina Dancz is an obstetrician-gynecologist in Los Angeles, California and is affiliated with multiple hospitals in the area, including Keck Hospital of USC and USC Norris Comprehensive Cancer Center. She received her medical degree from Harvard Medical School and is currently the residency program director for Obstetrics and Gynecology at LAC+USC.

**D'Aquila, Mitzi, PA-C, MACM**
Mitzi D'Aquila a certified pediatric PA for the past 16 years, serves as Clinical Coordinator since 2010. She is course director for two clinical skills courses and co-directs the clinical year courses. She completed a Masters in Academic Medicine in 2014. She has published two peer-reviewed papers on preceptor recruitment and made over 10 national, state and invited presentations. She is currently leading a team that conducted PAEA-sponsored research on web-based technology to enhance preceptor recruitment.

**Davila, Jose, MD**
Jose Davila was born in Quito, Ecuador, and moved to the U.S. at the age of 5. He was raised in Chicago, Phoenix, and Ann Arbor, Michigan. He graduated with highest honors in research from the University of Michigan in Ann Arbor, where he studied microbiology and medical anthropology, and developed an interest in research, medicine, and global health. After college, he spent two years working as a volunteer for Partners in Health in Lima, Peru. His experiences in Peru led him to pursue a medical degree at the University of Michigan Medical School. During medical school, he found his passion for ophthalmology, the field that he will be entering next year. In his free time, he enjoys spending time with family, biking, and listening to music.

**Davis, Glenn, MS**
Glenn Davis is an Associate Professor of Academic Affairs at Touro University College of Osteopathic Medicine, where he has been Curriculum Director since 2002. His primary responsibilities include assessment of learning outcomes, database development and management, survey research, and general data analysis. He has presented research in medical education at annual conferences of the American Association of Medical Colleges, American Association of Colleges of Osteopathic Medicine, and the International Association of Medical Science Educators. He and colleagues recently received an education grant from the American Osteopathic Association to investigate how an osteopathic approach to patient care relates to patient experiences of physician empathy.

**DellaCava, Elaina, MD**
Dr. DellaCava is a graduate of Jefferson Medical College in Philadelphia. She completed psychiatry residency at Montefiore Medical Center in 2017, and is presently a geriatric psychiatry fellow at New York Presbyterian/Cornell. She has taken numerous improvisational theater classes, and along with Dr. Benferhat, teaches a medical improv course to third year medical students at Albert Einstein College of Medicine.
Denault, Dylan, OMS III
Dylan Denault is a medical student at Western University of Health Sciences and a member of the Pathology Interest Group. He is interested in using technology to further clinical and didactic development and study more efficiently. He aims to leverage technology in the classroom.

Derry, Laura, MSIII
Laura Derry is a third year medical student at the University of North Carolina at Chapel Hill School of Medicine who has a background in management consulting. She is passionate about fostering a culture of leadership in medicine and creating opportunities for students expand their knowledge of business operations and finance to prepare them to be physicians for tomorrow. Her extracurricular activities include taking courses at the business school, student government, and leadership curriculum development. She has served on numerous curricula task forces during her first three years in medical school and is committed to innovating within the existing curriculum.

DeTata, Cynthia
Cynthia has been a practicing obstetrician and gynecologist for over 20 years. Her passion for teaching grew out of working individually with residents during surgical cases. She was invited to become a faculty member at Stanford, and extended her teaching as co-director of the obstetrics and gynecology clerkship in 2005. Since then, while primarily responsible for the education of 3rd and 4th year medical students, and obstetrics and gynecology residents, her role has expanded to teaching all levels. She has become an active teacher in the preclinical 1st and 2nd years, and actively participates in the educators for care program, curriculum development, and new student admissions. She has a connection as educator with her students from entry to medical school, throughout the preclinical and clinical years, as an advisor and colleague after graduation. Her interest and efforts for continued growth in her role as teacher led her to enroll in the MACM at USC. Dr. DeTata has taken a particular interest in fostering, helping, remediating and encouraging struggling medical students.

DeVoss, Amanda, MMS
As academic director and clinical instructor, Amanda DeVoss coordinates coursework for students during the didactic portion of their education and provides instruction for clinical medicine and advanced patient evaluation. Amanda graduated from Midwestern University in 2000 and received her Master of Medical Science in Physician Assistant Studies. Upon graduation she participated in a one-year American Academy of Physician Assistants hepatology fellowship and continued in the field at Rush University Medical Center and the University of Chicago. She also assisted with end-of-rotation evaluation and lecturing at Midwestern University. Amanda currently serves as the director of our wisPACT program, our northern Wisconsin community track that offers live lectures and discussions via teleconference to students who have a strong connection to northern WI and a desire to practice in this region after graduation.

Diaz, Lucero, MSII
Lucero Diaz is a current 2nd year medical student at the University of Illinois at Chicago, College of Medicine. She studied at Northwestern University and graduated with a BA in Psychology in 2015. She has worked on research studying children's thinking and learning, how memories change over time and how reactivation during sleep influences memory changes, and more recently on various topics in women's health regarding gestational weight gain, hysterectomy necessity, and postpartum sleep.

Diez, Caroline
Caroline Diez is a proud graduate of the College of Charleston and successfully pursued her TAGME certification in 2016. She previously served as the Neurosurgery Residency Coordinator at the Medical University of South Carolina before being recruited to Grand Strand Medical Center in 2016 to help establish the Transitional Year Residency Program. Caroline previously served as the Neurology Clerkship Coordinator for third year medical students at the Medical University of South Carolina, where she was a recipient of the American Academy of Neurology's national Clerkship Coordinator Recognition Award. She has lead multiple national and regional graduate medical education workshops, presented national award-winning abstracts, and authored several peer-reviewed publications.
Dixon, Lisa, MD
Dr. Dixon is the Associate Dean of Graduate Medical Education, DIO and Associate Professor at the University of Florida. She has an extensive background in GME service as Chief Resident, Program Director and Designated Institutional Officer. Lisa serves on the College of Medicine Promotion Committee and is a former Director of Residents as Teacher program at UF. In her role as DIO, UF’s GME program from one hospital to five multi-regional hospitals with over 800 residents and fellows.

Donthi, Rajesh R.

DyBuncio, Christina, MSIV
Christina DyBuncio is a fourth year medical student at the Keck School of Medicine of the University of Southern California. She previously earned a degree in the History, Philosophy and Social Studies of Science and Medicine at the University of Chicago and is pursuing a residency in Obstetrics and Gynecology.

Elghafri, Amani A., MD
Dr Amani A. Elghafri is a first year resident in internal medicine residency program at Beaumont Hospital, Dearborn, Michigan. She graduated with a master of medical sciences in medical education from Harvard Medical School in May 2017 and an MD from Dubai Medical College in 2002. She completed internal medicine training and practised medicine in Dubai, U.A.E prior to moving to the USA to pursue her master degree. She is passionate about the creative use of technology in the classroom and projects that combine arts and sciences. One of her recent scholarships is in using comics (graphic novels) as an educational tool in undergraduate medical education curriculum particularly medical ethics. She is a member of The Academy at Harvard Medical School and alumni of Harvard Macy Institute.

Eng, Victoria, MD
Victoria is a current third year pediatrics resident at Kaiser Permanente Los Angeles Medical Center. She graduated from UC Berkeley with a BS in Microbial Biology and received her medical degree from Georgetown School of Medicine in 2015. Her interest in resident physician wellness started at the beginning of her second year of residency, prompting her to create a wellness curriculum that she is currently implementing for the KP LAMC Pediatric Residency.

Fausone, Maureen, MSIII
Maureen Fausone is a third year student at the University of Michigan Medical School. She is interested in a career in internal medicine and medical education. Her most recent scholarly work outside of medical education explores issues of accommodation and inclusion for people with disabilities in medicine.

Feliz Sala, Emilio, MSII
Emilio Feliz Sala is a second-year medical student attending the Keck school of Medicine of USC. His interests in the topic of diabetes stems from experience through family members as well as a personal interest in the field of family medicine / preventative care. As a male who identifies as Latino, he takes great pride in working to better the health of individuals in the Latino community. Emilio received his undergraduate education from Rutgers University in New Brunswick, NJ. Throughout his time as an undergrad, Emilio gained an appreciation and developed a desire to work with urban communities through many of the extracurricular activities he took part in. One of these activities was the time spent in the Premedical Urban Leaders Summer Enrichment program (PULSE). Here Emilio was fortunate enough to do research on Motivational Interviewing in the hopes that it will provide invaluable insight on working with change and understanding the difficulties of making those changes amid being diagnosed with chronic diseases such as diabetes, type 1 or type 2. Overall Emilio is very excited to learn more about himself, his interests and how he can use both to help patients throughout the rest of his career in the medical field.

Fischer, Ilana, MSIII
Ilana is a third year medical student at the University of Michigan Medical School. Prior to that, she worked in economic and tax policy at the Brookings Institution in Washington D.C., and in Health
Services Research at Denver Health Medical Center in Colorado. She graduated with her BA in Economics and Spanish Literature from the University of Colorado. ifischer@umich.edu

Fisher, Dixie, PhD
Dr. Dixie Fisher is Assistant Professor Clinical at Keck School of Medicine of University of Southern California. She teaches faculty development courses to improve large group teaching, and teaches research courses for the Masters of Academic Medicine Program. Dixie helped develop the evidence-based methods taught in this workshop.

Ford, Edward, EMT
Eddie Ford graduated from University of Michigan, Ann Arbor in 2014 with a Bachelor of Arts in Psychology, and then went on to complete the training to become a nationally certified and licensed EMT-Basic. While working in Metro Detroit, he witnessed on multiple occasions how negative patient health outcomes could have been prevented if there had been bystander intervention during a medical emergency. These experiences motivate Eddie to advance the mission of The First Five. Serving as an EMT-Basic also lead him to discover his passion for medicine and to make a career change toward becoming a physician. Eddie recently completed the University of Michigan Medical School’s Postbac MEDPREP program and now works for the program as Peer Advisor to help current students during the application process.

Forest, Christopher, PA-C
Christopher Forest is currently Professor and Founding Program Director for the Master of Science Physician Assistant Program, College of Health Sciences and Human Services, California State University Monterey Bay. Prior to this appointment in August 2017, he was Assistant Clinical Professor at the Department of Family Medicine, keck School of medicine USC, course director for the Behavioral Science course and Director of Research at USC’s Primary Care Physician Assistant Program for over 10 years.

Friedman, Michael, MSII
Mike Friedman is currently a 2nd-year medical student at the University of California, Irvine School of Medicine. He received a bachelor’s degree in neuroscience from University of California, Los Angeles, where he co-authored three publications focused on cancer proteomics and metabolomics. During his first year at UCI, Mike helped establish a high school sexual education program taught by medical students and served as the president of the wilderness medicine interest group. Before turning his attention to medicine, he worked as an information technology consultant in the private sector, specializing in legal and accounting services. Mike is currently interested in the field of anesthesiology and hopes to one day specialize in pain management after the completion of an anesthesiology residency.

Fromer, Ilana, MD
Ilana Fromer is an Assistant Professor in the Department of Anesthesiology at the University of Minnesota. She completed her anesthesiology training at The Mount Sinai School of Medicine in New York and then went on to complete a fellowship in pediatric anesthesiology at the Children’s National Medical Center in Washington, DC. Her interests include medical student and resident education and simulation with a particular focus in wellness and burnout prevention.

Fung, Cha-Chi, PhD
Dr. Fung is the Vice-Chair of the Department of Medical Education and Assistant Dean of Educational Affairs at Keck School of Medicine of USC. She received her Ph.D. in Educational Psychology from USC in 2003. After completing fellowships in Medical Education and educational leadership, Dr. Fung was recruited as an Assistant Professor in Family Medicine at UCLA, and has been in the field of Medical Education since 2001. Her area of expertise lies in the teaching and assessment of clinical performance and clinical reasoning. In 2012, Dr. Fung was recruited to Dr. Fung is the Chair-elect for the AAMC Western Group on Educational Affairs and a facilitator and member on the Steering Committee of the Medical Education Research Certificate program sponsored by the AAMC. She has spearheaded a robust, innovative faculty development program that brought together our team of talented educators and researchers in medical education to deliver a comprehensive curriculum that utilize multimedia.
technologies to better prepare our faculty, whether they are located at HSC or at distance sites, to become more effective teachers. Currently, she is spearheading the development of the Clinical Assessment Tool aimed at meeting the Competency Based Medical Education assessment standards and with potential to provide evidence for entrustment to the residency programs as part of the Core-Entrustable Professional Activities initiative.

Garcia, Lizette Y., MSI
Lizette Y. Garcia, BA, is a first year medical student at the Keck School of Medicine of the University of Southern California. She majored in Biological Basis of Behavior from the University of Pennsylvania (May 2015). She has developed an interest in serving and mentoring underserved populations, particularly by empowering them through education. She currently serves as part of Keck's Mentorship Committee, is a mentor for the Bravo High School Mentorship program, and is part of Keck's Primary Care Initiative. Moreover, Garcia has been actively involved in neuroscience research for over 3 years to better understand addictive behaviors and shed light into the effects of smoking. Her hope is to translate her research at the community level to educate and encourage positive life style changes.

Garman, Karen, EdD, MAPP, PCC
Dr. Karen Garman, is currently the regional director for graduate medical education for Kaiser Permanente Southern California responsible for the well-being of over 400 residents in 33 programs in ten Southern California medical centers. She is also the medical education consultant for the newly started Kaiser Permanente School of Medicine slated to open in September 2019. Dr. Garman has a doctorate from the University of Southern California in medical education, a masters in positive psychology from the University of Pennsylvania, and has over 35 years of experience in the delivery of a variety of professional development training programs to public and private healthcare organizations. As one of the few specialists in positive psychology and healthcare, she recently was the co-director of a NIH consortium of sixteen academic medical centers around the country that are currently addressing the cultural changes and interprofessional education that is required to positively implement professional change as part of the country’s ever changing healthcare systems. She is also a certified physician coach, and professionally coaches physicians on how to become better leaders, and clinicians at the local, state and national healthcare levels. Her goal is to help organizations invest in the well-being of all healthcare professionals by making successful practitioners more successful.

Gault, Allison, MD
Allison Gault is an Assistant Professor of Pediatrics, Co-Clerkship Director, Interclerkship Ambulatory Care Track (InterACT) and Co-Director of J.U.M.P., Mount Sinai School of Medicine. Dr. Gault received her BA from Georgetown University 1995 and her MD from the Sackler School of Medicine at Tel Aviv University in 2000. She thereafter completed both her internship and residency in Pediatrics at the Mount Sinai School of Medicine. In recognition of Dr. Gault’s commitment to teaching and excellence in clinical care, she was awarded the Mount Sinai Physician of the Year Award during her pediatric training and Pediatric Attending of the Year in 2009. Dr. Gault currently cares for patients and supervises residents in the Pediatrics Associates practice of the Mount Sinai Hospital. Dr. Gault’s areas of expertise include caring for children with complex medical illness as well as childhood obesity. She is founder and co-director the Junior Urban Movement Program (J.U.M.P) a free comprehensive weight management program for overweight children and adolescents of the Mount Sinai Pediatric Associates practice. She has served for nearly a decade as preceptor in the pediatric third year clerkship for which she received an award for her excellence in teaching. In May, 2012, Dr. Gault will begin the APA Educational Scholars Program, a three-year fellowship in educational scholarship.

Gee, Erica, MD
Erica Gee completed her B.S. in Psychobiology in 2012 from the University of California, Los Angeles. She graduated from the David Geffen School of Medicine, with her M.D. in 2017. Erica currently is a resident at Kaiser Permanente Oakland, in the Department of Internal Medicine.

Gelovani, David, MSII
David J. Gelovani is a second year medical student at Wayne State University School of Medicine in Detroit, Michigan. He serves as the Vice President of the Student Senate for the Class of 2020 and the
Co-President of the Interventional Radiology Interest Group and First Aid First Student Organization. He is also a member of the Aesculapians Service Honor Society. To supplement his education with clinical and inter-professional teamwork experiences, he serves as the Medical Clinic Coordinator at the Community Homeless Interprofessional Program clinic and is the Medical School Representative for the Wayne State Interprofessional Student Body. David graduated with a Master's of Science degree in Basic Medical Sciences from Wayne State University School of Medicine. There, he investigated the epigenetic regulation of several biomarkers following traumatic brain injury in rats and drosophila. David earned his Bachelors of Science degree in Biological Sciences with a minor in Chemistry from the University of Houston in Houston, Texas.

Goldman, Mitchell, MD
Mitchell Goldman is a Professor of Medicine, Assistant Dean for GME and the Program Director of the Internal Medicine Residency Program at the Indiana University School of Medicine (IUSM) since 2010. He is an Infectious Diseases physician and has experience as a past Fellowship Director of Infectious Diseases. Dr. Goldman has interests in improving the clinical learning environment for trainees (residents and faculty really should be enjoying ourselves), safe patient care, professionalism and camaraderie. Dr. Goldman is lucky enough to be surrounded by a wonderful group of associate program directors, chief residents, residents and fellows at the IUSM. He is presently part of group assessing competency based early transition from residency to cardiology fellowship in collaboration with three additional institutions, the ABIM and American College of Cardiology and Team Leader for the IUSOM for the ACGME Pursuing Excellence in Clinical Learning Environments Pathway Leaders Patient Safety Collaborative.

Gómez, Ulysses, MD
Ulysses Gómez as a child of Mexican immigrants and grandchild of a Bracero migrant farmworker, grew up in the rural Coachella Valley where he first witnessed health inequities. After graduating from Coachella Valley High School, his passion for the sciences led to a degree in Chemistry at Pomona College in Claremont, CA. However, his desire to work in underserved communities led to his decision to pursue a career in medicine. Ulysses then attended the Keck School of Medicine of the University of Southern California and received his medical degree in 2015. His drive to provide whole-person medicine for anyone regardless of age, sex, gender, race, and religion, as well as his passion to utilize medicine as a tool for social justice, led to his chosen specialty of Family Medicine. He is now one of the chief residents at the Adventist Health White Memorial Family Medicine Residency program. In his free time, he likes to spend time with his wife, Vanessa, and his dog, Nemiquiznahuatiliztli.

Gonzalez, Cesar, MSIV
Cesar Gonzalez is a fourth year medical student at Keck School of Medicine of USC applying into Internal Medicine. He graduated from the University of California, San Diego with a Bachelor’s of Science in Human Biology. Cesar was born in San Diego, California, and hopes to work in underserved areas as a physician.

Granat, Anna, MD
Dr. Granat has a strong interest in quality improvement, medical education, and patient centered care. She completed her undergraduate education at Columbia University and earned her medical degree at the Keck School of Medicine of USC. She is currently in her last year of residency training in Obstetrics and Gynecology at the LAC+USC Medical Center. She is dedicated to advocating for patients in surmounting barriers to care and empowering patients through education. She has spearheaded quality improvement initiatives to enhance patient satisfaction and serves on the Committee of Interns and Residents Quality Improvement Board. As the Chief Resident focused on resident education, she has developed interactive online tools to improve medical knowledge and procedural skills, particularly in minimally invasive surgery.

Gregerson, Celestine Yeung, MSII
Celestine Yeung Gregerson is a second year medical student at the University of Utah School of Medicine. Originally from San Diego, she moved to Utah to attend Brigham Young University, where she graduated with a B.S. in Physiology and Developmental Biology and minors in Chemistry and Business Management. After completing her undergraduate education, she was a missionary in Taiwan and
enjoyed working for several years in research at Case Western Reserve University and the University of California, San Diego using induced pluripotent stem cell models. She also helped manage a free clinic in San Diego and joined the “Flying Sams” in medical trips to Mexico. These experiences developed her passions for research and underserved medicine, two of her academic interests. She returned to Utah for medical school, where she currently serves as a Co-Director for the Midvale CBC Clinic and conducts research in pediatric epilepsy. In her spare time, Celestine enjoys tennis, running, travelling, and eating good food with her husband and golden retriever.

Grosser, Johannes
Johannes Grosser joined the IWM in May 2017 as a PhD candidate and research assistant in the Knowledge Construction Lab. His research focuses mainly on the impact of inter-professionalism and conflicting knowledge on the reception and production of health-related information when using Web 2.0 technologies. In addition, he works in the project “Experimental psychological analysis of open digital teaching” funded by the German Federal Ministry of Education. This project deals with topics regarding the opening of medical teaching for further disciplines, the opening of pre-clinical teaching to practice, and the opening of teaching for the discourse of different professions. Johannes studied psychology at the Julius-Maximilians-University of Wuerzburg, where he graduated in 2016. During his studies, he joined exchange visits in Caen (France) and Istanbul (Turkey).

Gupta, Nelly Edmondson, MS
Nelly Edmondson Gupta has a Master's Degree in Narrative Medicine from Columbia University. In addition to being a Narrative Medicine consultant, she is an expressive writing/art journaling workshop facilitator and an experienced health and medical writer and editor. Nelly is currently working at the Albert Einstein College of Medicine as Managing Editor of Publications.

Hall, Leo, MSII
Leo Hall is a 2nd year medical student at the Wayne State University School of Medicine. He also serves as the President for the Class of 2020, a position for which he takes great pride. A cellist by training, Leo enjoys performing music, going to concerts, and expanding his musical horizons. He graduated from the University of Notre Dame in 2014 with a dual degree in German and Pre-Health studies.

Harber, James, PhD
Dr. Harber is a Professor at Oxnard College and a Visiting Scholar at UCSB. His 1994 PhD in Genetics for studies of virus and receptor interactions is active. He served on the Faculty of Caltech and began teaching while an HHMI researcher in a structural biology laboratory. He then taught a repertoire of nine courses for CSU Sonoma and Northridge (’96-'01). He was Director of the Central Coast Biotechnology Center at Ventura College (’01-'07) where he founded a 6-week summer undergraduate research program with local scientists. Dr. Harber’s developed the “Team Projects” capstone Industry Academic Partnership course for the CSUCI Professional Science Master’s Program in Biotechnology. His contributed to the Governor’s Los Angeles Life Sciences Report. Since 2007, “The Summer Biotechnology Institute” at Oxnard College has provided undergraduate students research experience in stem cell culture, cardiogenesis, 3D printing, and medical/dental microbiome studies. The “CTE3D” project won two Los Angeles IEEE Biomedical Engineering competitions including ’16 at USC.

Hartwig, Walter, PhD
Walter Hartwig has been an osteopathic medical educator at Touro University College of Osteopathic Medicine (TUCOM) since 1997 and currently is Professor in the Department of Basic Sciences. His administrative roles have included Chair of Basic Sciences (2003-2009), Assistant Dean of Clinical Education (2010-2013) and now Associate Dean of Academic Affairs (2013 – present). He is the author of Med School Rx: Getting In, Getting Through, and Getting On With Doctoring (2011). He has published a textbook in his teaching area (Fundamental Anatomy) and a reference volume in his research area (The Primate Fossil Record).
Haugh, Matt
Matt is a Data Analyst with the Office of Assessment, Accreditation, and Continuous Quality Improvement at Wayne State University School of Medicine. He is a PhD student in the Educational Evaluation & Research program at Wayne State University College of Education.

Henke, Patrick, MSII
Patrick Henke is a second year medical student at Burrell College of Osteopathic Medicine (BCOM). He completed his Bachelor of Arts degree at Colby College in Mathematical Sciences with a Concentration in Statistics and a Master of Science degree at Tulane University in Cell and Molecular Biology. Upon completing his master’s degree, Patrick worked at Boston Children’s Hospital as a clinical data specialist, conducting research studies on four standardized clinical assessment plans (SCAMPs) including ECMO Anticoagulation, Polycystic Ovarian Syndrome, and Lipid – Subspecialty. His research in the treatment and screening of Polycystic Ovarian Syndrome in adolescent women led to two publications in the Journal of Adolescent Health: Parsimonious Strategies for the Diagnosis of PCOS during Adolescence and A Quality Improvement Initiative, and Prevalence of cardiometabolic abnormalities in a clinical sample of young women with PCOS. Patrick's research in standardizing heparin dose titration for patients on ECMO received acceptance to a poster presentation at the Euro-ELSO conference in Regensburg, Germany. While in medical school, Patrick is helping to develop a flash-review study guide to help facilitate the learning of pharmacology among first and second year medical students at BCOM.

Hessburg, John
John (Jack) Hessburg is an MD/PhD student at SUNY Downstate, finishing his thesis in biomedical engineering focusing on the representation of reward, motivation, and value in the sensorimotor cortex. He was selected to be a Conley Scholar in recognition of his interest in bioethics. He became involved in bioethics through his work with the student-run free clinic, and has helped with the development of the ethics pathway, and the facilitation and administration of the classes. He plans to pursue emergency medicine, and continue his interests in the field of ethics especially as they pertain to health justice and access to care, and queer and trans healthcare.

Higginson, Jason, MD
Dr. Higginson currently serves as the Maynard Distinguished Scholar of Pediatrics and Chair of the Department of Pediatrics at the Brody School of Medicine at East Carolina University. He completed his undergraduate and medical degree at the University of California Los Angeles. He holds a Master of Arts in Bioethics and Health Policy from Loyola University Chicago. He trained in pediatrics at the Children’s Hospital Oakland. He completed a fellowship in neonatal-perinatal medicine at the National Capital Consortium in Bethesda, Maryland. Previously he served as chief of neonatology and medical director for the Neonatal Intensive Care Unit, and co-medical director for the James and Connie Maynard Children’s Hospital at East Carolina University. Prior to joining ECU Dr. Higginson was assistant chief of graduate medical education, division head of research resources, medical director of the Neonatal High-Risk Clinic, and assistant division chief of newborn medicine at Walter Reed National Military Medical Center in Bethesda, Maryland. higginsonj@ecu.edu

Himeles, Darren, MD
Dr. Darren Himeles is a third-year family medicine resident at White Memorial Medical Center. Darren is passionate about science, mathematics, problem solving, and teaching. Darren was born in Dallas, Texas but grew up in Los Angeles. He has a Bachelor of Science degree in Mathematics from UCLA where he graduated with honors and Magna cum Laude. He received his medical degree at UCSD where he was a San Miguel Scholarship winner. After being in San Diego for 5 years, Darren is thrilled to be back in Los Angeles for his medical residency. When he isn't seeing patients, Darren loves to spend time with his 5-year-old son, Miles. Darren is a competitive tennis player and chess player and enjoys teaching both as well. Darren is the founder and manager of the Los Angeles Chess Ladder, a free organization for Los Angeles chess players. At the conclusion of residency, Darren plans to specialize in hospital medicine or primary care clinic.
Hobson, Stephen
Stephen Hobson is a medical student at University of Michigan Medical School. He served five years on active duty, deploying twice as a Special Forces Medical Sergeant in the US Army Green Berets. Stephen is interested in emergency medicine and medical education.

Hodgson, Carol, MS, PhD
Carol S. Hodgson received a Master of Science degree in biochemistry from the University of California, Riverside in 1983 and a doctorate in Education at UCLA in 1990. Before entering the field of medical education, Dr. Hodgson was a researcher in preventive medicine at the University of Southern California, School of Medicine. In 1992, Dr. Hodgson entered the field of medical education at the UCLA School of Medicine and in 1999 became the Director of the Center for Educational Development and Research. She was recruited to the University of California, San Francisco (UCSF) in 2000 and served as the Director of the new Office of Educational Research and Development. In 2004, she was named the Associate Dean and Director of the new Office of Educational Development and Research at the University of Colorado Denver (CU Denver), School of Medicine. In 2010, she became the first J Allan Gilbert Chair in Medical Education Research at the University of Alberta (UofA) and in 2017, the founding Director of the IDEAS Office. Her research areas focus on professionalism, cancer education, and improved care for people with disabilities.

Hohensee, Natalie, DDS
Natalie C. Hohensee is an Assistant Professor, Division of General Dentistry, Loma Linda University School of Dentistry. She is the coordinator of clinical assessments for pre-doctoral students and a clinical instructor. Natalie has been a faculty member at LLUSD since 2014, and a full-time faculty member since 2016. Prior to teaching full-time, she worked in private practice for 8 years. She is interested in biomimetic or bio-emulation dentistry as well as CAD/CAM dentistry.

Holmes, Scott Bob, MD
Scott Bob Homes attended Kansas City University of Medicine and Biosciences Medical School, Saint Louis University Internal Medicine Residency Program. Completed Geriatrics fellowship at Saint Louis University. Currently a 3rd year Gastroenterology fellow at Saint Louis University.

Hortsch, Michael, PhD
Michael Hortsch is Professor in the Departments of Cell and Dev. Biology and of Learning Health Sciences at the University of Michigan Medical School (UMMS). He is currently course/component director of three major histology courses at the UMMS, serving medical, dental, and graduate-undergraduate students. He received his Ph.D. degree from the University of Heidelberg/Germany and has more than 30 years of experience working in the fields of cell biology and developmental neuroscience. He has authored more than 100 scientific papers and is the creator of the SecondLook™ line of mobile educational review apps. More recently, his research is focused on how modern electronic teaching resources are used by students and what impact they have on students’ learning success. hortsch@umich.edu

Hsiao, Victor, BA
Victor Hsiao moved to Los Angeles in 2016 to begin medical school at Keck School of Medicine of USC. Coming to medical school with a passion for working with medically underserved communities, especially at-risk teenage males and Chinese-speaking communities, he sought out opportunities to equip himself with the skills so that he could do this in his future medical career. Victor was selected to be a part of USC's Primary Care Program, became one of the co-presidents of USC's Asian-Pacific American Medical Student Association, and continually seeks opportunities to further develop his skills, whether that's practicing his medical Chinese on his own or currently applying to be a volunteer at juvenile hall. With encouragement from friends and mentors and after being awarded the Althea and Frederic Alexander Student Support Fund, Victor traveled to Taiwan this past summer and spent four weeks mentoring at-risk teenage boys with backgrounds of being in foster care or juvenile hall. This summer work further strengthened his desire to work with at-risk teenage males and in Chinese-speaking communities. Victor believes that teenagers, especially those from at-risk backgrounds, especially need spaces to be vulnerable, not judged, and just be teenagers. The opportunity to be involved with service-
learning this past summer changed his life and he hopes that more medical students will be encouraged and provided with the opportunity to do so. victor.hsiao@usc.edu.

Hsu, Michelle, MD
Dr. Melinda Hsu is a Junior Faculty Member and Chief Resident for Ambulatory Education for the Internal Medicine Residency Program at the Indiana University School of Medicine (IUSM), where she focuses primarily on resident education and wellness. She has served on several committees including the peer Professionalism Committee. Dr. Hsu presently is a co-facilitator of the Residency Professionalism Committee and assisted this presentation through data collection, analysis and editing of the poster presentation. Prior to obtaining her medical degree at the University of Cincinnati, she gained experience in industry working for Procter & Gamble in Fabric Care New Business Development focusing on consumer research, prototype development, and advertising research.

Hul-Galasek, Larissa
Larissa Hul-Galasek is an EXA and MFT trainee at Contra Costa Health Services in California. She utilizes music, dance, visual art, poetry, mindfulness, and socio-emotional support as well as person-centered and narrative therapy with a variety of clients in the hospital and outpatient groups. She also provides eco-therapy to youth.

Jain, Aarti, MD
Aarti Jain is a Medical Education Fellow at the LAC+ USC Medical Center. She recently graduated from the LAC+USC Emergency Medicine Residency Program in June, 2017, where she spent her last year in training as a chief resident. During residency, she developed a focus on medical education and mentorship, as well as on physician wellness and burnout prevention. Recent educational experiences include leading cadaver labs, procedure workshops, and ACLS courses, as well as helping to develop a curriculum for peer-to-peer and near-peer mentoring during residency. She will also be involved in introducing the inaugural formal wellness curriculum at the LAC+USC EM Residency Program this fall. Dr. Jain is currently a student in the Master of Academic Medicine program at USC.

Jerng, Diane, MD, MSED
Diane Jerng has been a board certified family physician since 1999. She has been teaching and mentoring Family Medicine residents at the Kaiser Permanente Orange County Family Medicine Residency Program since 2012. Dr. Jerng graduated from Washington University School of Medicine in St. Louis in 1996, and completed her residency training in Family Medicine at Long Beach Memorial where she served as Chief Resident in 1999. Dr. Jerng earned a Masters in Medical Education from USC Rossier School of Education in May 2001. She served as the Associate Director at the Pomona Valley Family Medicine Residency Program from 2001 to 2010, and as Faculty from 1999 to 2010. She is a Clinical Instructor of Family Medicine at the University of California, Los Angeles since 1999. Dr. Jerng currently also serves as a Physician Educational Consultant for Resident Well-Being for Pomona Valley Family Medicine Residency Program and Citrus Valley Family Medicine Residency Program.

Jiganti, Max, OSMII
Max Jiganti is an osteopathic medical student in his second year at the Burrell College of Osteopathic Medicine in Las Cruces, New Mexico. After completing his Bachelor of Science in 2014 at the University of California, San Diego, Max gained clinical experience as a medical scribe in multiple emergency departments in Washington State. Additionally, prior to medical school, Max assisted a pediatric neurologist at the MultiCare Institute for Research and Innovation (Tacoma, WA) in full-time clinical research involving phase 1/2 clinical trials including children with intractable epilepsy. The research involved an 11-day inpatient evaluation of the effects of synthetic cannabidiol on pediatric subjects 2-17 years of age. Aside from clinical experience, Max stayed active in his community by tutoring children enrolled in the national program, Club-Z Tutoring, as well as with a wide variety of volunteer work. Max has acquired over 400 hours volunteering, extending from several hospitals, the Nativity House homeless shelter in Tacoma, and through fundraisers for the prevention of child abuse, run by local hospitals. Currently, Max is working with a group of second year medical students to create a comprehensive flash-review study device to assist students at the Burrell College of Osteopathic Medicine to learn and retain knowledge of the complex agents in the field of pharmacology.
Jung, Syung Min, MD
Dr. Syung Min Jung is the Director of Primary Stroke Program and the Director of palliative care services at San Joaquin General Hospital. Dr. Jung has lead the stroke program since 2013 and has contributed in overall stroke care in the community. Dr. Jung started a community-based palliative care clinic in the county of San Joaquin. She is a graduate of Ewha Women’s University, College of Medicine in South Korea and completed her training in internal medicine and joined the clinical faculty in 2005. She has been instrumental in bringing tele-stroke program to SJGH since 2009.

Kang, Jonathan, MD
Jonathan Kang is a third year Family Medicine resident physician at White Memorial Medical Center. He received his medical degree from Midwestern University Arizona College of Osteopathic Medicine and his undergraduate degree from Johns Hopkins University.

Kazerouni, Kayvan, MSIII
Kayvan Kazerouni is a third-year medical student at the Keck School of Medicine of USC. He grew up in La Jolla, California and graduated from the University of California at Santa Barbara in 2014 with a BS in Cellular and Developmental Biology. At Keck, Kayvan has pursued his interest in gross anatomy and medical education by acting as a gross anatomy instructor for the Keck Peer Instructional Program (KPIP) and co-founding the Keck Anatomy Mentorship Program (KAMP) in an effort to supplement the current gross-anatomy curriculum with intimate near-peer tutoring. He spent the Summer of 2016 teaching head and neck anatomy to students at the Herman Ostrow School of Dentistry of USC and worked to overhaul the dental school’s dissection guide in an effort to improve and streamline the course. Kayvan aspires to enter into a surgical specialty.

Khan, Mohammad Saud, MD
Mohammad Khan is a third year resident in Internal Medicine. He has been involved in development of the Autopsy Learning Module as an intern and now is its team leader.

Khan, Mohammad, BS
Mohammad Khan is a first generation American who graduated from the University of Arizona Magna Cum Laude with a Bachelor’s of Science in Molecular & Cellular Biology. During his time at the University of Arizona he was a BIO5 Ambassador, UNICEF chapter vice-president, and Molecular & Cellular Biology 400 level course teaching assistant. Mohammad has published his work in PLoS ONE and the American Journal of Physiology Gastrointestinal and Liver Physiology. He is OMS II at Western University of Health Sciences, where he is also an Essentials of Clinical Medicine teaching assistant and a Western University Ambassador. Additionally, Mohammad’s ongoing research includes portable 3D imaging and the assessment of health provider satisfaction within the emergency room setting. Mohammad continues to be a pioneering leader, pushing the state of the craft to new heights and advocating for those he serves.

Khoshnood, Mellad, MD
Mellad M. Khoshnood is currently a PGY-1 at CHLA and participating in the Child Neurology program as well as the Education Track. He trained at the University of Louisville and helped to create and implement the first AAMC accredited LGBTQ medical education curriculum. He has interests in medical education and intends to practice at an academic institution for Child Neurology. He has chaired and helped lead a number of committees evaluating medical education programs and is currently working with CHLA to create a difficult news delivery simulation to help improve physician communication skills. In addition, he has functioned as a mentor for a number of pre-medical and medical students. He also has interests in philosophy and bioethics, particularly as it pertains to complex patients and striving to improve competency of practitioners in working with these patients and their families.

Kim, Gina J., MD, MPH
Dr. Kim is an Assistant Professor of Clinical Pediatrics at Keck School of Medicine of University of Southern California (USC). She is a graduate of Wellesley College, and she worked as a Computer Scientist prior to medical school. She attended The University of Texas Health Science Center at San
Antonio as a dual degree candidate, obtaining her MD and MPH degrees in four years. She stayed in San Antonio for her Pediatric residency and then moved to Children’s Hospital Los Angeles for her fellowship in Pediatric Critical Care. She is now a faculty member at Los Angeles County + USC. Her primary clinical responsibilities include patient care in the Pediatric Intensive Care Unit and the General Pediatric Wards. She teaches medical students and residents and is a co-facilitator for the residents as teachers’ curriculum. Her academic interests include cardiopulmonary physiology, simulation, and medical education. ginajkim@usc.edu

Koehn, Kristin, MD
Kristin Koehn is an Associate Professor of Clinical Child Health at the University of Missouri as a pediatric hospitalist. She also serves on the residency program director team, division director, and works within diverse areas of the health care system in medical education at all levels, utilization review, and QI/QA teams. Her research interests have also been broad in scope with work in clinical research on bronchiolitis, vaccine delivery, and guideline adherence. She has been active in the development of clinical pathways for standardized high flow O2 systems, asthma and bronchiolitis scoring systems, and will be joining the University of Missouri SPS team this fall for ongoing hospital wide QI work. She serves as one of three faculty facilitators working in collaboration with the pediatrics advocacy track residents in the development of community and departmental initiatives to address culturally responsive healthcare and needs of our local immigrant population. Dr. Koehn completed in December 2017 her MACM degree from the University of Southern California.

Koethner, Nicki, MA, MFT
Nicki is a Licensed Marriage and Family Therapist, Clinical Supervisor for the Expressive Arts Therapy program at Contra Costa Regional Medical Center and Health Center, Multi-media Artist, Expressive Arts Psychotherapist, Educator and Consultant. She has a private practice in Berkeley in German and English and is adjunct faculty at Sofia University and California Institute of Integral Studies. She hosts workshops, performs and teaches through expressive arts and somatic-inspired practices internationally. She is an advisor to the International Expressive Arts Therapy Association and on the Board for Body Tales. You can find out more about her work at www.express-explore-expand.com.

Kosok, Sabrina, MPH
Sabrina Kosok serves as project manager of both the Kaiser Permanente Southern California Community Medicine Fellowship and the KP Resident Elective in Health Policy. She also sits on the LGBT Care Committee of KP’s Los Angeles Medical Center and developed a medical student elective rotation in LGBT Care. Ms. Kosok received her Master’s in Public Health, Health Policy, and Management from Portland State University’s College of Urban and Public Affairs and completed her undergraduate degree in International Studies from Global College of Long Island University. Ms. Kosok is dedicated to providing high-quality educational opportunities for emerging physician leaders.

Kuilanoff, Elizabeth, MPH, MD
Dr. Elizabeth Kuilanoff’s interest in community medicine started in her UCLA undergraduate years where she taught at-risk youth about their health. She continued her training at the UCLA School of Public Health where she earned her Master of Public Health in epidemiology, focusing her research on maternal and child health. As a student at UC Davis School of Medicine, she became active in medical education, including student admissions, professionalism development, and social media policy implementation. She returned to UCLA for her Pediatric Residency. There she continued to pursue her passion for pediatrics and preventive medicine. As a Community Medicine Fellow with Kaiser Permanente, she now sees pediatric patients at several community clinics throughout the Los Angeles area. In this role, she is also developing the pediatric resident advocacy training, social media education for high school students, and innovative programs for obesity prevention. In her free time, she is continually exploring new restaurants, practicing yoga and training for the Los Angeles Marathon.

Kurtz, Josh, MSII
Josh Kurtz is a second-year medical student at the University of Michigan Medical School. During his time as an undergraduate at the University of Michigan, Josh completed three years of basic science research that focused on using sunlight to convert water into hydrogen gas to use as a renewable source
of fuel. This work culminated in two second author publications and one third author publication and a number of poster presentations at regional conferences. For his work, Josh was recognized as one of the 2013 Goldwater Scholarship recipients, a nationally competitive scholarship that recognizes excellence in undergraduate basic science research. Josh also wrote an honors thesis in this area his senior year, for which he received highest honors. Following graduation, Josh worked as an instructional aide, standardized patient, and tutor full-time, which fostered his passion for education that had developed through teaching during his undergraduate studies. Since starting medical school, Josh has delved deeper into education by serving as one of his class curriculum representatives, wherein he acts as a liaison between his classmates and the administration to suggest curricular changes. Additionally, Josh has joined the medical education Path of Excellence, which offers training on teaching and learning best practices. This summer, Josh designed, implemented, and ran this medical education project with the guidance from the Scientific Trunk Director, Dr. Monrad.

La Scala, Nena
Nena La Scala has held the position of Director of Lean Six Sigma Development at Citrus Valley Health Partners for the last two years. In her role, she is responsible for Lean Six Sigma deployment and education throughout the organization. Nena developed and manages the Lean training and certification program. Nena supports the infrastructure that integrates Lean Six Sigma tools and techniques throughout the organization. Nena trains and mentors staff, physicians, leadership and partners in the use of Lean Six Sigma and Change Management tools and strategies, as well as the DMAIC (Define-Measure-Analyze-Improve-Control) methodologies. Nena develops structures to support the integration of change management tools and techniques throughout the organization and leads change management as a cultural change. Nena facilitates successful improvement initiatives across multiple functional areas. Before her directorship, Nena was the Patient Experience Manager for Citrus Valley Health Partners’ Inter-Community Hospital. Her role included training and education of the organization-wide “Class ACT” and “Building Connections” employee behavioral program initiatives. Nena is currently completing her undergraduate degree in Organizational Management at The University of La Verne.

Lauck, Sara, MD
Sara Lauck is a Pediatric Hospitalist and Associate Clerkship Director within the Medical College of Wisconsin and Children’s Hospital of Wisconsin. She is involved in medical education through clinical work, teaching activities and curriculum development. She facilitates various student educational sessions and leads the PGY-3 pediatric board prep program. In addition, she co-leads a project aimed to improve third year student (MS3) presentations during Patient-and-Family Centered Rounds. One of her primary educational efforts has been the co-creation and co-implementation of a highly regarded MS3 game show curriculum. She has facilitated well received workshops at the 2016 Council on Medical Education in Pediatrics (COMSEP), 2016 Pediatric Hospital Medicine (PHM), and 2017 Medical College of Wisconsin (MCW) Innovations in Medical Education conferences. Through her experience in medical education and game show teaching, she hopes to instill in workshop participants the enthusiasm that she has for this modality of teaching. Dr. Lauck received her MD from the Medical College of Wisconsin and completed her pediatric residency at Rush University in Chicago, IL.

Lawson, Luan, MD, MAED
Luan E. Lawson is the Assistant Dean of Curriculum, Assessment, and Clinical Academic Affairs at Brody School of Medicine. After graduating from East Carolina University School of Medicine and practicing in a community setting, she returned to ECU as faculty in the Department of Emergency Medicine. Dr. Lawson academic interests have focused on undergraduate medical education, which led her to obtain certification in Medical Education and a MAEd in Adult Education from East Carolina University. During Dr. Lawson’s tenure as Director of Undergraduate Medical Education in Emergency Medicine, she developed and instituted a required Emergency Medicine rotation with a simulation-based curriculum for fourth-year medical students. She also developed PIRATE MD, a comprehensive, longitudinal course formulated to promote the academic, personal, and professional success of each Brody medical student. Dr. Lawson serves on the National Board of Medical Examiners Emergency Medicine Advanced Clinical Exam Task Force and on the planning committee for ECU’s IHI Open School Chapter. She piloted a simulation, teamwork, and procedural skills assessment as a component of Brody’s Transition to Residency Capstone Course and hopes REACH will transform the way
interprofessional teams are educated and ensure that innovative educational strategies provide learners with the skills and competencies necessary to care for patients in our rapidly evolving healthcare system.

**Lee, Victoria**
Victoria Lee is an OMS II at Western University of Health Sciences. She graduated *Magna Cum Laude* from Brandeis University with a dual Bachelor of Science degree in Biology and Health: Science, Society & Policy. An innovator at heart, Victoria has always sought to use biotechnology to improve healthcare, especially during her time at Harvard-MIT Biomedical Acoustics MEM Laboratory isolating embryonic stem cells using microfluidics and plastic microchips. She endeavors to further healthcare innovation through her work on 3D pathology models to bridge the gap between healthcare and medical education.

**Lerman, Alexander, MD**
Dr. Lerman is the Director of Residency Training at Westchester Medical Center and Assistant Professor of Psychiatry at New York Medical College. He is a member of the faculty of the Columbia University Center for Psychoanalytic Research and Treatment. He graduated *cum laude* from Downstate College of Medicine and completed training in both adult and child psychiatry at New York Hospital Westchester Division. This submission is part of a growing program in simulated patient interviewing and assessment in the WMC psychiatry training program.

**Lewis, Jelena, PharmD**
Dr. Lewis received her doctor of pharmacy degree from University of Southern California, where she was a member of Rho Chi, the academic honor society in pharmacy. In 2010, Dr. Lewis completed her pharmacy practice residency at University of Southern California, with an emphasis in ambulatory care and community pharmacy practice. During her residency, Dr. Lewis was an Adjunct Assistant Professor of Clinical Pharmacy. Upon completion of her residency, she worked as a clinical pharmacist for six years at Cedars-Sinai Medical Care Foundation in the patient centered medical home. She provided drug therapy management (DTM) services to patients with chronic conditions such as diabetes, asthma, dyslipidemia, and hypertension. She also provided travel and smoking cessation consultations. She helped expand and develop the Cedars-Sinai Injection Center which focuses on cost savings for injectable medications and vaccines. In addition to her clinical work at Cedars-Sinai, Dr. Lewis served as a preceptor to medical residents, pharmacy residents, and pharmacy school students. Dr. Lewis is currently an Assistant Professor of Pharmacy Practice at Chapman University School of Pharmacy. She is also a Faculty in Residence at St. Jude Heritage Medical Group in Fullerton, CA where she developed and implemented a DTM program in team based care. Her research interests include evaluation of outcomes of a pharmacist run DTM program in a patient centered medical home.

**Lewis, Juanita, MD**
Juanita Lewis is a fellow physician in the division of neonatal-perinatal medicine at UCLA. Dr. Lewis earned her undergraduate degree at Harvard University and a medical degree from Columbia University College of Physicians and Surgeons. She went on to complete a pediatric residency at New York University before starting a neonatal-perinatal medicine fellowship at UCLA Mattel Children's Hospital. She is board certified in pediatrics and board eligible in neonatal-perinatal medicine.

**Lie, Désirée, MD, MSED**
Dr. Désirée Lie is Professor of Clinical Family Medicine at the University of Southern California, Keck School of Medicine. Her educational research interests are focused on assessment, measurement, faculty development and innovative curricula in the areas of interprofessional education, cultural competence, communication, the Humanities, health literacy and complementary and alternative medicine. She has presented and facilitated many workshops on educational research methods and published over 80 papers in peer-reviewed journals. She enjoys interprofessional collaboration and mentoring, and combines qualitative and quantitative methodologies in her research approach.

**Lin, Sonia, MD**
Sonia Lin is a Clinical Assistant Professor of Medicine in the Department of Internal Medicine and an Associate Director of the Internal Medicine Residency Program at the University of Southern California. She earned her medical degree from Saint Louis University School of Medicine and completed her...
Llaniguez, Jeremy (Jay) T.
Jay Llaniguez is a 7th-year MD/PhD candidate (current designation: G5 – Graduate Student, 5th Year) at Wayne State University's School of Medicine (WSUSOM). Before joining the MD/PhD program at Wayne State University’s (WSU) School of Medicine (SOM), Jay spent time working as an engineer in the automotive, aerospace, and medical device industries. In the medical device field, the “language” barrier between physician consultants and engineers presented a hurdle in product development. Thus, his overall career goal is to bridge the clinical, scientific and engineering aspects of medicine and medical technology to accelerate advances in medical knowledge and therapeutic approaches. Ideally, his career goals include working as a practicing physician, continually learning about and applying medicine, to better understand what areas of medicine need improvement. This will inform his involvement as a scientist-engineer in the research, design and delivery of therapeutics that can benefit scores of patients, hoping to rein in the exploding costs of healthcare today. As a student leader of WSUSOM’s student senate and nationally with the American Medical Association Medical Student Section, Jay involves himself in accelerating changes in medical education, the social responsibility of medicine and medical practice, and the social justice of equal access to healthcare for all patients.

Lopez, Maria Cynthia, MD, FAAFP
Maria Cynthia S. Lopez is currently a Family Physician and an Assistant Clinical Professor at the University of Southern California, Keck School of Medicine, Department of Family Medicine. She is also core faculty at Adventist Health White Memorial Family Medicine Residency Program where she is in charge of coordination of family medicine resident’s community medicine activities. Dr. Lopez has been board certified by the American Board of Family Medicine since 1995. She received her medical education from Finch University of Health Sciences/The Chicago Medical School and completed her residency training in family medicine at White Memorial Medical Center. She is particularly interested in women’s health, maternal/infant care, including obstetric deliveries and colposcopy, and patient health education. mcslopezmd@gmail.com

Lourie, Michael, MSII
Michael A. Lourie is a second-year medical student at the University of Michigan Medical School. His research is guided by a passion for ensuring adequate instruction of social accountability in medical education, an interest which has been greatly influenced by his educational background in women’s studies and epidemiology. He is involved in the UMMS curriculum, serving as both the Curriculum Representative for the Doctoring course and as a member of the Curriculum for Health Disparities and the Underserved committee. He is also a member of the Scholarship of Teaching and Learning Path of Excellence at UMMS. Michael graduated from the University of Michigan with his bachelor’s degree in 2014 and master’s degree in public health in 2016.

Lu, Andrea, MD
Andrea Lu is a Clinical Assistant Professor of Medicine in the Department of Internal Medicine and an Associate Director of the Internal Medicine Residency Program at the University of Southern California. She earned her medical degree from the University of Southern California Keck School of Medicine, and stayed at USC to complete her residency training and chief residency. She is interested in medical education and quality improvement.

Luu, Cindy, MD
Cindy Luu is currently a pediatric emergency medicine fellow at Children’s Hospital Los Angeles (CHLA). She obtained her medical degree at the Keck School of Medicine of USC and completed her pediatric residency at CHLA. Her areas of research include the development of e-modular learning programs and risk factors associated with bacteremia in febrile neutropenic oncology patients. Current research interests include serious games approaches for medical education, as well as skills-based procedural simulation.
Ma, Sae Byul (Sarah), PharmD
Sae Byul (Sarah) Ma is a clinical pharmacist and an Assistant Professor at both the Keck School of Medicine of USC. Dr. Ma is responsible for teaching and coordinating clinical pharmacotherapeutics to each of the three levels of students in the program. Areas of clinical expertise include ambulatory care clinical practice and interprofessional programs. Dr. Ma has established an independent clinical pharmacist medication management clinic at the Keck Hospital of USC where she precepts students and residents. Dr. Ma is very involved in the expansion and development of interdisciplinary educational programs in the health sciences, and has a passion for leadership development among health professional students. Her educational research interests are focused on interprofessional education, integration of clinical pharmacy services and measuring its outcomes. She has given numerous presentations and presented papers on the subjects of interprofessional education and care.

Malik, Rubina, MD
Dr. Rubina Malik is Assistant Professor of Medicine at the Albert Einstein College of Medicine (AECOM) and faculty member in the Division of Geriatrics at Montefiore Medical Center, Moses campus. She is the Director of the Geriatrics Fellowship and co-director at the Center for the Aging Brain and core faculty of the NY State Center for Excellence of Alzheimer’s Disease in Hudson Valley. Dr. Malik received her MD at SUNY Stony Brook School of Medicine and completed her Internal Medicine residency at University Hospital at Stony Brook, her Ambulatory Medicine fellowship at Stony Brook and Geriatrics Medicine fellowship at Montefiore Medical Center. She also completed a Master’s Degree in Clinical Research Methods at AECOM. Dr. Malik’s is a clinician educator who has interests in functional and cognitive assessments. She has extensive clinical experience in long term care settings. She continues to teach and see patients in both the ambulatory and long term care settings and is committed to enhance collaboration between geriatric medicine and mental health professionals.

Maniscalco, Jennifer, MD, MPH
Jennifer Maniscalco is an Associate Professor of Clinical Pediatrics at the University of Southern California, Keck School of Medicine/Children's Hospital Los Angeles. She received her undergraduate and medical degrees from Georgetown University, as well as a Master in Public Health from The George Washington University, in Washington, D.C. She completed a general pediatrics residency and pediatric hospital medicine fellowship at Children's National Medical Center (CNMC) in Washington, DC. Subsequently, Dr. Maniscalco worked as a pediatric hospitalist and served as the Director of the PHM Fellowship at CNMC. In 2008, she joined the Division of Hospital Medicine at Children's Hospital Los Angeles (CHLA), where she is the Director of the PHM Fellowship. Her primary interest is in medical education, primarily for pediatric residents, pediatric hospital medicine fellows, and practicing pediatric hospitalists. She is extensively involved in local and national education efforts. She has served as the co-editor of the Pediatric Hospital Medicine Core Competencies and Chair of the Pediatric Hospital Medicine Education Task Force. Based on her leadership related to PHM fellowship education, she has been an invited participant to PHM national leadership strategic planning meetings and was the 2017 recipient of the PHM Award for Educational Excellence.

Marsicano, Elizabeth, MD
Elizabeth Marsicano attended University of Miami Medical School, University of Miami Internal Medicine Residency Program and Saint Louis University Gastroenterology Fellowship Program. She is currently assistant professor of Internal Medicine in the Gastroenterology Department at Saint Louis University.

Marzan, Katherine, MD
Katherine Marzan, MD is a rheumatologist at Children’s Hospital Los Angeles and Associate Professor of Clinical Pediatrics, at Keck School of Medicine, University of Southern California. She is the Program Director of the Pediatric Rheumatology Fellowship Training Program and is co-chair of the CHLA Feedback Collaborative Group. She cares for children with JIA, SLE, dermatomyositis, vasculitis and other autoimmune conditions at CHLA as well as Miller Children's Hospital in Long Beach, CA and the Children’s Specialty Center of Nevada where she travels for outreach clinical services. Dr. Marzan earned her M.D. at the University of the Philippines, and completed her residency at Penn State Hershey Medical Center in Hershey, PA. She completed a rheumatology fellowship at Baylor College of Medicine/Texas Children's Hospital in Houston, TX. Dr. Marzan is board certified in Pediatrics and
Mason, Bonnie, MD
As CEO and co-founder of Beyond the Exam Room®, Dr. Bonnie Simpson Mason and her physician partners have over 30 years of experience as physician administrators in various practice settings. Dr. Mason's personal mission is to teach, facilitate and empower future and current physicians to reach their maximum potential as comprehensively prepared medical professionals. An alumnus of the Kellogg School of Management, Dr. Mason knows that it is more important than ever to ensure that physicians are comprehensively prepared to lead and manage healthcare teams in the face of delivery and payment system transformation. In 2011, Dr. Mason’s experience as a practicing, board-certified orthopaedic surgeon and physician administrator of a private practice led her to develop a comprehensive business of medicine and practice management curriculum for physicians,www.BeyondtheExamRoom.com. Dr. Mason delivers this curriculum to future and practicing physicians nationwide with the support of experienced physician- and expert- faculty.

May, Win, MD, PhD
Dr. May is a Professor in the Division of Medical Education, and the Director of the Clinical Skills Education and Evaluation Center at the 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. She is a member of the Association of American Medical Colleges (AAMC) Research in Medical Education (RIME) Planning Committee. She 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 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 an instructor in the Masters of Academic Medicine and Faculty Development programs. She 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 in 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.

McAlister, Rebecca, MD
Rebecca McAlister is a professor of Obstetrics and Gynecology at Washington University in St. Louis and has been the Designated Institutional Official of the Washington University/Barnes Jewish Hospital/St Louis Children’s Hospital Consortium and Associate Dean for Graduate Medical Education since 1997. She was program director for the OBGYN residency at Washington University for 17 years. She is a past-vice chair of the RRC for OBGYN, the chair of the OBGYN Milestones development committee and a member of the CREOG Milestones task force for faculty development. She has served as an oral examiner for the American Board of Obstetrics and Gynecology from 1997 to 2015. Her research interests include OBGYN workforce issues, resident attrition, medical education and resident well-being. Dr. McAlister graduated from the University of Kentucky with a Bachelor of Science in 1977 and a Doctorate of Medicine in 1979. She completed her residency in Obstetrics and Gynecology at Loyola Affiliated Hospitals in Chicago IL in 1983 and is certified by the American Board of Obstetrics and Gynecology. She joined the faculty at Washington University School of Medicine Department of Obstetrics and Gynecology in 1987.

McDermott, Allyson, MD
Allyson is a second-year fellow in pediatric hospital medicine at Children’s Hospital Los Angeles, and a Clinical Faculty Instructor at the Keck School of Medicine at the University of Southern California. She completed her residency in pediatrics at Children’s Hospital Los Angeles, where she began her journey
into medical education as part of the Education Track. She is currently pursuing graduate coursework in Academic Medicine at the University of Southern California to further her educational and leadership skills. Her current research interests include assessing parental understanding of asthma action plans, teach-back for patient-and-family discharge education, parental health literacy, and peer-debriefing after distressing patient care events. amcderrmott@chla.usc.edu

McGaughey, Betsy, EdD, MS
Betsy McGaughey is Associate Director, Graduate Medical Education, Cedars-Sinai Medical Center Dr. McGaughey has over 20 years of experience as a leader in Graduate Medical Education (GME). She came to Cedars-Sinai 12 years ago as Associate Director of GME. In that role, she has been instrumental in the development of numerous new accredited residency and fellowship programs. She works extensively with physician program directors on program evaluation and improvement, curriculum development, and provides expert consulting on meeting program and institutional accreditation requirements. Prior to joining Cedars-Sinai, Dr. McGaughey served as Chief of Library Service at the Sepulveda site of the Department of Veterans Affairs Healthcare System and as Education Specialist at the VA West Los Angeles.

Mele, Patricia, DNP, NNP-BC
Dr. Mele received her Bachelors’ of Science (83), Masters’ of Science (94) and Doctorate of Nursing practice (09) from Stony Brook University. She trained at NYH-Cornell Medical Center graduating with Neonatal NP certificate through Cornell School of Medicine (86), Neonatal Flight Transport Certified University Utah (87). Dr. Mele was the pioneer bringing the NNP role to Stony Brook, joining the Division of Neonatology (88); then board certified (89). An NRP instructor since 1990. She has been using experiential education with simulation scenarios since July 2007. She is certified as a Simulation Instructor by Penn State Hershey (09). Dr. Mele’s program implemented training sessions using immersion and standards of best teaching methods for adult learners; fostering simulation based research projects. Dr. Mele focuses case scenarios for delivery room management skills, teamwork concepts, leadership training, and critical decision making. She has been published in peer review journals and has presented numerous poster and speaker presentations at local, national and international conferences, including the Society for Pediatric Research, March of Dimes and Advanced Practice Nursing forum. Dr. Mele takes pride of being part of a team of expert clinicians with vast experience in caring for sick newborns and their families. Mostly, she is the proud mother of her children, quadruplets born at Stony Brook in 1992.

Memel, Zoe, MSIII
Zoe Memel graduated from Cornell University with a Bachelor of Science in Nutrition in 2015. While at Cornell she worked on a four-year longitudinal study assessing the effectiveness of weight gain prevention techniques in college students. As an Iscol scholar in leadership development and public service and a Cornell Urban scholar, Zoe was interested in better understanding the socioeconomic factors that contribute to poor health. She worked as a nutrition intern for Cornell Cooperative Extension and taught nutrition and health promotion classes at food pantries and community centers throughout NYC. She also developed her own nutrition curriculum and taught at an elementary school Ithaca, NY. Currently, Zoe is a third year medical student at the Keck School of Medicine. After recognizing a lack of nutrition within the medical school curriculum, Zoe helped create a culinary medicine course at USC in collaboration with classmates and faculty and strives to integrate more nutrition education student’s clinical training. As a medical student Zoe has been a teacher for Kaiser Permanente’s Strive Academy program, served as President of Healthy Choices, Healthy Lives and was the Keck Student Council Ethics Chair for two consecutive years. Moving forward, Zoe is interested in pursuing a career in internal medicine and public health and hopes to integrate nutrition and preventative medicine into her practice as a future physician.

Merkulova, Yekaterina
Yekaterina Merkulova is a student at SUNY Downstate Medical Center and is finishing up her PhD thesis in neuroscience (with focus on electrophysiological properties of the TRPC4 ion channel). She was selected to be a Conley Scholar in recognition of her interest in bioethics. She first became fascinated with ethics as a child growing up during Perestroika in Russia, and learned that how individuals chose to
solve ethical problems has many complexities and dimensions that she earned to fully understand. Upon completion of school, Yekaterina hopes to continue collaborations with ethicists regarding issues in physical rehabilitation and sports medicine.

Messman, Anne, MD, FACEP
Dr. Anne Messman is the associate program director at Sinai-Grace Hospital in Detroit, Michigan and is an assistant professor at the Wayne State University School of Medicine. Dr. Messman is the founder and chair of the Detroit Medical Education Research Group (DMERG), which had its first meeting in March 2017. DMERG is a research collaborative between the emergency department faculty and residents at Sinai-Grace Hospital, Detroit Receiving Hospital, Henry Ford Hospital and St. John Hospital, all of which are located in Detroit. The purpose of this group was to foster collaborative research between these sites with the goal of increasing scholarly productivity and output of its members. Dr. Messman has a long-standing interest in academic emergency medicine. She has completed the Medical Education Research Certification (MERC) program hosted by the AAMC as well as a year-long faculty development program hosted by Academic Life in Emergency Medicine (ALiEM) called the Faculty Incubator. She currently functions as a junior mentor in the Faculty Incubator. She chairs the education committee for the Department of Emergency Medicine at Wayne State University. She has received Teacher of the Year awards 4 times since completing residency in 2011, from both the medical students and her residents. She also has multiple peer-reviewed publications and abstract presentations in the fields of medical education research and resident physician education.

Meyer, Lynne
Dr. Meyer is the Medical Educator in the Graduate Medical Education office through the University of Florida’s College of Medicine where she focuses on program accreditation, program evaluation, faculty development, patient safety and quality improvement. Her prior work experience includes serving as an Executive Director for the Accreditation Council for Graduate Medical Education (ACGME) and as an Assistant Dean for Medical Education and Evaluation for the University of Illinois College of Medicine at Peoria.

Milanes, Liana, MD
Dr. Milanes is an Associate Clinical Professor at UCSF Fresno Family and Community Medicine where she recently completed residency. She is a board certified family medicine physician who graduated from Ross University Medical School. She is a general practitioner who attends inpatient wards, precepts continuity clinic, outpatient procedures and maintains a small patient panel in a rural clinic. She has a broad range of interests including women's health, outpatient procedures and general medical education. In her first year of practice she has been involved in the development and supervision of simulated clinical and teaching encounters.

Miller, Karen Hughes
Dr. Karen Hughes Miller, known to her friends as “Sam”, has more than 40 years’ experience in education, 15 of which are in medical education and education research. She is the Chair Elect of the Association of American Medical Colleges (AAMC) Southern Group on Education Affairs (SGEA) and serves on the AAMC Research in Medical Education (RIME) Selection Committee. She especially enjoys teaching faculty development sessions and non-clinical courses to residents. She is a long-time Louisville resident, an avid thoroughbred horseracing fan, and married to David W. Miller of the Healthcare Strategy Group, LLC.

Mitchell, Diana, MD
Dr. Mitchell completed her pediatric residency at the University of Chicago. After serving as a Chief Resident, Dr. Mitchell completed her fellowship in Pediatric Critical Care at the University of Chicago. During this time, she established the first pediatric resident resuscitation simulation curriculum. Since her appointment to the faculty in 2011, Dr. Mitchell has been instrumental to the successful implementation of several simulation-based initiatives, including the PICU Simulation Task Force, the Pediatric Critical Care/Emergency Medicine Fellows Hybrid Simulation Course, and the New Fellows Boot Camp. Dr. Mitchell currently works closely with the UC Simulation Center overseeing many pediatric simulation programs. Dr. Mitchell currently serves as the Program Director for the Pediatric Critical Care Fellowship,
Faculty Director of PALS, Core Faculty for the Pediatric residency program, and is a Fellow of the Academy of Distinguished Medical Educators at The University of Chicago. Dr. Mitchell's research interests include using Interprofessional Simulation Based Medical Education to improve team communication and patient care.

Modna, Yuliya M., MD, PhD
Yuliya Modna is an Assistant Professor in the Department of Physiology in the Trinity School of Medicine, Saint Vincent and the Grenadines. She is a Chair of Academic Counselling Team, which assists in planning an individual academic path and time management organization, provides a learning support for students. Dr. Modna's scientific interests are in areas of medical education and assessment, she is a member of International Association of Medical Science Educators (IAMSE). Dr. Modna has published 29 scientific articles in peer-reviewed journals and 4 patents.

Molas-Torreblanca, Kira, DO, FAAP
Kira Molas-Torreblanca is an Assistant Professor of Clinical Pediatrics at USC and a pediatric hospitalist at Children's Hospital Los Angeles. She graduated medical school from Western University and completed her post-graduate training and chief residency in pediatrics at the University of Nevada School of Medicine, Reno. There, she held a faculty position where she worked as a pediatric hospitalist at University Medical Center in Las Vegas, Nevada. She also served as the associate pediatric residency program director before relocating to California with her family. Currently she is involved in preclinical medical student education as a mentor and instructor for the Introduction to Clinical Medicine-Professionalism Course at the Keck School of Medicine. She is also involved in 3rd year medical student education at CHLA while serving on the attending-only service. She currently serves as the Associate Program Director for the Pediatric Hospital Medicine Fellowship at CHLA. Her interests include curriculum development and trainee education with regard to improved communication at hospital discharge and safe transitions of care in the hospital. kmtorreblanca@chla.usc.edu.

Morgan, Helen, MD
Helen Morgan is Clinical Associate Professor of Obstetrics and Gynecology and Learning Health Sciences at the University of Michigan Medical School.

Morrison, Alexander, MSIV
Alexander Morrison is a fourth year MD/Masters in Translational Research student at the University of Pennsylvania Perelman School of Medicine. He co-founded Penn HealthX Labs, a student-run biotechnology incubator program at the University of Pennsylvania in 2015 that partners with Sling Health. He is currently the Vice President of New Chapter Development and Managing Director for Sling Health.

Moser, Joe-Ann, MSIII
Joe-Ann Moser is a medical student at the Icahn School of Medicine at Mount Sinai, Class of 2019. As a third year student, she participated in the Interclerkship Ambulatory Care Track (InterACT), a 13-week integrated clerkship that provides twelve students each year with a longitudinal clinical experience in the foundations of ambulatory medicine and chronic illness care. She is currently pursuing a scholarly year conducting research in the use of technology in medical education. While at Mount Sinai, Joe-Ann has held multiple roles related to teaching and curriculum design, including serving as a peer tutor, teaching assistant, course coordinator, and teaching senior at the school's student-run free clinic. She received a BA in Biochemistry and an MS in Chemistry from the University of Pennsylvania as a member of the Vagelos Program in Molecular Life Sciences. Prior to starting medical school, she worked as a clinical research assistant at the National Institutes of Health.

Mullaney, Mary, MD
Dr. Mullaney has a Bachelor of Science in Psychology from Michigan State University, a Master of Science degree in Human Nutrition from Columbia University, and a Medical Degree from Wayne State University School of Medicine. She is currently a third year Family Medicine resident at White Memorial Medical Center in Los Angeles, California.
Nambudiri, Vinod, MD
Dr. Vinod Nambudiri completed his clinical training in Internal Medicine and Dermatology at the Brigham and Women's Hospital and Harvard Combined Dermatology Residency Program. He currently serves as the Program Director of the Transitional Year residency program and the Associate Program Director of the Internal Medicine residency program at Grand Strand Medical Center. Dr. Nambudiri has presented at national conferences of the National Resident Matching Program, Association of Program Directors of Internal Medicine, and Society for General Internal Medicine, and the American Academy of Dermatology on topics related to medical education and clinical medicine. He has authored over 50 peer reviewed publications and actively advises undergraduate students, medical students, residents, and junior faculty regarding career development across the medical education continuum.

Narajeenron, Khuansiri, MD, MSc, FTCEP, CHSE
Khuansiri Narajeenron is an emergency physician and cardiologist faculty in the Department of Emergency Medicine within Chulalongkorn University and King Chulalongkorn Memorial Hospital, the Thai Red Cross Society, Department of Emergency Medicine, Bangkok, Thailand. She is Academic Director and Certified Healthcare Simulation Educator. She is responsible for teaching 21 EM residents and hundreds of medical students, along with EM nurses and emergency medical technicians(EMTs). She develops the curriculum and evaluation form for the EM clerkship, specifically the bedside teaching and didactic curriculum. She is the one of EM committee which develops milestone, EPA and program evaluation for Thai EM residency program. She is currently enrolled in the international research and education fellowship of Medical Education and Faculty Development at Emergency Department, the University of California, Irvine. In the program she did the multicenter research about a pilot study of 360-degree Perceptions of Emergency Medicine Physician’s Professionalism in western and eastern cultural context, the Perspectives of Thai Medical Students Towards a Team-Based Learning Approach to Tele-Education, and Teaching LVAD (Left Ventricular Assist Device) by Team-Based Learning. Dr. Khuansiri received her ACEP (American College of Emergency Physicians) Teaching Fellowship certification (Dallas, Texas) in 2017, received a Master of Science from Chulalongkorn University in 2014 and received bachelor's degree, Doctor of Medicine with first class honors (The best GPA in class) from Thammasat University in 2005. khuansiri9@gmail.com

Narayanan, Mey (Mechu), MD
Mey Narayanan attended University of Illinois at Chicago Medical School and University of Illinois at Chicago Internal Medicine Residency Program. She is currently a 2nd year Gastroenterology fellow at Saint Louis University.

Nathanson, Mark, MD
Dr. Mark Nathanson is an attending psychiatrist at NY Presbyterian Hospital and Director of the Fellowship Program in Geriatric Psychiatry at Columbia University and the New York State Office of Mental Health. He co-leads the Seminar in Aging and End of Life at Columbia University Macy’s Scholars Interprofessional Education/Narrative Medicine Program. He presented the curriculum for this seminar at the USC Keck Innovations in Medical Education Conference 2017. He is a faculty member of the Stroud Center for Geriatrics and Quality of Life at Columbia University and Assistant Clinical Professor of Psychiatry in the Columbia College of Physicians and Surgeons. He is a well-regarded clinician, educator and program developer in the areas of geriatric mental health, emergency and crisis psychiatry and elder abuse issues. Dr. Nathanson is medical director of Psychiatric Mobile Crisis Unit at Mt. Sinai at Elmhurst Hospital in Queens, NY. He has lectured extensively on geriatric mental health topics, mental health services in NORCs and disaster preparedness. He is a lecturer for the NYC Geriatric Education Consortium.

Navarro, Isaac, DMD
Isaac Navarro is Director of Community Oriented Primary Care (COPC) for The Wright Center for Graduate Medical Education. In his role, he teaches concepts in community medicine and public health to Osteopathic Family Medicine Residents in partnership with A.T. Still University, School of Osteopathic Medicine in Arizona. He is a graduate of A.T. Still University, Arizona School of Dentistry & Oral Health and also a graduate of University of North Carolina, Gillings School of Global Public Health. In addition to teaching community medicine, he owns and operates Isaac Navarro Consulting which is an independent
consulting firm for community health centers focusing on leadership development, quality improvement, and integration of primary care and oral health.

**Nguyen, Diem-Tran, MSIII**
Diem-Tran Nguyen is a third-year medical student at the Keck School of Medicine of USC. She became a content creator and a content editor for the Keck Online Learning Initiative (KOLI), after finding KOLI’s content personally beneficial and helpful during her first year of medical school. She graduated from the University of Southern California in 2014 with a major in History and a minor in Natural Sciences. In college, she was heavily involved in community service and mentoring related extracurriculars. During her gap year between college and medical school, she lived in South Korea, teaching English to elementary school students through a Fulbright grant, which fostered a love for teaching, travel, and cultural exchange. Email: dinguyen@usc.edu

**Nguyen, Wendy, MD**
Wendy Nguyen is an Assistant Professor in the Department of Anesthesiology at the University of Minnesota. She completed her anesthesiology training at the University of Maryland School of Medicine in Baltimore and then completed a Pediatric Anesthesiology fellowship at Cincinnati Children’s Hospital Medical Center. Her clinical interests include pediatric regional anesthesia and acute pediatric pain management. Her research interests include medical and residency education and simulation.

**Nieto-Rodriguez, Angelina, MSIV**
Angelina Nieto-Rodriguez is a fourth-year medical student from Keck School of Medicine who plans on applying into the family medicine specialty. Angelina graduated from University of California, Los Angeles with Bachelors of Science in Sociology. Angelina was born in Van Nuys, California and was raised in Palmdale, California. She initially found her passion for medicine through a four-year health careers academy program in high school and various hospital volunteer experiences throughout college. Angelina’s interest in the education of underserved community stems from her connection in growing up in an underserved area and having first hand experiences with limited resources.

**Noelker, Joan, MD**
Joan Noelker is currently an Instructor and Assistant Program Director in the Division of Emergency Medicine. She has an MD from the Royal College of Surgeons in Ireland, and a Masters of Medical Education (MACM) through the Keck School of Medicine at the University of Southern California in December 2017, and completed residency training including a chief resident year as well as a medical education fellowship at Washington University in St. Louis. Dr. Noelker works clinically in the emergency departments at Barnes-Jewish Hospital, Children’s Hospital and Barnes-Jewish West County Hospitals 50% of her time, and the remaining 50% is divided between administrative work with the residency, teaching residents and medical students, curriculum development and educational research. Dr. Noelker has interests in simulation in medical education, transitions within medical education, undergraduate and graduate level medical education and dissemination of emergency medicine core knowledge through speaking engagements.

**Norton, Tracey Lee, DO, FAAFP**
Dr. Norton was born in California and raised in a family with engineer father who followed the petroleum industry. She spent years in Peru and Argentina, returning to the USA a bilingual bicultural teen. She financed medical school with a Uniformed Services Health Professions Scholarship and completed her service obligation as a general medical officer in the Indian Health Service where she provided full scope medical care to the Navajo and Hopi peoples. She traveled to Fort Smith, AR on temporary duty assignment with other Spanish speaking personnel to care for Cuban refugees of the Mariel Boatlift. Dr. Norton completed residency at USC/California Hospital Family Medicine Residency Program where she was chief resident. After residency she worked in Nome, AK caring for the Inupiat. She worked as core residency faculty in LA area programs for 9 years, then started a family medicine residency program at Keck School of Medicine of USC where 10 classes completed residency. She left academic medicine to return to rural medicine, working in a rural health center and critical access hospital on Catalina Island for 7 years. Dr. Norton returns to graduate medical education to start a family medicine residency for Citrus Valley Health Partners and East Valley Community Health Center. Her husband is an actor/producer.
Their daughter is a family physician and their son, KSOM Class of 2017 will head to radiology residency after his preliminary year at Harbor-UCLA.

Nyquist, Julie G., PhD
Julie G. Nyquist is a Professor in the Department of Medical Education within the Keck School of Medicine of the University of Southern California. She directs the Master of Academic Medicine program and is Chair of the department’s annual Innovations in Medical Education Conference for 2018. In the Master of Academic Medicine program, she is on the teaching team for multiple courses focusing on leadership, professionalism, instructional design and program evaluation. Dr. Nyquist has given over 750 workshops and presentation on topics related to leadership, teaching, evaluation, cultural competence, career development, and research, to a variety of health care professions’ faculty members. 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 in 1981. nyquist@usc.edu

O'Brien, Kathryn, MBA, RN
Kathryn M. O'Brien has a unique blend of clinical and business experience that have allowed her to advance across multiple facets of the healthcare market. She has excellent strategic and organizational skills with a proven ability to assume responsibility quickly. Before joining Beyond the Exam Room, Inc. as the director of Academic Institutions and Physician Liaison, she had experience as the director of critical care and emergency services at a Florida hospital; and upon achieving her graduate degree assumed positions in the medical device industry in marketing, product development, and physician relations.

Olson, Holly, MD
Dr. Holly Olson is a graduate of West Point and Vanderbilt University School of Medicine. She is Board Certified in Obstetrics-Gynecology and has served as Ob-Gyn Program Director and Director of Medical Education and Designated Institutional Official at Tripler Army Medical Center, Honolulu, Hawaii. She is currently an Assistant Professor of Obstetrics and Gynecology at the University of Hawaii John A. Burns School of Medicine and serves as the Deputy Designated Institutional Official for Graduate Medical Education.

Ostmoe, Michelle
As the educational technology consultant, Michelle Ostmoe works with Physician Assistant Program and School of Medicine and Public Health faculty to develop curriculum and stay on the cutting edge of curriculum delivery. Michelle also plays a key role in distance education, including initiatives in rural and underserved areas of Wisconsin. Michelle began her tenure at the UW-Madison Physician Assistant Program in 2002 after the program received a HRSA grant to deliver curriculum via distance technologies to students who could not travel to Madison for their education. After successful implementation, Michelle joined the UW School of Medicine and Public Health (UWSMPH) in 2004 as distance education technology consultant ensuring the UWSMPH continued to lead the way in innovative delivery of curriculum, initially focusing her expertise on developing a digital video library of UWSMPH lectures and events. In fall 2014, Michelle rejoined the PA Program to assist in the launch of the wisPACT (Wisconsin Physician Assistant Community Track).

Ostrom, Kathleen, MD
Kathleen Ostrom is a Pediatric Hospitalist at Children’s Hospital Los Angeles, and Assistant Professor of Clinical Pediatrics at the University of Southern California Keck School of Medicine. She received her undergraduate degree from the University of Washington and medical degree from Northwestern University. She completed a general pediatrics residency at Children’s Hospital Los Angeles and served as Pediatric Chief resident after completing her training. She has been at Children’s Hospital Los Angeles for the past 9 years, supervising general pediatric resident teams as well as co-managing cardiac patients on the attending only service. Additionally, she serves as Co-Chair of the Critical Response Systems Committee and as Co-Medical Director for the Cardiovascular Acute Unit. She enjoys teaching and mentoring medical students, residents, and fellows. Her interests include quality improvement, patient safety and medical education, with a main focus on enhancing early recognition of deteriorating patients. KOstrom@chla.usc.edu
Payne, Anthony, PhD
Anthony M. Payne is an associate professor of physiology focused on medical education, and co-director of the first year Foundations of Clinical Practice course at the Medical College of Georgia, Augusta University. He earned his PhD in physiology from Wake Forest University School of Medicine. He has 7 years’ experience as a primary medical educator, designed curriculum for a new medical school during its founding, and was 2016 medical educator of the year at MCG. His research interest is integrating basic and clinical sciences in medical curricula through simulation and active learning techniques.

Pendergraph, Bernadette, MD
Bernadette Pendergraph is an Associate Professor at the David Geffen School of Medicine in the Department of Family Medicine and is also the program director for the Harbor-UCLA/Team to Win Sports Medicine Fellowship. Besides being the team physician for Gardena High School, Los Angeles Harbor College, and Southwest College, she also has expanded the curriculum in addiction medicine and pain management with Dr. Gloria Sanchez at Harbor-UCLA’s Department of Family Medicine. bpendergraph@labiomed.org

Peoples, Ashleigh, MSII
Ashleigh Peoples is a second year medical student at Wayne State University School of Medicine (WSUSOM). A non-traditional medical student, Ashleigh worked for over 5 years as an epidemiologist in the Washington, DC area on a broad range of projects including the National Children’s Study, World Trade Center Health Program, and Military/Veteran Health. Earning a Bachelor of Arts in Comparative Women’s Studies from Spelman College and a Masters of Public Health from the University of Michigan School of Public Health, Ashleigh believes that public health and medicine are interwoven disciplines that are integral to combating health disparities and inequities. Aiming to practice collaborative patient care, she looks forward to a clinical practice that is rooted in the primary care discipline of Internal Medicine-Pediatrics enhanced by training in a variety of interests including nutrition, integrative medicine, and rheumatology. Ashleigh is passionate about improving the healthcare system believing the impact of medical education on this system should not be overlooked. Elected to serve a four-year term as a student representative on the Curriculum Management Committee at WSUSOM, she lends her voice to advocating for diverse and inclusionary discourse in medical education on behalf of a new generation of physicians.

Phung, Kevin, MD
Dr. Phung has a life-long passion for education and is committed to medical student and resident teaching and educational research at USC. During his residency, he became the first two-time winner of the Arnold P. Gold Foundation’s Humanism Excellence in Teaching Award, as well as the recipient of the Kaiser "Excellence in Teaching" Award upon graduating, the highest honor awarded to a resident at the University of California, San Diego. After his first year at USC, he was recognized for his outstanding contribution to both medical student and resident teaching by the Keck School of Medicine and Department of OBGYN. Every week, he hosts an intimate session with 3rd year medical students, dubbed “Phung Rounds,” where students discuss in-depth topics and cases related to women’s healthcare. Clinically, his special interest lies in minimally invasive treatment of gynecologic conditions, including hysteroscopy, laparoscopy, and robotic surgery.

Piazza, Scott, DO
Scott Piazza is a PGY-2 resident with Marian Family Medicine Residency in Santa Maria, California. He strives to take the knowledge and experiences gained from a decade as an information technology and small business consultant, and apply them to the pursuit of family medicine. In business, he worked as an open-source advocate who strategically aligned smart technologies and cost-effective solutions with corporate goals. Recognized for taking on major initiatives, adapting to rapidly changing environments, and resolving mission-critical issues. Level-headed, process oriented manager who strives for continuous quality improvement and life-long learning. In medicine, exploring opportunities to promote health and treat the whole person while providing exceptional care. Looking to integrate technology without losing the personal touch.
Pierce, Jenny, MS
Jenny Pierce is the Head of Research, Education and Outreach at Temple University Health Sciences Libraries. She is also the library liaison to researcher at Lewis Katz School of Medicine and Temple University Hospital. Ms. Pierce leads data management services at the Health Sciences Library. Previously she worked at the Rowan School of Osteopathic Medicine. Before that she was the director of the AIDS Library and the Critical Path AIDS Project. While at the AIDS Library Ms. Pierce oversaw the creation of AIDS Education Month in Philadelphia. Ms. Pierce has been awarded grants from the National Library of Medicine and the NIH on projects ranging from creation of internet labs for underserved and at risk populations, education for people with HIV/AIDS, the creation of mobile resources for medical providers and the use of video for the education of medical students. She has written on patient safety, health information literacy, mobile technology and systematic review searching. She currently serves on the Research Information Management Systems Task Force at Temple. Email: piercejb@temple.edu

Pierre, Kimberly, DM
Kimberly Pierre is on the faculty at College of Business, Houston Baptist University and Grand Canyon University. Previously, she worked as an administrator at a college managing academics for campus locations. In this role, she maintained academic oversight for all things related to campus academics to include faculty and dean hiring/development, enrollment and persistence, academic advising, escalated student issues (disciplinary, academic integrity, etc.), and student success initiatives. Kimberly has worked in higher education for the past 11 years, both as faculty and administrator; however, she also has previous experiences in industry as a government contractor and in credit and banking. She currently serves as an evaluator for an accrediting agency, as a grant reviewer for the Dept. of Education and Department of Labor and as a peer reviewer for a peer-reviewed journal. Kimberly is currently a student in the MACM program through USC’s Keck School of Medicine.

Pliakas, Maria, MSIV
Maria is currently a fourth year student at the University of Michigan Medical School. She is involved in the Galens Medical Society and is a Senior Czar of the annual Tag Days event, which raises money for local children. She is involved in the medical curriculum transformation and the student lead of the Student Advisory Committee. She served on the operations committee as director of communication and director of logistics for the AMA Student-Led Conference on Leadership in Medical Education. She was selected to serve as the student lead for the committee that organized the M1 Orientation. She has served on the executive board of the American Medical Women’s Association as social chair, fundraising chair and treasurer. She is interested in medical education and along with a classmate, developed and taught two near-peer teaching sessions on fluids and electrolytes and presenting patients. Her research interests include medical education and vaccine hesitancy in pediatric patients and their families. Prior to matriculating to medical school, she received a B.S. in Biological Anthropology and Biology from the University of Michigan.

Pott, Emily, MSIII
Emily Pott is a third-year medical student at the Keck School of Medicine at USC. She grew up in Chappaqua, New York and graduated from Duke University in 2014 with a B.S. in Neuroscience. After graduation, she worked for one year at the New York State Psychiatric Institute as a Research Coordinator for the Adult and Late Life Depression Clinic, contributing to research on geriatric depression, frailty, and the placebo response in clinical trials. At Keck, Emily has shown interest in leadership within her medical school community. She is president emeritus of the largest student organization on campus, the Emergency Medicine Student Interest Group and holds the position of Social Chair on the Class of 2019 Student Council. She co-founded the Keck Anatomy Mentorship Program to supplement the existing gross anatomy curriculum and provide incoming students with extra support and mentorship both inside and outside the classroom. She is contributing to research in both academic and clinical medicine, specifically within the Division of Trauma Surgery and Critical Care at LAC+USC. She hopes to pursue a career within medicine that incorporates her love for problem-solving, mentorship, and academics.
Prasad, Chaya, MD, MBA
Chaya Prasad did her medical school training at Bangalore Medical College, India, completed her residency at Oregon Health Sciences University, Portland OR, followed by a Fellowship at Harvard University, wherein she received 2 American Cancer Society Awards and 2 NIH awards. As a junior faculty at OHSU, Dr. Prasad was actively involved in molecular research and was the recipient of the NIH, Physician Scientist Award. Dr. Prasad has considerable experience in the field of pathology and after obtaining her MBA degree in health management, decided to come back to teaching. Dr. Prasad is an Associate Professor at the Western University of Health Sciences, Pomona CA and has published extensively in peer reviewed journals and written book chapters. Dr. Prasad is the proud faculty overseeing a student run PIG group, otherwise known as the Pathology Interest Group.

Prather, Charlene, MD
Charlene Prather attended University of Missouri Kansas City Medical School and University of Missouri Kansas City Medical School Internal Medicine Residency Program. Completed a Gastroenterology fellowship at Mayo Clinic and an MPH at Saint Louis University. Currently is a professor of Internal Medicine and Program Director for the Gastroenterology Fellowship at Saint Louis University.

Prosper, Magally, MD
Dr. Magally Prosper earned her degree from New York Medical College in 1989. She completed her pediatric residency at St. Christopher’s Hospital for Children in 1992. Dr. Prosper is Board Certified in Pediatrics and has been a Fellow of the American Board of Pediatrics since 1993. Dr. Prosper currently works fulltime in her private practice in Cambria Heights, New York. She has academic affiliation as a Clinical Assistant Professor at Hofstra North-Shore School of Medicine. She is a preceptor for Medical Students in her private office for the ICE/ACE program at Hofstra School of Medicine. She also is a preceptor for Physician Assistant students. Dr. Prosper also worked as a pediatric attending from 1989 to 2017 at Woodhull Medical Center and was a preceptor for residents where she developed a primary care rotation for senior residents to teach them practice management skills. Dr. Prosper is currently enrolled in the Master of Science in Health Professions Pedagogy and Leadership program at Hofstra University.

Reddy, Sireesha, MD
Dr. Reddy graduated from MR Medical College in India. She completed residency training as Co-Chief Resident at Loma Linda University Hanford Family Practice Residency Program. After graduation she stayed in the Central Valley of California as an outpatient clinic physician and made the transition to UCSF Fresno faculty in 2015. She is interested in comprehensive women’s health needs. She is an advocate for preventative health care, and believes in patient empowerment through education.

Reed, Jennifer, MD
Jennifer Reed is a current third year Family Medicine resident at White Memorial Medical Center. Her interests include inpatient FM-Hospitalist Practice, Women's Health Medicine, and Adolescent Medicine. Her research experience thus far includes studying the Effect of BMI on the Accuracy of the FAST Exam in Abdominal Trauma, as well as bench-work in biomedical sciences at Michigan State University. In residency she has pursued topics in adolescent medicine, inpatient quality improvement, and case-cohort studies in preventative medicine. This is her first poster presentation as a resident. Her undergraduate education and medical school education was completed at Michigan State University, where she had interests in Emergency Medicine, Family Medicine, and Internal (Hospitalist) Medicine. She was the lead organizer of Flint-MEDLink Outreach Program, where she worked with Flint, MI underserved high school students to promote undergraduate and post graduate education in high school students. Other experiences included global health science trips to Lima, Peru, and Queretaro, Mexico; where she helped underprivileged children with surgical and basic medical needs. She plans on working as a Hospitlist in Las Vegas, Nevada.

Regalado, Michael, MD
Michael Regalado is an Associate Professor of Pediatrics and Division Chief, Developmental Behavioral Pediatrics at the Los Angeles County + USC Medical Center. He directs the training of Pediatric and Medicine/Pediatric residents in this specialty in the context of clinics for children with disabilities, developmental follow up for preterm infants, and integrated clinics with adult psychiatry for infants of
mothers with mental health disorders and with child psychiatry for toddlers and preschool children with behavioral problems.

Reid, Jessica, MD
Dr. Jessica Reid is a fourth year Obstetrics and Gynecology resident at Los Angeles County + University of Southern California Medical Center. She received her MD from the Keck School of Medicine of the University of Southern California and her BA in Integrative Biology and Public Health at UC Berkeley.

Reilly, Jo Marie, MD, MPH
Jo Marie Reilly is a Professor of Family Medicine at the Keck School of Medicine of USC (KSOM). She is the Director of the Keck School of Medicine of USC (KSOM) Primary Care Initiative, Associate Director of the KSOM Introduction to Clinical Medicine Course and KSOM Family Medicine Pre-Doctoral Director. She graduated from Georgetown Medical School, completed her internship and residency in family medicine at the Kaiser Permanente Family Residency Program in Los Angeles and her fellowship in women’s health and obstetrics at the White Memorial Family Practice Residency Program where she remained as faculty for 13 years. She is the Chair of the American Academy of Family Physician’s commission on Education, Student and Resident subcommittee, on the Editorial Boards of Family Medicine, Family Systems and Health and PULSE, the KSOM senior Family Medicine Student Advisor and on the leadership team of the Society of Teachers of Family Medicine’s bioethics and humanities interest group. Dr. Reilly’s publications and research interests include innovations in student and resident education, physician well-being, care for the underserved, arts, preventative medicine, humanities and narrative medicine and women and children’s health care. jmreilly@usc.edu.

Rice, Gail, EdD
Dr. Gail Rice is a professor at Loma Linda University's School of Allied Health Professions. She is responsible for faculty development campus-wide. Her graduate degrees are in educational psychology and higher education administration and leadership. She completed a fellowship in Medical Education at USC, and is a faculty member for Harvard University’s School of Medicine in the Harvard Macy Scholar Project. Gail is presently completing a manuscript for a book on this workshop’s content.

Richter-Lagha, Regina, EdD
Dr. Regina Richter Lagha holds a doctorate in Education from the Graduate School of Education & Information Studies and the University of California, Los Angeles. Dr. Richter Lagha is an independent medical education research consultant and serves as the Evaluation Specialist for the UCLA Geriatrics Workforce Enhancement Program, David Geffen School of Medicine, University of California, Los Angeles. Her research interests include the intersection of medical education and patient outcomes, interprofessional education, and quantitative and qualitative research methods.

Ring, Jeffrey, PhD
Jeffrey Ring is a clinical health psychologist and master educator who knows culturally responsive integrated health care from the inside out. He is an executive leadership coach, and assists leaders and teams in productive functioning toward effectiveness, vitality, and competitive advantage. Dr. Ring is a Clinical Professor of Family Medicine and serves on the faculty of the Masters in Medical Education program housed at the Keck School of Medicine at The University of Southern California. During his career Jeffrey has focused on the elimination of health care disparities, with an emphasis on the role of medical education and the provision of outstanding care in underserved communities. He is the first author of the book, Curriculum for Culturally Responsive Health Care: The Step-by-Step Guide for Cultural Competence Training, published by Radcliffe Oxford. For 19 years he served as the Director of Behavioral Sciences and Cultural Medicine at the White Memorial Family Medicine Residency Program at White Memorial Medical Center in East Los Angeles. There he provided woven behavioral and primary care health services to a predominately Spanish-speaking underserved population. He taught family medicine residents the skills of compassionate doctor-patient communication, substance use screening and intervention, mind-body medicine and stress management.
Roepke, Clare, MD
Clare Roepke is an Assistant Professor of Emergency Medicine at the Lewis Katz School of Medicine. She graduated from the Los Angeles County / USC Medical Center Emergency Medicine residency in 2015 and was a Medical Education fellow there 2015-2016. She joined the faculty at Temple University in 2016. Her interests include both undergraduate and graduate medical education. She can be contacted at clare.roepke@gmail.com.

Rollhaus, Esther, MD
Dr. Esther Rollhaus is a fourth year resident in the Department of Psychiatry and Behavioral Sciences at Montefiore Medical Center. She is currently the chief of psychiatric medical education and co-coordinates the third year psychiatry clerkship at the Albert Einstein College of Medicine. She attended the Icahn School of Medicine at Mount Sinai and graduated with distinction in medical education and with the departmental award for excellence in psychiatry. As a medical student, she co-developed a pre-clinical leadership curriculum. She is the recipient of the Association of Woman Psychiatrist's Leah J. Dickstein award for medical student creativity, energy, and leadership. Dr. Rollhaus is interested in child and adolescent psychiatry, medical education, and trauma-informed care.

Ronquillo, Denise V., CSSBB
In her current role as Corporate Director of Process Excellence, Denise is responsible for the management, development and deployment of Lean Six Sigma activities throughout Citrus Valley Health Partners. Denise collaborates with all levels of hospital leadership to identify, prioritize, plan, and execute Lean Six Sigma initiatives that focus on enhancing patient safety, improving quality of care and outcomes, eliminating waste, increasing productivity, and reducing costs. Denise trains and mentors staff, leadership, physicians, and partners in Robust Process Improvement, Lean Six Sigma, process improvement tools, and cultural change strategies. As a Certified Six Sigma Black Belt (CSSBB), Denise is an organizational resource in advanced analytics, using various statistical analysis tools and techniques. Denise received her Bachelor of Science in Computer Information Systems from California State Polytechnic University, Pomona. She received Green Belt certification from both the Joint Commission Center for Transforming Healthcare and California State Polytechnic University, Pomona. Prior to her current position in Process Excellence, Denise was the Assistant Director of Performance Improvement at Citrus Valley Health Partners. Denise has over 30 years of healthcare experience.

Rounds, Alexis, MSIII
Alexis Rounds is a medical student at the Keck School of Medicine of the University of Southern California currently taking a research year working with the Department of Obstetrics & Gynecology at LAC+USC. She is early into her research career, but is excited to advance all fields. She has been involved in various research projects at the Mayo Clinic, Keck Hospital, CHLA, and LAC+USC with 9 published manuscripts. She has always been interested in women’s health, but was further inspired to pursue the field after finding a passion for it during her rotations third year.

Ruddy, Meaghan, PhD
Meaghan Ruddy holds an MA in Theology, a PhD in Human Development, and is a Board Certified Coach. She is currently studying toward certification in Conversational Intelligence (C-IQ) coaching. Dr. Ruddy has published on topics ranging from identity to professionalism and was a member of the STFM Faculty for Tomorrow Taskforce from June 2015 to June 2017. Dr. Ruddy was, along with her Taskforce colleagues, honored with the STFM President’s Award in May 2017. Dr. Ruddy co-wrote a Residents as Educators curriculum for STFM, innovating a social and emotional learning module and has, with her colleagues, parlayed this work along with her work in professional development and coaching into a HRSA Primary Care Training Enhancement grant. Dr. Ruddy is a member and conference reviewer for the American Society for Bioethics and the Humanities, a Consulting Editor and reviewer for the Journal of Transformative Education, and has presented at numerous national conferences on topics related to higher and medical education.

Rudnick, Melanie, MD
Melanie is a second-year pediatric hospital medicine fellow at Children’s Hospital Los Angeles, and a Clinical Instructor at the Keck School of Medicine at the University of Southern California. 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 is currently enrolled in the Academic Medicine program at University of Southern California to gain more skills in the principles and execution of medical education research. Her current research interests include the role of medical students in family centered rounds, and how to best prepare learners of different levels for a future career in pediatric hospital medicine.

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Russell, Melissa
Melissa Russell is an OMS II at Western University of Health Sciences. After graduating Cum Laude from Boston University with a Bachelor’s of Science in Film & Television, Melissa took the scenic route to medicine. She took a detour as the Marketing Manager for Malibu Family Wines before returning to school and joining the COPE Health Scholars program, where she acted as the Director of Administration and as a Department Coordinator at St. John’s Hospitals in Oxnard, CA. Her work with 3D pathology modeling dovetails with her desire to leverage technology to study smarter instead of harder, so she can spend more time with her husband and two dogs.

Rutledge, Kyle, DO, PhD
Kyle Rutledge is a psychiatry resident at Central Michigan University College of Medicine (CMED) in Saginaw, MI. Dr. Rutledge attended the University of California, Davis (UCD) for undergrad where he majored in Applied Physics and Psychology. Dr. Rutledge worked as research assistant in multiple labs in the departments of Psychology and Child Development, contributing to studies on the internalization of stereotypes, visual perception, and the child’s experience while receiving vaccinations. During this time Dr. Rutledge also worked as a Direct Support Professional in a group home for adults with developmental delays and on weekends as Respite Caregiver for a young adult with autism. Dr. Rutledge continued this role into graduate school where he earned an MS in child development and PhD in human development at UCD, performing his research with Dr. Julie Schweitzer’s ADHD lab at the UCD Medical Center’s MIND Institute. Dr. Rutledge’s master’s thesis explored decision making in adults with ADHD using eye tracking, and his PhD dissertation compared non-pharmaceutical treatments in childhood ADHD with a focus on computerized working memory training. Dr. Rutledge then attended Western University of Health Sciences (COMP-NW) for medical school where he continued his research collaboration with UCD and branched out to publishing on Adverse Childhood Experiences (ACEs) with Dr. St Germain, child abuse advocate. Dr. Rutledge also serves as husband, father, and dog-owner.

Saadat, Mohsen, MD
Dr. Mohsen Saadat is the Program Director for the Internal Residency program at San Joaquin General Hospital, a community based teaching hospital with affiliation with UC Davis, School of Medicine. He completed his medical degree from the University of Medicine and Dentistry of New Jersey in 1997. Following his completion of residency in 2000, he joined the clinical faculty at SJGH and became the Chair and Program Director for the Department of Internal medicine in 2013.

Saalman, Dustin
Dustin is an Instructional Skills Specialist in the Office of Learning & Teaching at Wayne State University School of Medicine. He is a PhD student in the Educational Evaluation & Research program at Wayne State University College of Education.

Saffier, Kenneth, MD
Ken Saffier is a family physician and member of the Residency Leadership Group of Contra Costa Regional Medical Center’s Family Medicine Residency. He specializes in addiction medicine and chronic pain management. He graduated from SUNY at Stony Brook School of Medicine and completed his residency at Chicago's Cook County Hospital. In 2008, he completed a faculty development fellowship at USC's Division of Medical Education and is a Clinical Professor at UC San Francisco Department of Family and Community Medicine. He is an active member of the California Society of Addiction Medicine’s education committee and is a Diplomate of the American Board of Family Medicine and American Board of Addiction Medicine. Since 2012, he has been a member of the Motivational Interviewing Network of Trainers.
Salari, Salomeh, MSIII
Salomeh (nickname: Sally) is currently in her third year of study at the University of Michigan Medical School and is a member of the Ethics Path of Excellence. She is involved in the medical school curriculum transformation and the M-Home learning community as a peer-elected curriculum representative. She has served on the executive board for a number of student organizations, including American Medical Women's Association and Galen's Medical Society, a philanthropic organization. She is also a representative of the Learning Environment Task Force, a group of students and faculty dedicated to the improvement of the medical school learning environment. Her research interests include work related to medical education, particularly interprofessional education. Prior to matriculating to medical school, she received a B.S. in Biomedical Engineering from Columbia University and a M.S. in Biomedical Sciences from the Icahn School of Medicine at Mount Sinai.

Saltzman, Hanna, MSIII
Hanna Saltzman is a second year medical student at the University of Michigan. She is passionate about transforming medical education such that students are equipped with the skills and inspiration to maximize their positive impact. Hanna is the M2 curriculum representative for the leadership and paths of excellence curricula and an editor for a book of essays about the medical school experience (to be published in March 2018). Before medical school Hanna worked as an environmental advocate for nonprofit organizations, contributed as a medical journalist to an online magazine, authored a book (No White Coat Necessary: The Science of Everyday Health), and assisted with research related to family planning. She received a B.A. in anthropology from Williams College.

Sanaiha, Nilofar, MD
Nilofar Sanaiha is a PGY3 in the department of family medicine at White Memorial Medical Center. She attended A.T Still school of osteopathic medicine in Arizona (ATSU SOMA). Prior to medical school, she substitute taught grades K-12. She is of the belief that the responsibility of a physician, especially a family physician, is to teach her patients so they, in turn, can teach their communities. She has a particular interest in mentoring underserved youth and increasing their excitement for careers in healthcare.

Sanchez, Gloria, MD
Gloria Sanchez is an Associate Professor at the David Geffen School of Medicine in the Department of Family Medicine. She is a bilingual, bicultural Latina physician that remains committed to providing and creating health care providers and curriculum that decreases health disparities. She oversees UCLA’s PRIME MSIII Primary Care Longitudinal course and has expanded the curriculum in addiction medicine and pain management in the Harbor-UCLA’s Family Medicine residency program.
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Scalmati, Alessandra, MD, PhD
Dr. Alessandra Scalmati is Associate Professor of Psychiatry and Behavioral Sciences at the Albert Einstein College of Medicine in the Bronx, NY, where she is Associate Director of the Fellowship in Geriatric Psychiatry, and Associate Director of the Division of Geriatric Psychiatry. She is board certified in General and Geriatric Psychiatry and in Psychosomatic Medicine. Dr. Scalmati received an MD, PhD from the University of Modena, Italy and completed her training in general and geriatric psychiatry at Montefiore Medical Center in the Bronx, NY. Dr. Scalmati's areas of interests include: medical education, the provision of trauma informed care in social service agencies and the medical care system, the long term effects of trauma, the improvement in delivery of mental health services to trauma survivors, elder mistreatment, intervention to address staff burnout, and the development of training models to improve delivery of care. Dr. Scalmati has worked to develop a curriculum to integrate the knowledge of the field of trauma studies and the field of geriatrics, and to adapt the concept of trauma informed care to geriatrics. She is committed to establish models of collaborative care between academic institutions and community agencies; and to enhance the collaboration between providers of geriatric medicine and mental health professionals. She has been the recipient of grants from UJA Federation, and the Butler Foundation.
Schwartz, Lindsay, MD
Dr. Lindsay Schwartz is a third year Pediatrics resident at the UCLA Mattel Children’s Hospital. She received her B.Sc. in Science Pre-professional Studies and Vocal Performance from the University of Notre Dame in 2011 and her M.D. from the University of Illinois in 2015. She has received several grants for her research in cancer survivorship, patient, family, and provider education, and health disparities. Most recently, she was the recipient of the 2017 Western Region of the Association of Pediatric Program Directors’ Medical Education Research Grant for the project she will present at this conference: “Creation of a Pediatric Cancer Survivorship Curriculum for Pediatric Resident Physicians”. Upon completion of her residency, Dr. Schwartz plans to continue her research at the Jonathan Jaques Children’s Cancer Center at Miller Children’s and Women’s Hospital of Long Beach under the supervision of Dr. Jacqueline Casillas. She subsequently plans to apply for fellowship training in Pediatric Hematology and Oncology. In her spare time, Dr. Schwartz enjoys singing in the Angel City Chorale of Los Angeles, California and performing flying trapeze. She can be reached via email at LSchwartz@mednet.ucla.edu.

Scielzo, Shannon A., PhD
Shannon A. Scielzo is currently an assistant professor at the University of Texas Southwestern Medical Center. She is the Associate Director of Education in Internal Medicine, and also the Strategic Planning Consultant for the office of Graduate Medical Education. Dr. Scielzo has a wide array of applied research experiences, with extensive publications in psychometrics, coaching/training, and evaluation/assessment. She has received grant funding to support her research from several sources, including the Department of Defense, the Alliance for Academic Internal Medicine, and the Southwestern Academy of Teachers. Dr. Scielzo received her doctorate in Psychology from the University of Central Florida in 2008. shannon.scielzo@utsouthwestern.edu

Scott, Bernadette A., MD
Bernadette A. Scott is an assistant professor in the Department of Clinical Medicine and is also Dean of Assessments in the Trinity School of Medicine located in St Vincent & The Grenadines; a small island in the Caribbean. She coordinates the process of evaluation of medical learning, counseling students regarding academic concerns relating to assessment and work load. Her teaching emphasizes the acquisition of clinical skills by direct patient contact in hospital and community settings. Dr. Scott received her medical degree from St George’s University.

Shaban, Ameerah, MD
Dr. Ameerah Shaban is a current resident at Pomona Valley Hospital Medical Center. She graduated from Alexandria University Faculty of Medicine where she encountered many underserved populations. She developed a passion to engage underserved communities. She especially enjoyed working with youths where she can help impact their lives and long term health outcomes by overlooked decisions such as diet and exercise. She is interested in health literacy and community outreach.

Shah, Ishan, MSII
Ishan Shah is a second-year medical student at the Keck School of Medicine of USC. He worked as a content creator for the Keck Online Learning Initiative (KOLI), which involved building learning material for the Keck first-year medical curriculum. He graduated from the University of California – Berkeley in 2016 with a major in Molecular Cell Biology. During his undergraduate years, he played for the UC Berkeley badminton team and was passionate about learning computer science. Outside of academics, his interests include hiking and chess. Email: ishandsh@usc.edu

Shah, Palvasha, MD
Palvasha Shah graduated from Frontier Medical & Dental College, Abbottabad Pakistan in 2013. She is currently in her second year of residency in Internal Medicine at San Joaquin General Hospital. She was co-investigator of “Reduction of Transfusions Based on Standardized Blood Transfusion Protocol,” a San Joaquin General Hospital Quality Improvement project in 2016 and is currently working on an on-going Transfusion Project Quality Improvement project. She has done research in cardiology at UC Davis and her internship doing research at UCSF and her externship at San Joaquin Behavioural Health.
Shalikar, Hamed, MD
Dr. Hamed Shalikar is blessed with a wonderful family and parents from Afghanistan. Growing up with immigrant parents, he faced adversity head on and developed a passion for commitment to the underserved through medicine and healthcare. Dr. Shalikar graduated from the University of California at Riverside, receiving both a Bachelor of Arts in Neuroscience and a Bachelor of Arts in Political Science in 2009. He later received his Doctorate of Medicine from the University of California Los Angeles in 2014. Hamed Shalikar was Chief Resident at White Memorial Medical Center Family Medicine Program, and is currently a Sports Medicine Fellow at Kaiser Fontana. He is passionate about empowering the youth of underserved communities and improving resident wellness. During his time as a resident, he has volunteered as part of the medical staff in supervising youth football games and local boxing matches at Hollenbeck Community Center. Beyond this, Dr. Shalikar has positively impacted the community through designing and implementing a mentorship and health curriculum with a local high school, where the majority of the students are underserved. For his own wellness, Dr. Shalikar enjoys staying active through weightlifting, basketball, volunteering, and spending time with his many nieces and nephew, as well as his wife.

Shawagfeh, Ahmad, MD
Dr. Shawagfeh is an Assistant Professor in the Department of Neurology within the University of Texas Medical Branch (UTMB) and School of Medicine of the UTMB. He is the associate neurology clerkship director at UTMB. He is on the teaching team for 3rd and 4th year medical students during the neurology clerkship on inpatient and outpatient basis including telemedicine. Dr. Shawagfeh has participated in multiple nationwide educational conferences in neurology and he is specialized in neurology, neuromuscular disorders, electrodiagnostic medicine and movement disorders. Dr. Shawagfeh received his M.D from Jordan University in 2007. aashawag@utmb.edu

Sherer, Sara. PhD
Sara Sherer is a licensed psychologist and an Associate Professor of Clinical Pediatrics at the USC Keck School of Medicine and Children’s Hospital Los Angeles. She is the Director of Behavioral Services at the Division of Adolescent Medicine, and the Psychology Training Director at the Division of General Pediatrics University Center of Excellence in Developmental Disabilities overseeing APA accredited Doctoral Internship, and Clinical Child Psychology Postdoctoral Fellowship. Dr. Sherer has lead efforts resulting in four HRSA-supported Graduate Psychology Education grants supporting training for psychology interns, fellows, faculty, and interdisciplinary staff and trainees, and a HRSA Leadership and Education in Adolescent Health (LEAH) grant. Dr. Sherer is also involved in national efforts to improve psychology-training experiences and serves as the Chair of the APPIC Doctoral Internship Membership Committee. Dr. Sherer’s areas of interest include training and supervision, adolescent depression and suicidal behaviors, adolescent risk taking behaviors, substance abuse, and ASD.

Shoji, Ryan
Ryan Shoji is a research participant, technical writer and literature researcher at the Central Coast Biotech Institute. Along with his fellow researchers he is currently authoring a publication for the peer-reviewed journal CBE Life Science Education. He earned a bachelor’s degree in Human Biology from the University of California Santa Cruz (UCSC), an associate’s degree in Natural Sciences from Ventura College. He has two pending A.A. degrees in Chemistry and Biology that he will complete prior to attending medical school in the fall of 2018. Mr. Shoji is currently employed as a Neurological Clinical Research Associate for a private practice in Los Angeles, California. His work involves evaluating traumatic brain and spinal cord injuries. Mr. Shoji enjoys spending his time rowing, rock climbing, and making lithographic drawings. Mr. Shoji is an avid supporter of the educational reform and endorses reform of the undergraduate biological laboratory education.

Sigman, Lauren, MD
Lauren Sigman is a third year emergency medicine resident at LAC+USC Medical Center. She graduated from Boston University School of Medicine in 2015. She completed her undergraduate degree in psychology at Mount Holyoke College in 2009, followed by a year of post-baccalaureate studies at University of Texas at Austin and a year of mental health research at the National Institutes of Health in
Bethesda, MD. She is interested in methods of applying modern methods of information dissemination, e.g. educational websites and podcasts, to current resident medical education.

Sohl, Kristin, MD, FAAP
Kristin Sohl is an Associate Professor of Clinical Child Health at the University of Missouri, Thompson Center for Autism and Neurodevelopmental Disorders. She is the site principal investigator for the Autism Intervention Research for Physical Health/Autism Treatment Network (AIRP/ATN) and serves in national leadership roles with each of these programs. She is the founder of ECHO Autism, an innovative, cutting-edge framework to increase community capacity to care for children with autism and other developmental or behavioral concerns. She is the PI for a HRSA funded clinical trial examining the effects of ECHO Autism on primary care practice. Dr. Sohl is a tireless advocate for children and enjoys engaging other physicians in being a voice for children’s health. She designed and leads the University of Missouri’s Community Advocacy through Resident Education (CARE) program. Through the CARE program, Dr. Sohl has earned several grants for training pediatricians to connect with community partners and local legislators to make a difference for children. She is one of the three faculty facilitators working in collaboration with the pediatrics advocacy track residents in the development of community and departmental initiatives to address culturally responsive healthcare and needs of our local immigrant population.

Sokol, Kimberly, MD, MC
Kimberly Sokol, a M.A.C.M. candidate, is a current Clinical Instructor and Simulation Fellow at the Department of Emergency Medicine at the University of California, Irvine. She currently creates high-fidelity simulation cases for the Emergency Medicine residency program, first- through fourth-year medical students, and future simulation instructors at the University of California, Irvine, as well as prehospital providers such as the San Bernardino Air Rescue Team. While a chief resident at the University of California, Irvine, she created the program’s asynchronous learning curriculum using the website Schoology. She also invented the ED Fact Board, a continuous feed of board-style questions designed to help residents better prepare for their annual in-training examinations. While finishing her fellowship this year, she hopes to expand on her prior experiences by continuing to find better ways of teaching residents both on-shift and off-shift.

Spyrou, Peter, MSIV
Peter Spyrou is a Fourth Year Medical Student at New York Medical College. He is in the midst of applying for a Psychiatry Residency with specific interests in Child/Adolescent, Consultation/Liasion, and horticultural therapy. During his Child Inpatient training at the Behaviorial Health Center at Westchester Medical Center, he designed and planted a 3-tiered “Garden of Healing” with twenty 4-12-year-old patients. During his C/L training at Memorial Sloan Kettering, he was exposed to meaning-centered psychotherapy for cancer patients and his current research at NYMC attempts to further develop empathic and efficient interview techniques. He completed a Bachelors in Geography and Middle Eastern History in 2010 at Middlebury College and a Post-Baccalaureate program at the University of Virginia in 2012. peter_spyrou@nymc.edu

Stavroudis, Theodora, MD
Dr. Stavroudis is an Assistant Professor of Pediatrics, USC Keck School of Medicine and the Section Head of Education in the Division of Neonatology.

Steenbergh, Kylie, MSIV
Kylie is currently in her fourth year of study at the University of Michigan Medical School and is a member of the Global Health and Disparities Path of Excellence. She is a co-founder of the eMpower program, and has served on the executive board for a number of student organizations, including Doctors of Tomorrow, American Medical Women’s Association, and Galens Medical Society. She has been an active participant in refining medical education at UMMS, serving as the medical student representative for the M-Home Learning Community. Her research interests include work related to medical education, and local and international disparities. Kylie recently spent time in Ethiopia evaluating the effectiveness of post-graduate training programs and characterizing the reproductive desires of HIV-
affected couples. Prior to matriculating in medical school, she received a B.S. in Neuroscience with a concentration in Medical Anthropology from the University of Michigan.

**Steiner, Shara D., DO, MACM**

Shara D. Steiner is a physician and medical educator with 14 years of experience within academic medicine. Formerly on faculty at University of Miami Miller School of Medicine, she is currently a faculty member at Florida International University College of Medicine, Hofstra Northwell School of Medicine, and is an expert contributor and instructor in the Master of Academic Medicine program at University of Southern California Keck School of Medicine. She graduated from University of North Carolina at Chapel Hill with a BA in Spanish Language and Literature. In 2007, Dr. Steiner graduated from Nova Southeastern University College of Osteopathic Medicine in Ft. Lauderdale, Florida. In 2014, she completed the Master of Academic Medicine program at USC Keck School of Medicine with Phi Kappa Phi Honor designation. She has published on and presented her research nationally and internationally. Her areas of expertise and interest include: leadership development; curricular design, implementation, and evaluation; faculty development; theories and principles of adult learning; exploring the impact of professional relationships on teaching and learning; and small-group teaching.

**Stevens, Paige, MD**

Dr. Paige Stevens is a second-year pediatric resident at Children’s Hospital Los Angeles. She graduated from the University of California, Riverside with a Bachelor of Science degree in Biology and from Loma Linda University School of Medicine with her Doctor of Medicine degree. Her interests include medical education and mentoring, and she is member of her residency program’s Education Track. She also serves as a member of the Program Evaluation Committee in addition to the Resident and Physician Wellness Committees. She will be pursuing a career in academic medicine in the subspecialty of Pediatric Intensive Care.

**Stoneburner, Jacqueline, MSII**

Jacqueline Stoneburner is a second-year medical student at the Keck School of Medicine of USC. She serves as a content creator for the Keck Online Learning Initiative (KOLI), for which she has focused on creating study resources for neuroanatomy and neuroradiology lectures. She graduated from the University of Notre Dame in 2016 as a double major in Science-Business and Spanish. During her time at ND, she served as a chemistry tutor, led a global health student group and took a semester abroad in Santiago, Chile. Outside of academic work, she enjoys cheering on her alma mater’s football team and taking time to appreciate the outdoors. Email: jstonebu@usc.edu

**Strohm, Maureen, MD.**

Dr. Maureen Strohm, Adjunct Clinical Professor of Family Medicine, Keck USC School of Medicine, served Keck USC in various undergraduate and graduate medical education roles from 1983 to 2009, from residency faculty, to Director of Year 1 ICM, and then residency director for 14 years. In 2009, she became founding director for the Eisenhower Medical Center Family Medicine Residency program in the Palm Springs area, and then joined HCA in 2015 to participate in early residency development for HCA’s Far West Division in California and Nevada. She is once again a founding family medicine program director for one of the HCA hospitals in Las Vegas. Over the years, and throughout her undergraduate and residency teaching and clinical care, addiction medicine has been another key focus, combining the fundamentals of doctor-patient communication, family dynamics, the bio-psycho-social model, along with clinical care of one of most marginalized patient groups in healthcare today. Combining these two passions in teaching and learning has fostered a commitment to inter-specialty interdisciplinary teaching, learning and caring.

**Suchard, Jeffrey, MD**

Jeffrey Suchard is the Associate Dean for Basic Science Education at the University of California Irvine School of Medicine. He is an Emergency Physician with additional specialization in Medical Toxicology. Within undergraduate medical education at UC Irvine, Dr. Suchard teaches Epidemiology and Biostatistics to the first-year students, and Medical Pharmacology to the second-year students.
Tagge, Natalie, MS
Natalie Tagge is Education Services Librarian at Temple University Ginsburg Health Sciences Library. She coordinates the library’s education programs and provides research skill training to medical faculty, residents and medical students. She also is library liaison to Medical Education and the Physician Assistant Program. Natalie Tagge has a Master’s Degree in Library & Information Science from the University of Illinois. She is currently completing a Master in Public Health at Temple University. She specializes in library information literacy instruction and has ten years of experience teaching research skills to a variety of learners. She and her collaborators were awarded the American Library Association Innovation in Instruction Award for their effective use of curriculum mapping to better meet the information literacy and collection development needs of students and faculty at The Claremont Colleges. Ms. Tagge also served as Visiting Assistant Professor/Instructional Services Librarian at the University of Illinois Springfield where she taught full-credit courses and served as the library liaison to the Biology, Chemistry and Physics departments. She regularly presents and publishes within the areas of faculty and librarian collaboration in teaching, emerging technologies and rubric assessment. Email: natalie.tagge@temple.edu

Tangonan, Kevin, DO
Kevin Tangonan is a PGY 3 resident at Adventist Health: White Memorial Medical Center. Kevin completed his undergraduate studies in Clinical Laboratory Sciences at Loma Linda University after which he attended medical school at Touro University CA. Throughout his training, Kevin has strived to maintain an active role in his community by volunteering as a mentor at various local high schools as well as the LA LGBT center. Kevin believes that a physician’s primary responsibility is to provide information to his community and advocate for his patients. Holistic patient care has always been at the fundamental core of Kevin’s practice, which ultimately is what led him to participating in this current study.

Tawfik, Huda, MD, PhD
Huda Tawfik is Assistant Professor, Department of Pharmacology, Medical College of Georgia at Augusta University. Dr. Tawfik received her MD (1990) from the Suez Canal University, Egypt, where she was trained in family medicine. She received her Ph.D. in pharmacology and toxicology in 2004 from Brody School of medicine at East Carolina University, Greenville, NC, USA. Before joining MCG, she was an assistant professor of pharmacology in two medical schools in KSA where she received training in curriculum development and methods of assessments. She has over ten years in teaching pharmacology and developing curriculum using different methods of delivery and students’ evaluation. She joined the MCG in 2015 as an assistant professor of pharmacology and a medical educator. At MCG, she completed teaching fellowship at the Innovation Educational Institute. She is actively involved in the pharmacology curriculum at MCG for the second year and fourth-year. Her professional interests include designing and developing innovations and utilization of instructional technologies in medical education.

Treat, Robert, PhD
Robert Treat is as an Assistant Professor of Emergency Medicine and the Senior Educational Evaluator and Psychometrician in the Office of Academic Affairs at the Medical College of Wisconsin (MCW). I provide consultation to MCW faculty, residents, and staff in addressing key evaluation/measurement related questions and am 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. I have been actively working in data analysis at MCW since 1999 and I provide analyses for medical student and graduate medical education performance-based learner assessments, 360° ratings, and standardized patients to simulations. Reportable outcomes include co-authorship with faculty on 25 published peer-reviewed journal articles and 140 peer-reviewed conference abstracts. I am a reviewer for the Journal of Graduate Medical Education, the Association of American Medical Colleges, AAMC Central Group on Educational Affairs, Generalists in Medical Education, and the MedEdPORTAL Directory and Repository of Educational Assessment Measures repository. My doctorate is in education, while my master's and bachelor’s degrees are in chemistry. External professional experience includes ten years of college teaching experience in statistics, chemistry, and physics.
Trost, Margaret, MD  
Dr. Trost is an Assistant Professor in the Division of Hospital Medicine at the University of Southern California, Keck School of Medicine. Her research interest is the application of advanced technologies, primarily social robotics, to pediatric hospital medicine and specifically complex chronically ill children. She was awarded an Institutional Career Development Award (Formerly KL2) to support her work with robotics in 2015. As an educator, Margaret is passionate about early introduction of medical trainees to team science collaborations with engineering to create the next generation of health technology products. To this end, she is an active clinical instructor of Introduction to Clinical Medicine in the Health Technology Engineering (HTE) program at USC. She is a research mentor through the USC Salerni and Required Scholarly Projects (RSP) programs, and was awarded the Outstanding RSP Mentor of the Year award in 2015. Contact Margaret at: mtrost@chla.usc.edu Twitter: @DrMargaretTrost

Truong, Julie, PharmD, MACM  
Dr. Truong is an Assistant Professor of Clinical Sciences at Keck Graduate Institute (KGI) School of Pharmacy and a Care Transitions Pharmacist at Inter-Community hospital. At KGI, she is the course coordinator and lead instructor of the Professional Development Series, a 3-year longitudinal series aimed at providing students with the experiences and resources to facilitate student personal and professional growth in a supportive environment. After receiving her PharmD from Touro University California College of Pharmacy, she completed a two year fellowship in pharmacy education administration at Touro and a transitions of care residency at Sharp Memorial Hospital. Dr. Truong is board certified in ambulatory care practice and holds a B.A. in sociology from the University of California, Irvine and Master of Academic Medicine from the University of Southern California Keck School of Medicine.

Vannerson, Julie, MD  
Dr. Julie Vannerson is an Associate Professor of Clinical Medicine at Indiana University School of Medicine (IUSM) where she is a practicing general internist and the Associate Program Director for the Internal Medicine Residency Program. She received her undergraduate and graduate training at the University of Tennessee Health Science Center at Memphis where she also served as Chief Resident and taught for many years as a faculty member. She is an alumna of the Stanford Faculty Development Center's Clinical Teaching Course and coordinates a yearly residency retreat for clinical teaching. During her tenure at IUSM, Dr. Vannerson has developed curricula and taught students, residents and faculty in a variety of subject areas including clinical teaching, substance use disorders, clinical communication skills and quality improvement. Dr. Vannerson also serves as peer observer of clinical teaching for the IUSM Office of Faculty Affairs and Professional Development through which she has personally observed and coached multidisciplinary faculty from around the School.

Vijay, Ammu, MSIII  
Ammu Vijay is currently a third year medical student at the University of North Carolina at Chapel Hill School of Medicine who has a genuine interest in working within an academic hospital system, teaching both residents and medical students, and helping design future medical school curricula. She is currently involved in student government, which has allowed her to get involved in medical education, specifically leadership curriculum development.

Vincent, Dale S., MD, MPH, MACM  
Dale S. Vincent is Program Director in Internal Medicine at Tripler Army Medical Center in Honolulu, HI. After graduating from West Point, he received his MD degree from the University of Texas Southwestern Medical School at Dallas, MPH from the Uniformed Services University in Bethesda, Maryland, and MACM from the University of Southern California. He is Board Certified in Internal Medicine and Geriatrics, and has completed a Fellowship in Academic General Internal Medicine.

Vincent, Judy M., MD  
Judy M. Vincent graduated from Baylor University and received her MD from the University of Texas Southwestern Medical School at Dallas. She is Board-Certified in General Pediatrics, and she completed a Fellowship in Pediatric Infectious Disease at Walter Reed Army Medical Center. She retired from the Army in 2002 after 22 years, and then worked in civilian practice until 2012. She is currently retired from
Vo, Anne T., PhD
Anne T. Vo is Assistant Professor of Clinical Medical Education and Director of Educational Research and Evaluation at the Keck School of Medicine of University of Southern California. As an evaluation researcher, Dr. Vo’s substantive interests lie at the intersection of comparative evaluation theory, evaluation capacity building, and organizational development. Her work contributes to the field’s understanding of how evaluation can be practiced better, where and how social science theory and evaluation science dovetail into each other, and how this knowledge can be leveraged to drive change. She has taught graduate-level courses on research methodology and design as well as special topics seminars in evaluation. Dr. Vo has published in journals such as the American Journal of Evaluation, Evaluation and Program Planning, and New Directions for Evaluation. She also serves as Editor of the American Journal of Evaluation’s section on Teaching and Learning of Evaluation, Co-Chair of the American Evaluation Association’s Research on Evaluation Division, and is Director of the Southern California Evaluation Association.

Vo, Sydnie Bui, MSII
A Bay Area native, Sydnie Bui Vo is a second-year medical student at the Keck School of Medicine. She received her BS degree from the University of California, Los Angeles in Psychobiology. During undergrad, she organized annual juried art shows at the California Nanosystems Institute at UCLA and wrote for a student-run wellness magazine. At Keck, she serves as co-president of the Integrative Health Interest Group, which holds the annual Jumpstart week of free fitness classes around the Los Angeles area for students, residents, and faculty, as well as an Integrative Health Week each winter, exposing medical students to various Integrative Medicine modalities to improve well-being. She is also co-president of the Keck Art Club and board member of Play Smarter Play Safer, a sports medicine interest group. In her free time, Sydnie loves to draw portraits, bake, run, and practice muay thai.

Vohra, Mohit, MSII
Mr. Mohit Vohra is a medical student at the University of Alberta going into his second year of studies this fall. Before entering medical school, he completed a bachelor of biomedical sciences at the University of Calgary. Fortunately, this undergraduate program exposed him to research early on in his academic career. As a result, he had the opportunity to conduct summer research for the last four years. His first two years conducting research were in a medicinal chemistry lab where he worked on synthesizing small molecules. With the aid of his research mentors, he was able to publish his research on the synthesis of two molecules that can be used as positive standards for use in clinical trials. The following summers, he shifted his research focus to neuroscience and pediatric oncology, which gave him the chance to develop his skills in basic biomedical science research. Since entering medical school, he has been eager to become involved in medical education research. The project that he currently is working on has allowed him to explore the role that research plays in the budding careers of medical students. Outside of his studies, he has always been passionate about mental health advocacy. Four years ago, he and a few peers started a non-profit organization in Calgary to raise awareness about mental health. They are proud to say that the organization is now based in Edmonton and Toronto as well!

Wald, David, MD
Dr. Wald is a Professor of Emergency Medicine at the Lewis Katz School of Medicine. Dr. Wald serves as the Emergency Medicine Clerkship Director and Assistant Dean for Clinical Simulation. Dr. Wald had an academic interest in undergraduate medical education and specifically novel curricular innovations. He can be contacted at dwald@temple.edu.

Waldron, Doris, MD
Dr. Waldron is the current Program Director of the Kaiser Permanente Los Angeles Pediatric Residency program. She graduated from Tulane University School of Medicine and joined Kaiser Permanente in 1997 as an outpatient pediatrician. She also serves as the Clerkship Director for medical students from
the David Geffen School of Medicine UCLA. Her other roles include being the Pediatric Coding Champion as well as being the Physician Wellness Champion at KP LAMC.

**Ward, John J., MSII**  
JJ Ward is a second year medical student at the University of Utah School of Medicine. Before medical school he attended the University of Utah where he graduated with a BS in Anthropology and a minor in Chemistry. During his undergraduate education he developed a deep interest in education and providing health care to underserved populations. He is currently Co-director of Midvale CBC clinic, a free clinic run by medical students in the Salt Lake Valley, a member of the Professionalism and Diversity Committee, an academic mentor and he also spends several nights a month volunteering at a grief support group for children. He plans to make community outreach and medical student education a central part of his career. When he isn’t studying he enjoys spending time skiing in the Wasatch Mountains, and hiking with his wife and puppy.

**Ward, Marianne, MA**  
Marianne Ward graduated with her BA in Anthropology from Willamette University in Salem, OR in 2008. She went on to earn a master’s degree in Sport Management from the University of San Francisco in 2010. Ms. Ward began working at Children’s Hospital Los Angeles (CHLA) in 2008 as a project coordinator in the University of Southern California (USC) University Center for Excellence in Developmental Disabilities (UCEDD). Her work focused primarily on supporting initiatives to help children and youth with special healthcare needs throughout the greater Los Angeles area. In 2011 she joined the Office of Academic Affairs in the Department of Pediatrics, Keck School of Medicine and CHLA working with USC faculty members on their academic appointment and promotion dossiers. In 2014 Ms. Ward began working with the medical education programs at CHLA and KSOM including support for the CHLA Graduate Medical Education office and the Pediatric Core Clerkship and 4th year electives for KSOM medical students. Currently Ms. Ward serves as the Manager for Medical Education Programs in the Department of Pediatrics at CHLA and KSOM. In this role she has worked to help develop several educational development activities for both faculty and trainees. Ms. Ward is also enrolled in the Masters of Education in Learning Design and Technology program at the Rossier School of Education at USC.

**Weigle, David, PhD, MPH, MED**  
David C. Weigle is Assistant Dean for Graduate Medical Education and Designated Institutional Official at the University of Texas Southwestern Medical Center in Dallas, Texas where he oversees 104 ACGME-accredited programs. Dr. Weigle’s faculty appointment is in the Department of Family and Community Medicine. He currently serves on the Committee on Accreditation of the American Library Association and on the Appeals Board of the Commission on Dental Accreditation, and he previously served on the Accreditation Review Commission on Education for the Physician Assistant.

**White, Travus, MD**  
Dr. Travus White is currently a second-year pediatric resident at Children’s Hospital Los Angeles. In addition to being a member of the program’s Education Track, he is involved in the hospital’s Graduate Medical Education Committee and its Physician Wellness Committee. Initially from Florida, he received both his Bachelor of Science in Psychology and his Doctor of Medicine degrees from the University of Florida. He intends to pursue a career in academic medicine in the subspecialty of Pediatric Cardiology.

**Whiting, Annemarie MS, NNP-BC**  
Annemarie Whiting is a board certified Neonatal Nurse Practitioner who joined the team at Stony Brook Children’s in 2016. She graduated with her Bachelors’ of Science degree Magna Cum Laude from Mount Saint Mary College. She began her nursing career on an adult Neuro Science Telemetry Unit, but started working in the NICU at Stony Brook in 2012. Annemarie earned her Masters of Science Degree from Stony Brook University in May of 2016. She completed clinical rotations at Morgan Stanley Children’s Hospital and Stony Brook Children’s. Her Master’s research project was a literature review titled, “Withholding Feedings During Blood Transfusions: Where is the Evidence? Annemarie’s special interests include necrotizing enterocolitis, transfusion related gut injury, transport of critical neonates, delivery room resuscitation and quality improvement of invasive procedures. She is a member of the Delivery Room...
Win, Sanda, MD, PhD
Sanda Win is an assistant professor at the Keck School of Medicine at USC. She earned her M.D. degree in Yangon, Burma in 1990 and her PhD in immunology from Okayama University in Japan in 2003. She completed a post-doctoral fellowship at USC and joined the faculty in 2013. She researches and develops manuscripts of new scientific findings related to liver injury. She is also very interested in and committed to teaching and mentoring students in relation to learning about and conducting their own research projects. Email: swin@usc.edu

Xavier, Sharon, PharmD
Dr. Sharon Xavier attended Chicago State University College of Pharmacy where she received her Doctor of Pharmacy degree. Afterwards, she was employed as a pharmacy manager with a large national retailer where she had the opportunity to execute clinical services, promote operational growth and development, and work closely with pharmacy students as a preceptor. In 2016, she completed a Community Pharmacy Residency at the University of Illinois at Chicago. Her training focused on the development and evaluation of clinical services in the community pharmacy and independent patient management in the ambulatory care setting. In that time, Dr. Xavier also served as a Clinical Instructor at the University of Illinois at Chicago and acted as a lecturer and facilitator for several courses within the College of Pharmacy and College of Medicine. She is currently an Assistant Professor of Pharmacy Practice at Chapman University School of Pharmacy in the area of Community Practice. Her clinical practice interests are in the areas of chronic disease state management, self-care therapeutics, and women's health.

Yanofsky, Samuel D., MD, MSED
Samuel D. Yanofsky serves as Director of Education and Faculty Development in the Department of Anesthesiology Critical Care Medicine at Children’s Hospital Los Angeles (CHLA). He is a graduate of McGill University, Montréal, Québec (Baccalaureate of Science in Physiology) and St. Louis University Medical School. He completed his residency in Anesthesiology at University of Connecticut Health Center followed by a two-year fellowship in Pediatric Anesthesiology and Critical Care Medicine at the Children’s Hospital of Philadelphia. In 2004, Dr. Yanofsky received a Master of Science in Education from the USC Rossier School of Education. His areas of research interests are in the affective domains related to advanced ACGME competencies in health care profession education. He teaches leadership within the Master of Academic Medicine program. On a national level, he has served as the committee chair on the research education committee of SEA and is a member of the education committee for SEA and SPA. Dr. Yanofsky has provided numerous educational workshops and presentations for his anesthesia colleagues including sessions for SEA, Society of Pediatric Anesthesiology and ACGME including topics on teaching the ACGME competencies and career development for the academic anesthesiologists.

Zarzar, Rochelle, MD
Rochelle Zarzar is a current Medical Education and Simulation Fellow through the Department of Emergency Medicine at Hennepin County Medical Center in Minneapolis, Minnesota. She received her Bachelor of Science from Duke University in 2009, majoring in Biological Anthropology and Anatomy. She then went on to complete medical school at the University of Virginia School of Medicine in 2014, followed by Emergency Medicine residency training at Hennepin County Medical Center in 2017. Now as a fellow, she is completing her Masters of Academic Medicine through the University of Southern California. Email: Rochelle.zarzar@gmail.com

Zehra, Tabassum
Dr. Zehara is working as Senior Instructor at Department for Educational Development, Aga Khan University, Pakistan. She has 10 years’ experience working at the College of Physicians and Surgeons Pakistan and Aga Khan University in the field of Health Professions Education (HPE). Currently she is a PhD Scholar in HPE (2014 onwards) through University Ambrosiana, Italy. She has completed a Master of Health Professions Education in 2013 from Aga Khan University (AKU), Pakistan in the area of Clinical
Supervision, as well as completed a diploma from the College of Physicians and Surgeons Pakistan (CPSP) in HPE (2004) from CPSP. She has worked as the Deputy Dean Medical Education at College of Physicians and Surgeons Pakistan from 2010-2011. Currently, she is the Programme Coordinator of Master of Health Professions Education at AKU Director of Residents as Educators Programme at AKU and Co-Director of Advance Level Course on Leadership in HPE Director of Additional Required Course on Issues in HPE. She has several publications and a grant for her research credentials.

**Zurales, Katie**

Katie Zurales is a fourth year dual degree MD/MBA student at the University of Michigan Medical School and Ross School of Business. She is passionate about leadership development and teaching others about the importance of teamwork, purpose, and positive culture. She has served as a medical student associate and consultant for the UMMS leadership program over the past three years. Collaborating with a team of physicians, administrators, and peers, she worked to design and implement one of the first longitudinal leadership curricula in undergraduate medical education. Katie has also been an active participant in several student organizations, including Partners for Hope, UMMS Admissions Committee, and Galens Medical Society. Prior to medical school, she was an All-American gymnast at the University of Michigan, captain of the team during her final two years, and finalist for the AAI Award (‘The Heisman Trophy of Gymnastics’). She received a B.S. in Kinesiology from the University of Michigan. Her hobbies include gardening, snowboarding, and enjoying Ann Arbor summers.
Thank You to Those
Who Made the Conference Possible

We would like to thank the following people for their invaluable help with planning the meeting, reviewing abstracts, serving as moderators, and facilitators. This meeting depends on the many volunteers’ willingness to devote their time and expertise to making IME possible. Special thanks go to Lisa Delgado, Director, Office of Continuing Medical Education at KSOM, along with Teresa Ball, Bernadette Santiago, Mayra Angulo, Lysandro Valenzuela, and Kimberly Ludolph, our support team from the office of Continuing Medical Education, who oversee marketing, registration, and facilities management. We’d also like to thank Alexandra Fletcher and George Martinez who help maintain the IME website and our own wonderful staff, Pam Teplitz, Cris Argosino, Vanessa Arias-Herrera, and Elisabeth Shimada, as well as all the hardworking session hosts who insure that our conference runs smoothly.

Thank You to the Reviewers
for Innovations, Cool Ideas and Workshops

Thank you to our reviewers whose hard work made this a selective and high quality program.

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