Keck School of Medicine of USC

Innovations in Medical Education

Transforming Health Professions Education through Innovation

Friday and Saturday, February 24-25, 2017

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

Presented by: Department of Medical Education
and USC Office of Continuing Medical Education

IME 2017 Conference Schedule
Friday-Saturday, February 24-25, 2017

FRIDAY, FEBRUARY 24, 2017

10 am - Noon

Pre-Conference Workshop (Fee: $40)


Conducting a Literature Review for Publication

Robert E. Johnson and Lynn Kysh,
Clinical Sciences and Research Librarians,
University of Southern California's Norris Medical Library

The term "review article" has become a catch-all term for many different types of literature, including narrative reviews, scoping reviews, and systematic reviews, all of which are different in methodology, scope, and time commitment. Participants will leave the workshop able to identify the value and use of each type, and be prepared to complete and assign a literature review for publication.

San Francisco Conference Room

Noon - 12:45 pm

Registration - *Foyer and Ballroom*

12:45 - 12:55 pm

Welcome - *Ballroom A-B1*
Conference Chair: Julie Nyquist, Ph.D.; Conference Co-Chair: Cha-Chi Fung, Ph.D.

1:00 - 2:30 pm

Ballroom A-B1

Presentations of Innovations: Graduate Medical Education
Moderator: Michelle Olson

1. Development and Evaluation of a Child Abuse Curriculum for Residents in an Acute Care Setting. *Callahan, Kelly; Et al.*

Santa Barbara Conference Room

ACIME Certificate Workshop: Creating Online Lectures Using Camtasia
Patrick Crispen

While there are a LOT of different programs out there that you create video tutorials and presentations by recording your computer's screen, few are

San Francisco Conference Room

Conference Workshop: Enhancing Self-Care, Teaching, and Patient-Centeredness Through Expressive Arts
Nichole Koethner; Louisa LeMauviel; Kenneth Saffier

Expressive arts exercises are offered to staff at

San Diego Conference Room

Conference Workshop: Introducing a Validated Tool for Assessing Interprofessional Team Competencies
Anne Walsh; Sae (Sarah) Byul Ma; Christopher Forest; Desiree Lie; Kevin Lohenry

	2. A Parent-Child Relational Framework for Teaching Child Development Assessment to Pediatric Residents. *Regalado, Michael; Et al.* **3. Analyzing Expert Criteria for Authentic Resident Communication Skills.** *Han, Heeyoung; Et al.* **4. Correlation Between Resident Sleepiness and Subjective Well Being.** *Konia, Mojca Remskar* **5. Narrative Professionalism as a Wellness and Teaching Strategy.** *Powderly, Kathleen; Et al.*	as user-friendly or powerful as Camtasia Studio. This $169 program lets you record, retouch, and release your training movies with the click of a few simple buttons. In this hands-on presentation you'll learn everything you need to know to get up and running with Camtasia, and you'll even learn how to get a fully functioning, 30-day working trial copy of Camtasia for free.	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.	Medical educators are increasingly asked to assess teams of learners from different professions. Finding validated assessment tools that require minimal faculty training is challenging. An interprofessional (IP) faculty will discuss characteristics of effective rating scales and present our 7-item, validated scale. Participants will learn how to use this tool by rating IP student teams' simulated patient encounters, and discuss the application of teamwork assessment tools to their own programs.
2:30 - 2:45 pm	**Break and Snack** - *Foyer*			
2:45 - 4:15 pm	*Ballroom A-B1* **Presentations of Innovations: Undergraduate Medical Education** *Moderator: Maurice Clifton* **1. "Choose Your Own Shock Adventure": An Interactive Module for First Year Medical Students.** *Grimaldi, Lisa M.; Et al.* **2. The Value of Health-care Policy Education: What do Medical Students Think?** *Theophanous, Christos; Et al.* **3. Implementation of a Long-term Ultrasound Education Program for Healthcare Students in Tanzania.** *Lee, Debora; Patel, Priya* **4. MS4 Gapology: Using Technology to Close Performance Gaps Between Medical Students and Interns.** *Tipnis, Sajani M.; Et al.* **5. The Emergency Medicine Teaching Service: Providing Medical Students Skills for Intern Year.** *Kim, Albert*	*Santa Barbara Conference Room* **ACIME Certificate Workshop: Encouraging Joy in Learning: Using Mindset, Grit and Self-Determination Theory** *Julie Nyquist, Cynthia DeTata, Kimberly Pierre* Through discussion and games we will explore three core concepts, mindset (growth versus fixed), grit (passion + perseverance) and the underlying needs for relatedness, autonomy and competence that are part of self-determination theory (SDT). You will be able to identify ways to modify daily teaching (setting expectations, asking questions, providing feedback) to encourage learners to gain intrinsic motivation and experience more joy in their learning, work and life.	*San Francisco Conference Room* **Conference Workshop: New Tools for Interviewing Resident Applicants** *Dale Vincent; Holly Olson* The purpose of this workshop is to give faculty members, program directors, and interview committee members tools to identify and implement best practice techniques for interviewing applicants to medical school, residency, and fellowship programs. The workshop will 1) Suggest how to tailor performance based interview questions to your own educational setting; 2) Recommend ways to reduce confirmation bias in interviews, and 3) Provide an alternative to a Likert Scale for rating applicants.	*San Diego Conference Room* **Special Poster Session: Wellness, Attitudes, and the Affective Domain** *Posters SPS01 to SPS15* *Moderators: Donna Elliott, Maureen Strohm* This special poster session will feature no more than 15 posters selected to match the theme. Each presenter will have the opportunity to provide a 2-minute description of their project. There will then be 60 minutes for participants to examine each poster and discuss the projects with the poster presenters.

4:15 - 4:30 pm	**Break and Poster Set-Up**
4:30 - 5:45 pm	**FRIDAY POSTER SESSION (Posters 1-45)** Posters are organized by topics. The topics for this session include: Administration/Leadership, Admissions, Assessment, Classroom Instruction, Clinical Instruction, Clinical Learning Environment, Clinical Reasoning, Community Outreach, Culturally Responsive Health Care, Curricular Design, Electronic Health Records, and Faculty Development.

SATURDAY, FEBRUARY 25, 2017

7:00 - 8:00 am	**Registration** - *Foyer and Ballroom A-B1*

	Ballroom A-B1	*Santa Barbara Conference Room*	*San Francisco Conference Room*	*San Diego Conference Room*
8:00 - 9:30 am	**Presentations of Innovations: Assessment and Feedback** *Moderator: Kathleen Crapanzano* **1. The Effect of Formative Usage on Summative Grades for Preclinical Medical Student.** *Dedousis, Demitri; Et al.* **2. Assessing the Impact of a Near-Peer Taught Structural Competency Curriculum on Medical Students.** *Prestidge, Melanie; Et al.* **3. Should I Study for Your Exam, Or the Boards? A Novel Approach to Get the Answer.** *Helf, Scott; Camberos, Patricia; Thrush, Gerald* **4. Improving Feedback in Emergency Medicine Clerkship: A New Model Using First Person Video Recording.** *Hoonpongsimanont, Wirachin; Et al.* **5. Faculty Beliefs about the Importance of ACGME Competencies vs. Ratings of Marginal Learners.** *Yanofsky, Sam; Nyquist, Julie*	**FIME Certificate Workshop: Keeping Learners Engaged During Lecture** *Dixie Fisher; Cha-Chi Fung* Although a flipped classroom is an excellent learning platform, medical students and residents usually bypass the preparatory work necessary for its implementation. This workshop will focus on designing a 50-minute lecture that does not require pre-lecture reading, but engages learners in interesting ways, improves their understanding and increases their retention of the most important concepts. At the end of the workshop, attendees will be better able to plan and deliver lectures that learners value.	**Curricular Exemplars 1** *(30 minutes each):* **Interprofessional Education, Reflective Practice, and Community Engagement** *Moderator: Win May* **1. A Mentor-Based Model for Teaching Reflective Practice.** *Petersen, S.; Shvartsman, K.* **2. Addressing Health Disparities by Empowering Health and Social Reforms Through A Dynamic Partnership.** *Zapata, G; Sanchez, K; Solorio, G.* **3. A School of Medicine Introduction to Interprofessional Education: Two IPEs in One.** *Popp, RL; Rodriguez, AI; Song, MM; Rambaran, KA; White, P; Stelter, L; Stansell, P; Granado,s S; Sechrist, D.*	**Curricular Exemplars 2** *(30 minutes each):* **Patient Engagement, Interprofessional Education, and Resilience** *Moderator: Todd Chang* **1. From Theory to Educational Practice: Medical Schools as Leaders of Patient Engagement.** *Angove, RSM; Boselovic, JL; Farb, H.* **2. Interprofessional Education using Narrative Medicine Techniques.** *Nathanson, M; Edmondson, N.* **3. Promoting Physical Resiliency During Global Health Rotations.** *Liley, F; Bennett, A; Collins, J; Gateau, K.*

9:30 - 9:45 am	**Break**			
9:45 - 11:15 am	*Ballroom A-B1* **Presentations of Innovations: Potpourri** *Moderator: Shara Steiner* **1. The Aggie Doctor Initiative: An Innovative Approach to Increasing the Pipeline for Race.** *McIntosh, David; Kraft, Dianne; Wimberley, Laura* **2. Pre-Med Insight: An Innovative Mentorship Initiative for Minority Pre-Medical Students in Minnesota.** *Shah, Saumaya; Et al.* **3. Comparison of Internal Medicine and Psychiatry Resident Implicit Attitudes toward Depression.** *Crapanzano, Kathleen; Et al.* **4. "Patient Can Do!" Developing and Evaluating Motivational Interview Skills for Weight Loss in Clinic.** *Brass, Bernard* **5. Innovation in Medical Education through Entrepreneurship.** *Succi, Marc; Cheung, Arlene; Carr, Leah*	*Santa Barbara Conference Room* **FIME Certificate Workshop: Teaching Culturally Responsive Healthcare to Students, Residents, and Faculty** *Jeffrey Ring; Julie Nyquist* The workshop will provide you will a model for teaching Culturally Responsive Healthcare to student, resident, or faculty groups. You will be provided with the script and experience the exercises you could utilize to guide others to begin building the awareness, knowledge, skills and attitudes needed to provide excellent care to diverse patients. Exercises will include an ice breaker, a brainstorming task, an imagery exercise, and an exploration of health inequities.	*San Francisco Conference Room* **Conference Workshop: Innovative Teaching Strategies to Promote Wellness and Reduce Learner Stress in Clinical Settings** *Michelle Essig; Kira Molas-Torreblanca; Yasaman Zarrabi; Thanh Huynh; Jennifer Cannon; Namrata Ahuja* Learn ways to promote wellness in the clinical setting by addressing factors that contribute to learner stress: environment, knowledge deficit and poor coping skills. Gain strategies to create an effective learning climate, utilize clinical reasoning to create learning opportunities, and introduce evidence-based strategies for promoting resilience, positive coping skills and enhancing self-efficacy. Participants apply the techniques through case-based scenarios to build their teaching toolkit.	*San Diego Conference Room* **Conference Workshop: Remediating Communication and Interpersonal Skills Deficiencies** *Samuel Wilkes; Win May* This workshop will allow participants at all levels to identify and remediate learners with deficiencies in communication and interpersonal skills. Participants will review different strategies for remediation, based on educational theories. Video clips of struggling students will be used to enable participants to select and practice remediation strategies with a standardized student. They will help the learner develop an individualized learning plan.
11:15 - 11:30 am	**Lunch** - *Foyer and Ballroom A-B1*			
11:30 am - 12:45 pm		*Moderator: Julie Nyquist* **IME 2017 Keynote Address** **A Lifelong Mission: Medical Education toward Eliminating Health Inequities** *Jeffrey Ring, PhD* The devastating health inequity data in the United States speaks to the		

	unequal distribution of health burden in our society. The implications for minority and underserved communities are grave and daunting. Medical education holds great promise in the effort to eliminate health inequities through effective and creative educational methodologies that speak to both the hearts and the minds of our learners. In the end, our teaching of patient-centered care and culturally responsive care are built around the same framework of respectful communication and bold self-reflection. This presentation will explore the problem of health inequities and the key role for medical educators in bringing true change to our educational programs, curricula, learners, patients and communities regarding nondiscriminatory medical treatment. *Ballroom A-B1*
12:45 - 1:00 pm	**Break**

	Ballroom A-B1	*Santa Barbara Conference Room*	*San Francisco Conference Room*	*San Diego Conference Room*
1:00 - 2:30 pm	**Presentations of Innovations: Quality Improvement and Patient Safety** *Moderator: Albert Kim* **1. A Community Based Resident Curriculum to Address Obesity Among High-Risk Inner-City Youth.** *Puvvula, Jyoti; Et al.* **2. HIV Stigma and its Effect on the Quality of Administered Care by Healthcare Students and Personnel.** *Kim, Esther; Lee, Katrina* **3. Another Generation of Stigma? Assessing Healthcare Student Perceptions of HIV-Positive Patients in Mwanda, Tanzania.** *Aggarwal, Sahil; Et al.* **4. Effects of a Residents' Training Program on CRC Screening Rates.** *Kafilmout, Imad* **5. "Ask Me." Physician Confidence and Behaviors in Screening and Caring for Victims of Abuse.** *La Rocca, Julieta*	**FIME Certificate Workshop: Debriefing and Feedback in Simulation: Improving Learner Performance through Reflection** *Win May; Denise Souder* This interactive workshop will explore the use of feedback and debriefing in simulation. Different approaches to debriefing will be presented and discussed. Principles of providing effective learner-centered feedback will be used to evaluate a video of a feedback session. The Promoting Excellence and Reflective Learning in Simulation (PEARLS) framework will be used to evaluate a video of a debriefing session. The role of the facilitator in feedback and debriefing will be examined.	**Presentations of the Best of Cool Ideas: Graduate Medical Education** *Moderator: Julie Nyquist* **1. Development and Implementation of a Neonatal-Perinatal Resuscitation Curriculum.** *Enciso, Josephine; Nguyen, Margaret* **2. The Effectiveness of a Peer Based Culturally Responsive Healthcare Curriculum.** *Rivas-Lopez, Vanessa; Campbell, Patricia* **3. A Train-the-Trainer Model to Develop Educators for Emergency Medicine in Myanmar.** *Feltes, Michelle; Ohn, Htoo; Walker, Rebecca* **4. A Quality Improvement Effort to Improve New Intern Performance during the Early Months of Residency.** *Otokiti, Ahmed; Et al.* **5. Teaching Teach-back: A Model for Patient-and-Family Health Education in Pediatrics.** *McDermott, Allyson*	**Conference Workshop: Identifying and Remediating the Impaired Trainee** *Franz Smith; Kimberly Pierre; Rebecca Petersen* The session will utilize interaction discussion and case-discussion to help build skills related to a) recognizing a trainee with concerns for mental health or substances abuse issues; b) Clarifying faculty roles and responsibilities in documentation, human resource management, legal notification, and patient safety implications; and c) utilizing best practices for trainee remediation in the scenario of mental health or substances abuse.

2:30 - 2:45 pm	**Break**			
2:45 - 4:15 pm	*Ballroom A-B1* **Presentations of the Best of Cool Ideas: Undergraduate Medical Education** *Moderator: Julie Nyquist* **1. An Online Video-based Curriculum to Develop Clinical Reasoning Skills.** *Han, Heeyoung; Et al.* **2. eMpower: A Peer Mentorship Program at the University of Michigan Medical School.** *Silverberg, Jonathan; Et al.* **3. Weight Stigma Reduction among Medical Students through Narrative Medicine.** *Park, Kelly; Et al.* **4. "Invent-then-Tell": A Constructivist Approach to Procedural Skill Acquisition and Adaptive Expertise.** *Kirou-Mauro, Andrea; Et al.* **5. Exploring Causes of the Causes: Novel, Student-Led Structural Competency Curricula at OHSU.** *Beam, Michelle; Et al.*	*Santa Barbara Conference Room* **ACIME Certificate Workshop: Logic Models: A Research and Evaluation Planning Tool** *Anne Vo* This hands-on workshop offers participants an opportunity to become familiar with logic models and their roles in planning research/evaluation studies. Components of the logic model, its variants, and how the model can be used to identify research/evaluation questions will be discussed and demonstrated. Activities will be integrated throughout the session to support participants' development of their own logic model. Attendees should arrive with a program that they would like to study in mind.	*San Francisco Conference Room* **Conference Workshop: Mindfulness in Communication: Applying Tools to Unlock Meaning in Antagonistic Encounters** *Sheela Rao; Jennifer Rafeedie* This workshop serves both professionals and trainees at all levels. First, using an experiential learning format, the presenters will demonstrate and then engage participants in using skills for self-reflection and mindfulness in emotionally-charged doctor-patient interactions. Second, the presenters will operate a model for integrating ACGME core competencies of interpersonal and communication skills and practice- based learning and improvement into the complexity of day-to-day practice.	*San Diego Conference Room* **Conference Workshop: Professional Development Strategies for Improvement for Resident Leadership and Teaching** *Michelle Olson; Jim Kestner* Faculty and program directors face numerous challenges in developing residents who are effective not only in working with patients and faculty, but also as leaders of peers, medical students, and clinical teams. Participants will experience a sample session on resident effectiveness in a scenario involving conflict among junior residents, followed by an interactive discussion on practical delivery of high-yield professional development within realistic time constraints.
4:15 - 4:30 pm	**Break and Poster Set Up**			
4:30 - 6:00 pm	**SATURDAY POSTER SESSION AND AWARDS CEREMONY (Posters 51-100)** *Moderator: Win May* This session will begin with the opportunity for participants to browse and discuss the posters with presenters and end with the Awards Ceremony for Best Innovations and Best Posters. Posters are organized by topics. The topics for this session include: Interprofessional Education, Learning Needs, Medical Knowledge, Mentoring, Quality and Safety, Research, Resident as Teacher, Systems-Based Practice, Skills Instruction, Simulation, and Technology.			

For more information, visit keck.usc.edu/medical-education/ime-conference-2017/

Accreditation Statement

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

Credit Designation

The Keck School of Medicine of the University of Southern California designates this live activity for a maximum of 14.75 *AMA PRA Category 1 Credits*™. Physicians should claim only the credits commensurate with the extent of their participation in the activity.

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.)

Keynote Speaker

Jeffrey Ring, PhD, 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 and competitive advantage.

For 19 years he served as the Director of Behavioral Sciences and Cultural Medicine at the Family Medicine Residency Program at White Memorial Medical Center in East Los Angeles. There he worked in a multi-disciplinary team providing woven behavioral and primary care health services to a predominately Spanish-speaking underserved population. He is a Clinical Professor of Family Medicine at the Keck School of Medicine at the University of Southern California, and has clinical experience with patients along the lifespan including geriatrics. He is on the faculty of the Masters in Medical Education program housed at the Keck School of Medicine at The University of Southern California.

At HMA, Jeff is poised to help clients with an array of initiatives, including integrated behavioral care in hospital and primary care, healthcare practitioner leadership and wellbeing, the delivery of quality culturally responsive care within Patient-Centered Medical Homes and Federally Qualified Health Centers, and the enhancement of medical education to prepare health practitioners for successful practice in a changing health care environment. He has a keen interest in how physician education in advanced care planning can help achieve the Triple Aim.

In his previous role at White Memorial Medical Center, Jeff was responsible for providing bilingual (Spanish) mental health services in an integrated setting, and taught family medicine residents the skills of evaluation of and intervention with psychosocial issues in the context of primary health care delivery. This included compassionate doctor-patient communication, substance use screening and intervention, mind-body medicine and stress management. He has extensive experience in teaching the skills of Motivational Interviewing toward the facilitation of optimal patient behavior change.

During his career Jeff 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 in 2008.

Jeff has served in leadership positions in the Group on Minority Health and Multicultural Education within the Society of Teachers of Family Medicine and the Society for the Psychological Study of Culture, Ethnicity and Race within the American Psychological Association. He has lectured and published widely on culturally responsive health care, medical education and physician wellbeing.

Jeff lives with his family physician wife, Beth, and his twin high-school aged sons who play in jazz band and run cross country (but not at the same time).

IME 2017 Keynote Address

The Clinical Learning Environmental Review Report Card: Overflowing Opportunities to Improve our Grades in Health Care Quality and Disparity Elimination

February 25, 2017, 11:45 – 12:45 pm

Jeffrey M. Ring, Ph.D.

By the conclusion of this presentation, participants will:

1) Deepen their understanding of the key findings of the 2016 ACGME CLER Executive Summary
2) Be able to articulate a clear rationale for teaching culturally responsive care as quality and safety initiatives
3) Enhance their capacity to approach creative teaching methodologies in accordance with ACGME CLER patient care improvements

The Cycle of Practice and Feedback (Ambrose et al., 2010) suggests that targeted feedback guides further practice which leads to observed performance that allows for more targeted feedback to meet one's goals. As such, the Accreditation Council for Graduate Medical Education has summarized the observed performance of teaching hospitals and faculties toward successful achievement in the Clinical Learning Environment Review (CLER). This feedback on our collective mixed and sub-optimal performance highlighted in their 2016 Executive Summary provides medical educators the rich opportunity to embrace this targeted feedback toward bold improvements in our teaching in many areas, and in health care quality and health care disparities in particular. This presentation will review the CLER Report's key findings and will highlight the educational and social imperative to throw some rocket fuel on the teaching of health disparities. Moreover, participants will be invited to consider innovative teaching strategies in this arena that embrace adult learning models and creative interactive approaches to learner engagement and development.

Welcome to Innovations in Medical Education

The USC Registration Desk will be located in the San Gabriel Ballroom foyer. The registration desk is open all day starting at 10:00 am on Friday, February 24, 2017 and 7:00 am on Saturday, February 25, 2017. Lunch is provided on Friday, February 24 in the San Gabriel Ballroom Foyer. Continental breakfast is provided on Saturday, February 25 in the San Gabriel Ballroom Foyer. A lunch buffet is also provided on Saturday, February 25 in the San Gabriel Ballroom Foyer.

For those who wish to have verification of attendance, a form is provided that must be completed and validated by USC Registration Desk Staff the last day of your attendance. A course evaluation questionnaire is provided that we would appreciate your completing prior to your departure. This will help plan future meetings.

Please place cell phones and beepers on vibrate and take any calls outside the meeting room.
For those participants that are also faculty please note: As this program was approved for CME, the following information must be provided for your review although in most cases, it will be irrelevant to your presentation.

Identifying products and discussing unlabeled uses of products during an accredited CME activity

- Generic and Trade Names

Presentations must give a balanced view of therapeutic options. As a speaker, your use of generic names contributes impartiality. If trade names are used, those of several companies should be used rather than that of a single company.

- Unlabeled Use of Products

When you discuss an unlabeled use of a commercial product, or an investigational use not yet approved for any purpose, during an accredited CME program, ACCME guidelines require that you as a speaker inform the audience that the product is not labeled for the use under discussion, or that the product is still investigational.

Guidebook

The 2017 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, enter passphrase **ime2017** right below the guidebook logo to retrieve your mobile guide. **Please click on passphrase. Once the passphrase box appears on the screen, plug in the passphrase code ime2017.** In addition to the native mobile app, your guide is also available through any modern web/mobile browser http://guidebook.com/guide/89083. Enter passphrase code **ime2017** to view online.

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Acknowledges Exhibit Support for the 2017 Innovations in Medical Education

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ACTIVITY	**CONFLICT OF INTEREST DISCLOSURE AND RESOLUTION**
ACTIVITY	**Innovations in Medical Education 2017**

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

Faculty Member	Commercial Interest	Conflict/Resolution
Cha Chi Fung, PhD	I do not have any relevant financial relationships with any commercial interests	None
Julie Nyquist, PhD	I do not have any relevant financial relationships with any commercial interests	None

CONFERENCE FACULTY

Faculty Member	Commercial Interest	Conflict/Resolution
Patrick Crispen, EdD	I do not have any relevant financial relationships with any commercial interests	None
Dixie Fisher, PhD	I do not have any relevant financial relationships with any commercial interests	None
Win May, PhD	I do not have any relevant financial relationships with any commercial interests	None
Jeff Ring, PhD	I am on the speaker's bureau with Merck Pharmaceuticals	Attestation on File No Conflict
Anne Vo, PhD	I do not have any relevant financial relationships with any commercial interests	None
Samuel Wilkes	I do not have any relevant financial relationships with any commercial interests	None

CME PLANNERS & POSTER PRESENTERS

	Commercial Interest	Conflict/Resolution
All CME planners & poster presenters	The CME planners and poster presenters have no relevant financial relationships with any commercial interests	None

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Development and Evaluation of a Child Abuse Curriculum for Residents in an Acute Care Setting

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Idea/Problem Statement: To create and implement an electronic child abuse curriculum to teach residents about evaluation of child abuse in an acute care setting.

Rationale: The deficits in physicians' knowledge regarding child maltreatment have been well documented.1-3 Physicians are often the first professionals to care for an abused or neglected child. However, many physicians have no formal training in child abuse pediatrics, resulting in misdiagnosis, over-diagnosis, missed cases of abuse, and inappropriate care for these children.1,2 Many practitioners and researchers attribute this knowledge deficit to lack of training in residency. 4 In addition, there is a paucity of data regarding formal child abuse curricula in residency.1 There is currently no formal child abuse curriculum in the pediatric, EM, and family medicine residency training programs at Harbor-UCLA Medical Center. Informal educational opportunities occur during consultations in the emergency department or pediatric inpatient service, as well as occasional didactic sessions during the year. An e-format was chosen because it can be done asynchronously.

Methods: Curriculum content will be based on published core competencies for residents regarding child abuse/neglect, focusing on emergency evaluation, as well as the input of child abuse experts. Emergency medicine (EM), family practice and pediatric residents will be eligible to participate. The curriculum will consist of 7 e-learning modules taking 15 minutes each, to be completed at any time during the study period. The revised assessment will be administered before, immediately after, and several months after the course. Residents in two programs without formal curricula will act as controls. Impact on resident clinical practice will be assessed by reviewing charts of patients seen in the Pediatric Emergency Department and determining which were not correctly referred for evaluation of child abuse. Data will be examined for 6 months before and after completion of the course. The curriculum will be considered successful if there is a twenty-five percent reduction in the number of missed cases. A two-part knowledge and attitude assessment was piloted with 23 EM residents in all levels of training. Knowledge items were validated by child abuse and general pediatricians. 14 likert-type affective items assessed comfort level with physical and sexual abuse, reporting practices, prior exposure to teaching on child abuse, and perception of the learning environment. The results of the pilot exam were used to refine the exam and the curriculum. The curriculum starts November 2016.

Results: The knowledge test had 23 respondents and consists of 15 questions regarding physical abuse. The mean number of questions the ED residents answered correctly on the knowledge test was 7.3 (53%) questions with a standard deviation of 2.6. Question 1, about abusive head trauma and imaging, had 20 participants (87%) with the right answer making the question answered correctly most often. The question answered incorrectly most often was Question 7, a question regarding classic metaphysical lesions, with 1(4%) participant choosing the correct answer. The attitude assessment had 21 respondents. Each question was assigned 1 of 3 values (strongly agree/agree =1, neither agree or disagree = 0 and strongly disagree/disagree = -1). The questions were summed to a total value with the minimum being -9 and a maximum of +9. Therefore, a more positive value indicates greater agreement with comfort and a more negative values indicate less agreement. The mean comfort level across the group was -.85 with a standard deviation of 4. A comfort score of 7 was the highest with 1 respondent and -9 was the lowest with 1 respondent. Twelve participants (57%) recorded they evaluated 1-3 patients with concerns of abuse in their training. The majority (67%) of the participants have had 4-6 hours of specific child abuse training with the most common type of teaching being by a child abuse pediatrician (42%) with only 2 (10%) reporting teaching by written curriculum.

Potential Impact/Lessons Learned: There are approximately 700,000 children abused in the United States a year. The results of this project could improve physicians' ability to recognize and appropriately refer infants and children with suspected child abuse and ultimately influence national standards regarding child abuse curricula.

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A Parent-Child Relational Framework for Teaching Child Development Assessment to Pediatric Residents

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Idea/Problem Statement: Knowledge and skills of child development (CD) are considered essential to child health care; however, effective training remains a challenge.

Rationale: Training in CD is organized by memorization of developmental milestones to be employed in activities of assessment and patient education at health visits. Observation skills training is embedded in teaching residents to administer developmental screening tests. Evidence suggests that both strategies are ineffective and practitioners continue to express discontent about the adequacy of training in CD. Increasingly, the use of parent questionnaires for CD assessment is recommended on the assumption that clinical CD assessment by history and examination is inherently inaccurate. Because of its theoretical relevance to physical and mental health, parent-child relationship (PCR) observation is recommended at health visits and has been suggested as a possible approach to CD assessment. However, there is limited validation of PCR assessment in pediatric settings and there are no guidelines for training clinicians.

Methods: A PCR framework was developed based on principles of attachment theory and relational developmental systems theory for training pediatric residents and reorganizing the recommended approach to CD assessment at health visits. The training employed a 10-hour lecture series and instruction in the use of a semi-structured interview with simultaneous observation of PCR behavior. Pediatric residents were trained during a 4-week clinical rotation to employ the interview and observation strategy in conducting developmental surveillance as recommended by health supervision guidelines in a sample of preterm infants. Clinical criteria for historical information and observed behavior that reflect developmental change in the PCR were defined based on current CD literature. Results of clinical assessment were compared to standardized developmental testing done routinely in this population. A chart review yielded 330 preterm infants evaluated by this methodology at 4 and 15 months corrected age who also had standardized developmental testing at 6 and 18 months corrected age. Sensitivities and specificities were computed to evaluate the validity of the clinical assessment in comparison to standardized testing.

Results: Assessment and standardized testing results were available for 257 infants at 4 and 6 months and for 205 infants at 15 and 18 months, respectively. Seven percent of the sample met criteria for developmental delay at both assessment times. PCR behavioral markers elicited from the history and/or observed during the health visit correlated highly with standardized testing and were accurate predictors of CD delay. Comparison of resident assessment with standardized testing yielded sensitivity, specificity, and accuracy of 0.72/0.98/0.96 at 4 to 6 months and 0.87/0.96/0.95 at 15 to 18 months. Positive predictive values were 0.72 and 0.62 and negative predictive values were 0.98 and 0.99 at 4-6 months and 15-18 months, respectively. The κ statistics showed substantial agreement between the two tests at both times ($\kappa = 0.7$). Sensitivity scores for infants with birth weights less than 1000 g were higher than those with birth weights greater than or equal to 1000 g, both at 4-6 months (0.91 vs. 0.43) and 15-18 months (0.91 vs. 0.75); while specificity scores were about the same (0.96 vs. 0.99 and 0.94 vs. 0.97). Assessments were completed by 63 residents. Twelve residents (19%) who performed at least 50 assessments completed them in less than 1 minute on average during their final week on service. PCR assessment was equal to or more accurate than validated screening test performance for preterm infants at similar ages as reported in the literature.

Potential Impact/Lessons Learned: Markers of developmental change of the PCR correlate highly with commensurate change in a child's development. This presents an alternative approach to training in the assessment of CD at health visits offering potential advantages of efficiency and accuracy.

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Analyzing expert criteria for authentic resident communication skills

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Idea/Problem Statement: While existing assessment rubrics are helpful in developing residents' communication skills, they may not give a full picture of a doctor's performance.

Rationale: Effective communication is context dependent and work-process oriented requiring highly-honed interactional skills. Training and assessing the skills require flexible holistic approaches rather than itemized or numeric scoring.1 Despite this discrepancy between assessment criteria and real world practice, few efforts have embraced a holistic understanding of how physician-patient communication skills should unfold in real patient care. Our project investigates what constitutes physician communication skills in real patient encounters. This study focuses on what experts refer to when they speak about physicians' communication skills and what is treated as important when they evaluate residents' communication skills during real patient encounters. We expect to grasp the nuance and holistic view of context-dependent communication skills situated in real patient encounters. This effort will extend our knowledge of communication skills to improve assessment and feedback practices.

Methods: Since 2008, Southern Illinois University School of Medicine (SIUSOM) has conducted the Resident Audio-Recording Project. The residents are recorded annually as a part of their program for formative and longitudinal assessment of communication skills in real patient encounters. The recordings are transcribed by a professional transcriptionist. The structure of an evaluation panel: listen to the recording while following the transcript, construct notes individually, then jointly develop a set of comments as feedback for the resident. The panel uses an individual assessment form that facilitates open-ended narratives. For this study, the latter part of the evaluation panel was recorded and transcribed. These panel discussion recordings provided the data for this study. For data analysis, we use grounded theory to discover themes emerging from our observations of panel discussions of communication skills in real patient care.2 We received an IRB approval for this study at SIUSOM. Twenty five (54%) panel discussions out of 46 one year evaluation sessions have been recorded and transcribed. Three researchers (HH, SH, TK) conducted the data analysis collaboratively. The data analysis process started with a couple of calibration meetings to discuss coding rules and process to enhance inter-rater agreement in the coding process. The team coded seven transcripts together throughout twelve two-hour coding meetings. The remaining transcripts were divided and being coded individually.

Results: We created 161 codes and clustered them into twelve categories. Preliminary results showed that existing elements of communication skills are connected and inter-dependent around two concepts of thoroughness and natural flow that were not sufficiently called for in the current assessment form and that haven't received much treatment in the literature. Thoroughness involves residents' communication skills to be complete, including exhaustively identifying a patient's agenda, exploring each agenda with an appropriate depth without dropping an issue, and managing each of them with concrete plans and patient education. Residents often payed incomplete attention to a patient issue, and dropped some important issues. This superficiality leads to a lack of comprehensive and concrete plans. Moreover, thoroughness is related to a doctor's ability to conduct patient education because it often entails in-depth exploration of patients' belief, concerns, and expectations. Natural flow involves residents' communication skills to be natural and conversational while addressing patient health issues. It requires residents' active listening that follows the conversation including health concerns as well as social talk. For active listening, residents should be able to bear silence within an exchange that helps let patients talk. Natural flow is an opposite concept to a mechanical or business like interview, which helps a patient feel at ease, and feel the resident's cordiality and empathy.

Potential Impact/Lessons Learned: Findings of the study can be utilized to improve the current training and assessment approach of physician-patient communication skills. The main focus of the expected outcome is to improve the residents' competence to represent holistic communication skills in real patient care.

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Correlation between resident sleepiness and subjective well being

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Idea/Problem Statement: We investigated the relationship between anesthesiology resident sleepiness score and subjective perception of well-being.

Rationale: Anesthesiology residents frequently work long work hours and are subjected to schedules that cause breaks in their circadian rhythm, leading to changes in performance and mood (1). An average resident works 60-70 hours per week (1). They have to switch between night-time and day-time work or take call every third or forth night. Acute, chronic and partial sleep deprivation are known to have a negative impact on an individual's sense of well being (1). Residency programs are asked to facilitate environment, which allows fatigue management and promotes resident well-being. In order to understand our own environment, we investigated the level of University of Minnesota anesthesiology resident sleepiness and their satisfaction with life with previously validated tools.

Methods: The study was deemed exempt from review by the institutional IRB. This was a single institution study, which enrolled anesthesiology residents from a single anesthesiology department. Our residents' schedule has a relatively set structure. The day starts at 6 am, they work in the OR until 3-4 pm (9-10 hours) and have an educational activity from 4-5 pm. After 5 pm they are free to go home. This structure is intentional to give residents' workdays predictability. Night shift work is set up in periods of 5 days at a time, 7-8 times per year. Night shift is a 13-hour shift. Residents take on average 8-10 additional 24 hour calls per year that are scattered throughout the year. On average residents' work 55-70 hours a week. Each resident filled out the Epworth Sleepiness Score, which measures subjective level of person's sleepiness and Satisfaction with Life Scale, which evaluates judgmental component of subjective well being (2,3). We investigated the level of sleepiness of our residents, the level of subjective well-being of our residents and any correlation between sleepiness and subjective well being. We plan to use the data to implement changes in the program that would enhance resident well-being.

Results: Eighteen out of 22 residents filled out both surveys in their entirety. Their Epworth sleepiness scores varied. Eleven residents were not abnormally sleepy or had an average amount of daytime sleepiness and 7 residents were excessively sleepy. Ten residents were satisfied or extremely satisfied with their well-being and 6 were slightly satisfied. Only one resident was neutral and one resident was slightly dissatisfied. There was no correlation between the level of resident sleepiness and resident sense of well-being (Correlation coefficient -0.13).

Potential Impact/Lessons Learned: One third of our residents are excessively sleepy. However, majority of residents report acceptable sense of well-being. Even though sleepiness is not the only factor, which determines residents' perception of well-being, we need to promote resident behaviors, which will decrease sleepiness scores.

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Narrative Professionalism as a Wellness and Teaching Strategy

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Idea/Problem Statement: The purpose was to determine if Narrative Professionalism is beneficial to participants; helped with team bonding and delivering patient-centered care.

Rationale: Narrative medicine is an approach to medicine that recognizes the value of people's narratives in clinical practice, research, and education. Students perceive that they develop and improve specific communication skills; enhance their capacity to collaborate, empathize, and be patient-centered; and develop personally and professionally through reflection. Narrative professionalism however is a special application of narrative medicine that provides a safe and confidential forum for students, residents, and faculty to learn specifically about the praxis and parameters of medical professionalism. However, there is a paucity of literature regarding use of narrative medicine groups as curricular methodology promoting intra and interdisciplinary communication, professionalism and wellness, specifically resiliency, among physicians and students.

Methods: For several years, narrative professionalism workshops have been conducted with Ob/Gyn residents, medical students, and chief resident across specialties at SUNY Downstate Medical Center, Brooklyn, NY. For the first 10 or 15 minutes of each Narrative Professionalism group session, participants are invited to write informally--in response to a professionalism-themed assignment--an account of an actual clinical experience that significantly shaped or tested their professionalism. For the remainder of the session, participants simply read their narratives, in turn, to this informed, peer audience, taking advantage of this exchange to interpret collectively the meaning and extended implications for professionalism within each narrative. This kind of reflective-practice-in-action examines and clarifies the nature of both professional conduct and the constituent components of an exemplary professional identity. The narrative medicine-trained facilitator guides the discussion. Participants were then surveyed using a three question survey utilizing a 5 point Likert scale.

Results: 200 participants have participated in these sessions; students n=153; chief residents = 23; Ob/Gyn residents = 24. Students and residents thought the sessions were beneficial to their sense of professional well-being and resiliency (Q1 - 94.7%) and beneficial for professional team cohesion (Q2 - 94.1%). Additionally, they thought it would help them deliver Patient- and Family-Centered Care (Q3 - 82.8%). The students in general answered question #3 more optimistically than the Ob/Gyn residents and chief residents. However, there was no significant difference between students and residents in any of the survey questions—uniformly all three groups surveyed thought it was a positive experience.

Potential Impact/Lessons Learned: The sessions have been successful in teaching professionalism and resiliency. This can be a model to develop wellness programs elsewhere. The facilitator is instrumental to the session's success. Comments are also positive: "It was honest and heartfelt. It engendered a real sense of solidarity."

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"Choose Your Own Shock Adventure": An interactive module for first year medical students

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Idea/Problem Statement: Teaching physiology-based content in clinically relevant ways is a challenge in pre-clinical years. Simulation is a good tool but often not feasible.

Rationale: USMLE Step 1 is becoming increasingly clinically oriented requiring educators to include more clinical applications within basic science curricula. Simulation can help achieve this goal but time constraints sometimes limit its feasibility. We aimed to replace the traditional lecture for first year students to learn about circulatory shock with a session that would be physiology-based, interactive, and clinically relevant using the adult learning principles of flipped classroom and team-based learning. We further aimed to broaden students' critical thinking skills by challenging them to not only follow what happens to a patient as they do in problem based learning sessions, but to also consider what could happen to that patient and how their decision making could alter the patient's course. By building the module around a patient the students previously met in a case based instruction session, we aimed to foster the importance of longitudinal patient care in clinical practice.

Methods: First, students independently watched a video presentation about shock including definitions and pathophysiology of the four types of shock. Next, groups of 4-6 students viewed the interactive module (IM). The IM consisted of 4 pathways, one for each type of shock (hypovolemic, cardiogenic, obstructive, distributive) that were constructed in Articulate Storyline. Each pathway started with a similar case presentation that progressed to one of the types of shock. The small groups worked together to complete one of the 4 pathways. The IM presented a history and physical using video clips and text, labs, imaging, and monitor recordings. Students answered questions about the patient's condition and treatment that determined the clinical course in a branching storyline that had various outcomes based on the decisions made, a format inspired by the popular "Choose Your Own Adventure" books. If an incorrect decision was made, the IM showed what happened to the patient, explained why the decision was wrong, and allowed them to go back and make a different decision. Each group completed a worksheet highlighting key concepts about that type of shock. PDF articles were embedded in the IM so students could do additional reading. Finally, two students from each group met with 2 students from each of the other groups who had completed the other 3 pathways with a facilitator. Students were responsible to teach key concepts from their pathway to the other students in the group.

Results: The IM was tested by a focus group of second year students before launching in the first year curriculum. Observing the focus group work through the IM demonstrated that students engaged in rich peer to peer interaction as they processed information, answered questions, and made decisions. 6 of 7 focus group members felt strongly that the team-based learning aspect was highly effective by fostering in-depth discussion of the concepts. The focus group further expressed that the information was "high-yield" for USMLE and the interactive nature encouraged a deeper understanding of the material and integration of many concepts that they had learned. They also felt positively about students from each group presenting key concepts to the other students as it would encourage everyone to take ownership for their learning by having the responsibility to teach what they learned to their classmates. The session was launched in the first year curriculum at the end of the Cardiovascular-Hematology and Pulmonary, Renal, Acid-Base Blocks, the final courses of first year. Student feedback was overall positive. Students appreciated that the video presentation prior to the IM was clear and allowed them to learn the basic concepts about shock independently. Feedback regarding the IM was also positive with students describing it as "interactive", "fun" and "engaging." Students commented that they hoped to have more IMs like this in the curriculum.

Potential Impact/Lessons Learned: This session was a viable implementation of flipped classroom and team-based learning techniques. IMs like this potentially promote complex problem solving skills and active learning and may be reasonable surrogates for simulation to teach material in a clinically relevant and interactive manner.

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The value of healthcare policy education: what do medical students think?

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Idea/Problem Statement: Medical student attitudes towards health policy education have not been sufficiently examined.

Rationale: Physicians are practicing medicine in an increasingly complex healthcare system. Changing insurance structures, particularly after the passage of the Patient Protection and Affordable Care Act, growth of Accountable Care Organizations, and an increasing emphasis on patient safety and quality measures are playing an increasingly important role in how physicians practice medicine. Despite growing discussion about the role of health policy instruction in undergraduate medical education, the attitudes of medical students on this topic have not been sufficiently examined. Prior studies have broadly demonstrated that while most medical schools include health policy topics in their curriculum, the type and quantity of instruction varies significantly. We seek to characterize how students value health policy education in general, and how they feel about their current policy curricula.

Methods: This study distributed an online survey to medical students at the Keck School of Medicine of the University of Southern California. The survey asked students to rate their agreement on a 5-point Likert scale to eight statements regarding health policy education, specifically: 1. I am personally interested in learning about healthcare policy during my medical school training. 2. I believe medical students should graduate with a basic understanding of healthcare policy. 3. I believe physicians should have a basic understanding of healthcare policy. 4. I am satisfied with the amount of health policy-related curriculum I receive at my school. 5. I believe medical student opinions can play an active role in shaping healthcare policy decisions. 6. I believe physician opinions can play an active role in shaping healthcare policy decisions. 7. I feel up-to-date on health policy-related current events. 8. If interested, I know the avenues through which I could become more active in health policy advocacy. Students were also asked to rate whether "the amount of emphasis my school's curriculum places on healthcare policy education" was "too little," "about right," or "too much." Responses were averaged for each statement, and compared by school, gender, and age.

Results: 357 students completed the survey (response rate of 48%). Across all respondents, the statements "I feel up-to-date on health policy-related current events" (mean: 2.77 ± 1.09), "I am satisfied with the amount of health policy-related curriculum" (mean: 3.00 ± 1.07), "If interested, I know the avenues through which I could become more involved in health policy advocacy" (mean: 3.27 ± 1.13), and "I believe medical student opinions can play an active role in shaping healthcare policy decisions" (mean: 3.32 ± 1.10) received the lowest ratings. The belief that physicians (mean: 4.72 ± 0.62) and medical students (mean: 4.65 ± 0.66) should have "a basic understanding of healthcare policy," the belief that physician opinions can "play an active role in shaping healthcare policy decisions" (mean: 4.36 ± 0.79), and being "personally interested in healthcare policy during my medical school training" (mean: 4.23 ± 0.95) received the highest ratings. 205 (57%) of students responded that the emphasis the school's curriculum places on healthcare policy is "too little," 147 (41%) responded "about right," and 5 (1%) responded "too much."

Potential Impact/Lessons Learned: Students generally reported interest in learning about healthcare policy and indicated opportunity for increased curricular emphasis on health policy topics. Our results also indicate opportunity for empowering medical students in identifying advocacy opportunities.

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Implementation of a long-term ultrasound education program for healthcare students in Tanzania

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Idea/Problem Statement: Due to its affordability and portability, ultrasound may boost the diagnostic capacity of health centers in resource-poor nations.

Rationale: Each summer since 2013, a group of first-year medical students from the UC Irvine School of Medicine (UCISOM) have travelled to Tanzania to teach an introductory ultrasound course to healthcare students at Tandabui Institute of Science and Technology (TIHEST). The initial course, composed of lectures and hands-on training, is part of the first-year UCISOM curriculum. To fit the needs of students at TIHEST, this course was adapted into a three-week long course, consisting of five 1-hour lectures, one 1.5-hour lecture on common pathology, and three 2-hour sessions per week of hands-on practice with ultrasound machines. Since 2013, UCISOM has returned every summer and the course has been taught by 41 UCISOM students to a total of 262 students at TIHEST. This introductory course aims to introduce students to ultrasound and encourage its utilization in their future clinical practice. We look to assess whether the course has been successful in improving ultrasound knowledge in students.

Methods: A pre-course survey was administered to students asking personal background, educational track (i.e., clinical officer, laboratory technician, or health information), and amount of prior experience with ultrasound, and was accompanied by an ungraded multiple-choice assessment ("pre-test") that measured baseline knowledge in the topics covered in the course. During the three-week long course, a multiple-choice quiz was administered at the end of each week to evaluate student knowledge of the topics covered during the week. At the end of the course, students were given a final exam consisting of a written portion and a practical portion. The written portion consisted of 29 multiple choice questions, of which 15 questions ("post-test") were identical to those asked on the pre-course exam. The practical portion consisted of stations where participants were asked to demonstrate views with the ultrasound machine that were taught in the curriculum. Minor score adjustments were made to offset any questions a majority of students answered incorrectly. The passing grade was defined as a score of 65% or greater. After completion of the course, students were asked to complete a post-course survey asking them to rate their comfort on each topic presented, rate which components of the class and which study materials they found most useful, and to provide general feedback. Additionally, students were asked to report if they had any prior ultrasound experience before taking this course.

Results: Over the span of four years, a total of 262 students at TIHEST participated in the ultrasound course and completed the both pre- and post-test surveys. From years 2015 and 2016, a total of 116 students participated and of this group, 80% had no prior exposure to ultrasound in any form, 17% had observed ultrasound in clinic, and 3% had taken another ultrasound course. Of the students who completed the course, 81.9% students achieved a passing grade; clinical officer students achieved a pass rate of 87.5%, while laboratory technician and health information students obtained pass rates of 63.6% and 60.0%, respectively. For the year of 2016, a total of 61 students took both the pre-test and the post-test and the mean improvement was 45.7% ($p = 5.2E-29$). Data for pre- and post-course surveys rating students' comfort on topics as well as data from the previous years (2013-2014) was collected but analysis is on-going. However, final measurements of the course's efficacy depicting the results will be completed before the conference date.

Potential Impact/Lessons Learned: In an era of increasing demand for portable, affordable, non-invasive diagnostic techniques like ultrasonography, UCISOM is optimistic that its clinically useful, time-efficient, and sustainable ultrasound education program will continue to benefit many future healthcare students around the world.

References:

MS4 Gapology: Using Technology to Close Performance Gaps Between Medical Students and Interns

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Idea/Problem Statement: A non-standardized clinical curriculum can result in gaps in knowledge and skills needed for residency. We used technology to close these gaps.

Rationale: Current curricular models, duty hours, the changing regulatory environment, and the electronic medical record make training the physicians of the future challenging. Medical students drive most of their M4 curriculum contents with a goal focused primarily on obtaining a residency position on Match Day. Yet residency programs expect students to have a certain level of skill and experience prior to matriculation. Often, the student's achievement of these expectations is dependent upon the quality of non-standardized training experiences. Lyss-Lerman used semi-structured interviews from program directors to identify training gaps and common struggles among interns. Interns often lacked self-reflection and improvement, organizational skills, professionalism, and some knowledge.1 The M4 year is an ideal time to address these issues through a year-end capstone course.2 This capstone pilot used technology to fill in some of these gaps.

Methods: We offered a capstone course in our curriculum for March and April in 2015 and 2016. This pilot was designed to improve self-reflection, fund of knowledge, skills and confidence of M4 students. We surveyed students and program directors at our institution to determine course content. The format of our course was varied and focused on the use of technology to enhance learning. The technology used included recorded interactive pod casts for the student to watch, including questions to test basic understanding of the material. Common clinical topics from many specialties were covered. In addition, the simulation center technology was utilized to expose students to medical scenarios that interns are likely to encounter and procedures that interns will perform. Scenarios included running a code, and crisis resource management. There also were hands on training sessions on basic procedural skills. The students were also required to do an internet search on a topic pertaining to medical practice. This was a scavenger hunt of sorts. A cohort of 19 students registered for the course. They completed a pre and post course survey to measure the effectiveness of this type of intervention. At the end of the course we asked a consultant to run a focus group. Additionally, participants were surveyed again during internship. Data were processed using SPSS 23 software with Percentage ratios and non-parametric Chi-square analyses. Statistical significance were set at $P<0.05$.

Results: Our preliminary data analysis shows that prior to the course 76.9% of the students felt prepared to be an intern. After the course 100% of the students felt the course helped them prepare to work as an intern, showing a 23% ($P<0.05$) improvement. Prior to the course 46.2% of student's were very comfortable managing simple and common medical problems but after the course 61.5% were very comfortable. This was a change of 15.4% ($P<0.05$). When asked about the instructional methods used prior to the course 61.5% felt the simulations would benefit them the most but after the course 84.6% of students found the simulations to be of benefit. There was a 23% ($P<0.05$) change in their feeling about this teaching modality being beneficial. We surveyed the students again in Fall of their intern year. Results from participants in the their intern year showed that 80% still felt the course was helpful to internship and 60% felt the simulations were beneficial, however we only received 5 responses. The focus group data provided us with information about learning, program logistics, and outcomes.

Potential Impact/Lessons Learned: Our preliminary data showed that technology in the fourth year of medical school can be a useful tool to helping students prepare for internship. Specifically, medical simulation is a valuable instructional method to help students feel prepared for internship.

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The Emergency Medicine Teaching Service: Providing medical students skills for intern year

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Idea/Problem Statement: Does the initiation of an Emergency Medicine Teaching Service increase the confidence of medical students in caring for patients at an intern level?

Rationale: The "sub-I" or sub-internship has historically been the time in which 4th year medical students perform many of the roles and responsibilities of an intern under the direct supervision of their resident or attending physicians. A recent study of Residency Program Directors (PDs) found that 53% of PDs "commented that fourth-year students should be at or near the same level of independence as interns." That same study argued that medical schools currently do not allow students enough autonomy to gain the necessary knowledge, skills, and attitudes to function independently as interns. Recently, some institutions have developed an EM Teaching Service to provide the resident physician experience in medical education, and the medical student experience in assuming intern responsibilities. The goal of our EM Teaching Service is to demonstrate increased confidence in assuming the role and responsibilities of an intern physician.

Methods: The Teaching Service Shift (TSS) is comprised of 1 attending physician, 1 PGY3 EM resident, and 2 fourth year medical students on the Emergency Medicine Clerkship. The teaching service is present from 0700-1300 on weekdays. The TSS is a "floating" team and evaluates patients presenting to any area of our Emergency Department, excluding critically ill patients who are evaluated in the Trauma and Critical Care Area. The TSS serves as an extra team in addition to the usual weekday coverage so that the service may focus on teaching instead of patient flow/throughput. The PGY3 resident serves as a junior-attending physician, staffing all patients with the students, developing plans, and providing bedside teaching. The students are given the opportunity to document a level 5 H&P, place orders, and disposition the patient utilizing the attending physician's EMR account under direct observed supervision and instruction by the attending physician. All documentation and orders were proof-read, corrected, and critiqued before final submission into the medical record. This study is a post-intervention anonymous survey evaluating learner satisfaction and confidence. The intervention began June 20, 2016 (the start of the academic year), and data collection is currently ongoing. 22 fourth year students have participated in the TSS, with an expected 50-60 total students to participate and be available for analysis by the IME conference in February 2017. Participants were all fourth year

Results: To date, 22 students have participated in 11 Teaching Service Shifts and all are fourth year medical students. 13/22 have expressed EM as their primary interest while an additional 4 are currently deciding between EM and a second specialty. Post-intervention, 100% of learners state they, "feel more confident caring for an ED patient as an intern" on a 5-point Likert scale (3/22: Agree, 19/22: Strongly Agree). Additionally, on a 5-point Likert scale, 100% of learners state the, "TSS helped prepare me to care for patients independently as an intern" (6/22: Agree, 16/22: Strongly Agree). Looking at specific provider tasks, learners report increased confidence on a 5-point Likert scale as measured by selecting Agree or Strongly Agree in: Writing notes on an ED patient (22/22); Ordering Medications (22/22); Placing Orders (21/22); Calling consultants (19/22); Calling/giving report (20/22); Finally, 20/22 learners found the TSS to be more useful than our classic EM Clerkship shift. Reviewing the free text comment section on the evaluations, many participants expressed similar themes of patient ownership, autonomy, and timely feedback.

Potential Impact/Lessons Learned: A dedicated Teaching Service Shift increases fourth year medical student confidence in caring for a patient independently. This experience may be utilized to provide students the necessary knowledge, skills, and attitudes needed to be successful interns.

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Expressive arts therapy opens the door to recovery and education in buprenorphine treatment groups

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Idea/Problem Statement: Integrating expressive arts therapy into buprenorphine group visits promotes recovery from opioid addiction and enhances family medicine education.

Rationale/Need: As the opioid addiction and overdose epidemic continues (1), medical educators have a responsibility to find successful strategies to teach and practice evidence based treatments for opioid use disorders. Similarly, substance use treatment providers must implement effective modalities that facilitate ongoing recovery and relapse prevention, not solely focusing on abstinence as an ultimate goal. Treatment of opioid use disorders is most successful with medication assisted treatment (MAT) with most approaches including various counseling modalities. Beginning in December, 2015, expressive arts therapy (ExArT) interns joined our buprenorphine treatment groups to facilitate self-awareness and sense of relatedness to others through self-expression and the arts to promote recovery. Second year family medicine residents participate with our team and patients in mutual explorations that go beyond just prescribing an evidenced based medical therapy. Such learning experiences improve patient care and professional growth by de-stigmatizing patients with use disorders and reinforces that they have chronic illnesses with a need for ongoing care. Expressive arts exercises facilitate engagement and integration of both hemispheres of the brain, thereby addressing the variety of learning styles and foster innovative thinking in applied medicine. Innovation in teaching, learning and applied medicine is linked to thinking "outside of the box" of traditional education and treatments.

Methods: Contra Costa Regional Medical and Health Centers is our county's safety net health system which runs 3 buprenorphine treatment clinics serving over 200 patients who receive buprenorphine for opioid use disorders. An ExArT intern became a part of the treatment team consisting of a DEA waivered physician, a nurse care manager and a family medicine resident for these weekly clinics. Monthly recovery oriented themes were planned to include somatic, art, and narrative ExArT interventions to evoke awareness of present actions, associated emotions, and responsibility for quality of one's own life. An anonymous and voluntary survey was conducted as a pilot over 5 weeks for about 100 patients to explore the feasibility and value of this behavioral integration in our weekly medical group visits. This descriptive and qualitative study explored and documented the benefits and recovery challenges for patients. These findings then provided guidance for professionals facilitating these group visits. After each session, patients were asked to answer several Likert scale questions about their emotional responses before and after each session's ExArT activity. We will continue to survey patients in the coming months to explore how these experiences facilitate their recovery and will also include residents in the survey process to assess their perceived value of ExArT. This practice improvement project was approved by our Institutional Review Committee.

Evaluation Plan: In our pilot, feedback after each session was overall positive and we examined patients' emotions and how their positive and negative emotions changed after these sessions. In general, self-identified negative emotions became less negative while positive emotions increased to a lesser degree. We are refining our survey process to allow more time with clearer directions to maximize participants' responses. We will also collect patient demographic data that can be used to correlate responses with length and severity of their substance use disorders and other co-morbidities. To do this, we will be using the validated computer assisted Addiction Severity Index (ASI-MV) on entry and every 6 months which will also be used to assess patients' progress and create patient specific treatment plans. We will also survey our residents' reactions and inquire what they have learned on personal and professional levels from their participation.

Potential Impact/Lessons Learned: Integrating ExArT into buprenorphine treatment groups has had a positive impact for patients, family medicine residents and facilitators. It offers valuable tools to promote increased self-awareness, recovery and healing from the bio-psycho-social-spiritual wounds associated with addictive disease.

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StrengthsFinder Framework for Communication, and Leadership in Medical Education

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Idea/Problem Statement: Review the efficacy of StrengthsFinder as a framework for leadership and communication skills in a medical education setting.

Rationale/Need: The increasing complexity of healthcare in the United States is generating a growing interest in understanding and developing physician leadership (Committee, 2004; Souba, 2004a). This increasing complexity has also led to the need for self-aware physicians with impeccable communication skills. Good communication can lead to better team dynamics, better patient-doctor relationships, and better patient outcomes. The Liaison Committee on Medical Education (LCME), the medical school accrediting board, has called for a communication skills requirement, and many residency program directors are beginning to require leadership training. The literature reviewed for undergraduate medical education suggested that developing leadership content and approaches are desired, but utilizing a reliable tool and connecting to a general framework to encourage widespread application is lacking. Therefore, these investigators seek to introduce the concepts of leadership and communication with an underpinning of communication through the vetted self-awareness tool of StrengthsFinder. In 2011, a College of Pharmacy team at the University of Minnesota utilized StrengthsFinder as a contextual foundation for their eight-year longitudinal leadership curriculum. This study supported the use of StrengthsFinder within medical education as a framework for leadership education (Janke, 2011).

Methods: This study is a mixed methods research project, utilizing both quantitative and qualitative methods. Quantitative measures will include Likert-scale pre-class and post-class surveys. Qualitative measures will include an end-of-course focus group comprised of self-selected students, and open-ended questions on the pre-class and post-class surveys. Indirect information may be collected as the course includes reflection papers, which may discuss the Strengths session impact on the student. No data will be used without consent. Enrollment for this study will be based on students who are enrolled in the HEAL (Humanities, Ethics, Altruism, Leadership) I course. Students will complete activities for the 10/4/16 class session as part of the HEAL I course. Students will have the option of having their data excluded from the research study. All medical students who are registered for the HEAL I course will be eligible for inclusion in the study. Students may also self-exclude from the study.

Evaluation Plan: This curricular intervention will be evaluated through the institution's standardized student evaluations as well as through the pre and post-research surveys. If the program demonstrates positive results (i.e. positive rating scores and feedback on the written assessments, and positive feedback during the focus groups), then a second session on teams will be planned.

Potential Impact/Lessons Learned: Because there is no standardized leadership framework for medical education, this study could contribute to medical education best practices literature. On a smaller scale, the impact is medical students will understand their perception of leadership through the lens of StrengthsFinder.

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Using Patient Perspective Sessions to Increase Empathy, Motivation to Learn, and Recall

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Idea/Problem Statement: Listening to stories of real life patients helps preclinical medical students to retain their empathy & increases motivation to learn & recall ability.

Rationale/Need: The first 2 years of medical school are spent predominately in the classroom setting, often with limited patient interaction. Multiple studies in medical education suggest that the intense academic environment and lack of clinical context may serve as a stressor for preclinical students and can be associated with adverse educational and personal outcomes. The heavily science-based curriculum in the first 2 years of medical school tends to be rigorous, which could lead to academic burnout. In addition, the lack of clinical exposure during these preclinical years can contribute to a loss of the motivation behind the decision to go to medical school. Furthermore, studies have shown that medical students face an increased risk of depression resulting from relentless academic demands and stressors. This factor can contribute to poor memory retention and further burnout. Studies have demonstrated an erosion of empathy throughout the 4 years of medical school, and a 2013 study suggests that a decline in idealism happens as early as the first 2 years. These findings propose that traditional preclinical curricula may negatively affect medical students' motivation, mental health, memory retention of new material, and empathy.

Methods: In the 2012-2013 academic year, Touro University College of Osteopathic Medicine (TUCOM) introduced mandatory patient perspective sessions into their osteopathic doctoring curriculum. Four sessions occur in year 1 and three in year 2. These sessions provide an innovative curricular approach to address the issue of limited patient interactions in the preclinical years by engaging real patients to present their medical stories. The goals of this early introduction of patient interaction were to focus on combating empathy erosion, reduce academic burnout, and improve memory retention during the first 2 years of medical school. The topics of the patient perspective sessions at TUCOM matched the physiologic system the students were studying at the time. The patients were encouraged to talk about their experiences with a particular disease process as well as their experiences in the health care setting, with an emphasis on the physician traits that they most and least appreciated. A clinical faculty member was present at all of the sessions to help facilitate the discussion and answer any questions that the patients themselves were not able to answer, such as those in reference to disease pathophysiology or health care systems.

Evaluation Plan: An anonymous electronic survey was administered in the summer of 2014 to TUCOM medical students in the class of 2016 who participated in the patient perspective sessions in the 2012-2013 and 2013-2014 academic years. The survey assessed their perceptions of and opinions about the effectiveness of the sessions' objectives. The survey was created using the 2 objectives, each followed by a 3-point Likert-type scale with clear verbal descriptors. Future evaluation plans include using a validated survey to add strength to the study as well as incorporating quantitative measurements of empathy (eg, the Jefferson Scale of Empathy) and medical knowledge (eg, standardized shelf examinations or practice board questions) both before and after each session.

Potential Impact/Lessons Learned: Decreasing burnout in medical training and increasing awareness of patient narratives in a fairly simple, low-cost manner that could easily be replicated at other institutions

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Coaching the Struggling High Achiever

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Idea/Problem Statement: Coaching based on a growth mindset to assist medical students to succeed in remediation as a growth opportunity rather than a failure experience.

Rationale/Need: Medical students often measure themselves by external markers such as excellent grades and glowing evaluations, and being a "straight A" student becomes part of their personal identity. These "best of the best" come together in the challenging environment of medical school where "straight A's" are not always possible, and a "top student" may not be able to meet all of the requirements of a class, and thus receive a failing grade. Helping these learners requires reframing remediation. Carol Dweck has studied the growth mindset versus fixed mindset (1). Students with a fixed mindset view themselves as more or less intelligent, more or less capable based on evaluations. They may receive a poor evaluation in anatomy course and think "I am not cut out to be a surgeon." A student with a growth mindset would note that some skills or concepts required them to work harder and see it as a challenge. A struggling student with a fixed mindset may find that facing remediation is so stressful and frightening that their ability to participate and benefit is impaired. Angela Duckworth, in her book "Grit" focuses on the "stick-to-it" mentality that accompanies success when challenged (2). The proposed "precursor" to a remediation program will focus on individual coaching to help learners build a growth mindset and develop grit (passion plus perseverance) to encourage each struggling student to tackle the extra effort and frustrations of remediation.

Methods: This intervention will focus on third-year medical students who struggle in their OB/Gyn clerkship (approximately 10-12 in an academic year). These students will be identified by either spontaneous evaluations, or formal evaluations elicited as part of their midsession feedback. A coach (OB/Gyn educator) will work with each student to help the student assess his/her mindset and level of grit using the standardized tools available. This addition to theremediation process will help them with their perspective as well as their learning issues. The goal is to promote the successful remediation of each student in the short term, and promotion of continued growth, self assessment and metacognition in the long term.. Addtional skills assistance will also be provided for any student that struggles with the metacognition (reflection, regulation, study skills).

Evaluation Plan: The department will track the number of students requiring remediation, the issues that are had by each student, and the progress made by each student during remediation. The learners will complete an anonymous questionnaire at the end of the process asking how useful each element of the process was for them: coaching on perspective; as well as the behavioral (knowledge, skills, attitudes) remediation. These data will also be reviewed at the end of the academic year. Qualitative data will also be collected. Each student will be asked to write about their own remediation journey, what they have learned, how they have grown as a medical student, and how they will take this lesson forward into their career. These data will be analyzed using thematic and key word analysis at the end of the academic year. Finally, the success rate for the students in 2017-18 will be compared to the success rate for struggling students in the prior year.

Potential Impact/Lessons Learned: This pilot will help demonstrate the benefits of these principles to medical education.

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Hope, Engagement, and Self- directed learning among medical students

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Idea/Problem Statement: The association of engagement in study, and Hope with readiness for self- directed learning (SDL) among medical students was never studies in the UAE.

Rationale: Hope is one of the constructs in positive psychology. It is a motivational cognitive set involved in goal-directed thinking and action. Hope was found to be linked to self-efficacy. Hope influences outcomes in achieving goals and promote better study skills. That is why hope is related to good academic achievement. Self directed learning SDL has been investigated with other positive psychology constructs but NOT with hope. Students' engagement with the learning was found to be a motivator of lifelong learning but not SDL. Our aim to cover such gaps.

Methods: A self- report questionnaire comprised of demographic data, Adult Hope Scale (AHS), the Utrecht Work Engagement Scale (UWES) , and the Self-Directed Learning Scale (SDLS) was filled by 280 students at RAK Medical & Health Sciences University, UAE in 2016.

Results: Our study sample comprised of 280 medical students from RAK MHSU. Around 39% of the sample were males . The mean (SD) age of the sample was 20.65(1.9). Almost half of the sample were below 21 years of age. Around 52% are of Arab Nationalities. (Data not shown in tables) Table 1 shows the comparison of mean score(SD) of of Hope and its subscale, Engagement and its subscales and self- directed learning (SDL) by sex. Female students had significant higher scores of H- Agency and the overall Hope scale while no significant gender difference in engagement or SDL. The mean scores of the aforementioned variables did not show any significant differences with age groups (above and below 21 years of age (Data not shown in table) Table 2 shows the comparison of mean score(SD) of of Hope and its subscale, Engagement and its subscales and self- directed learning (SDL) by Nationality divided by Arabs and non Arabs. Only E- Dedication was higher among Arab students whereas the rest of variables showed no significant differences. Table 3 showed the correlation matrix between Hope, Engagement and their subscales with SDL. It appears that all the variables were significantly and positively correlated. Table 4 showed the Significant Variables in the equation of Stepwise multiple regression predicting self directed learning (SDL) for the overall sample . It seems that Hope, H- Pathway, E- Vigor and significantly predicted SDL controlled for age, sex and nationality.

Potential Impact/Lessons Learned: Hope and self-directed learning was investigated only at work place. Our study is the first to prove such correlation among medical students. While hope is defined as setting goals, and incorporating the motivation to achieve those goals, SDL is also associated with the same.

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Patient satisfaction survey of EM residents as an adjunct measure of Patient Centered Communications

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Idea/Problem Statement: An additional measurement tool is necessary to provide a more comprehensive evaluation of the Patient Centered Communications milestone.

Rationale: Direct observation of Emergency Medicine (EM) residents using the Standardized Direct Observational Tool (SDOT) is the primary assessment method for Patient Centered Communications (PCC), an ACGME/ABEM educational milestone. SDOTs are randomly performed, and do not ensure an accurate assessment of a resident, as it depicts only one point in time and poses the risk of observer bias. This form of assessment can also be challenging to perform in a busy emergency department (ED) with multiple patients and residents for an attending physician to oversee, while interacting with medical students and other staff. Furthermore, SDOT's do not take into account the patient's perception of care. To address these issues and to achieve a multiple source feedback evaluation, Geisinger Medical Center (GMC) created and implemented the use of an EM patient satisfaction tool to assist in assessing a resident's competency in PCC. We sought to examine the psychometric properties of this measure.

Methods: The sample consisted of 197 patients assessing 27 residents. The Patient Evaluation of Emergency Medicine Resident (PEEMR) survey was created to evaluate PGY 1-3 residents through anonymous report. This 8-item survey consists of 5 Likert-type items (1 = Did not meet expectations, 5=Above Expectations) measuring a resident's friendliness/courtesy, ability to listen and answer questions, amount of direct contact, concern for patient comfort, and quality of medical explanation. The patient also reports whether he/she would want the same doctor in the future, if the survey was taken by the patient or their representative, and the representative's role when applicable. A comments section also allows for patient comments. Mean item scores were calculated for the residency program and a program score for overall patient satisfaction. The overall mean score across items was also calculated for each PGY level. An inverse-reflected transformation was performed on the 5 Likert-type items. The data transformation was successful in improving data normalcy but not fully correcting it. An exploratory factor analysis (EFA) was run to examine the psychometric properties of the 5 Likert-type items; a Principal Axis Factoring (PAF) analysis was chosen, as it is recommended for data that violates the assumption of multivariate normality (Fabrigar et al., 1999). Patient satisfaction was hypothesized to be a unidimensional factor. A reliability analysis was also performed.

Results: The mean patient satisfaction score across Likert items was 4.64 (SD = 0.48) out of 5 for the GMC residency program. By item, resident ability to listen/answer questions had a mean score of 4.79 (SD = 0.47), time spent with the patient 4.39 (SD = 0.89), concern for patient comfort 4.67 (SD = 0.64), medical explanation 4.50 (SD = 0.84), and friendliness/courtesy 4.86 (SD = 0.45). 97.50% reported they would want the same doctor for a future Emergency Department (ED) visit. By PGY level, overall mean patient satisfaction scores were as follows: PGY1 (N = 29), 4.75, SD = 0.40; PGY2 (N = 89), 4.58, SD = 0.52; PGY3 (N = 82), 4.67, SD = 0.46. A review of patient comments revealed 29 suggestions (12.32% of patients) for improvement in the areas of patient comfort, medical explanation, length of wait time, warmth and duration of physician interaction, and facility space-constraints. 21 patients (9.95%) left positive comments about their ED visit. The Kaiser-Meyer-Olkin test of sampling adequacy and Bartlett's test of sphericity suggested that an EFA was appropriate for this data and that correlations between items were sufficiently large for PAF (KMO = 0.79; Bartlett's, χ^2 (10) = 246.38, p = .000). The 5 Likert-type items constituted a single factor that had an eigenvalue of 2.10, explained 41.03% of variance, and consisted of items with factor loadings ranging from 0.58 to 0.72. Reliability analyses revealed Chronbach's $\alpha = 0.77$.

Potential Impact/Lessons Learned: Results suggest that the PEEMR can serve as a valid and reliable adjunct measure of the PCC milestone. This versatile measure can evaluate PCC competency of an individual resident, by PGY level, or for the residency program overall.

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Improving Communication in Junior Doctors at a Rehabilitation Centre in Singapore

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Idea/Problem Statement: To improve the communication skills of junior doctors via a program customized for communication topics related to stroke rehabilitation.

Rationale/Need: Good communication skills benefit both doctors and the patients they treat when they are used effectively . Doctors in the rehabilitation center deal with patients with a variety of medical conditions . Junior doctors rotate through our department every six months and they are of varying seniority and training experience. Some of the doctors are not local and are trained in foreign universities. All are English educated though some may not be versed with the local lingo. As such, deficiencies in communication may be present. We feel that there is a need to address this deficiency in communication though effective teaching methods. So far, there are no communication courses tailored for the practice of rehabilitation medicine in Singapore. Evidence shows that doctors who attend short workshops or courses to improve their communication skills and receive constructive feedback learn the most. We would be focusing our efforts on doctor-patient communication for stroke rehabilitation.

Methods: A pre course needs analysis questionnaire was given to all the junior doctors who had worked in our department from January 2014 to September 2016. Junior doctors were defined as medical officers and junior residents. The questionnaire explored the junior doctors' self perceived assessment of their communication skills. They had to identify topics that they found most difficult communicating. A pre course needs analysis questionnaire was also administered to senior doctors in our department. Senior doctors were defined as senior residents, registrars, associate consultants, consultants and senior consultants. The questionnaire explored the senior doctors' perceptions of the communication skills of their juniors and the aspects of communication that they found most lacking in the juniors. They were also asked to select specific topics that they perceive the juniors to have the most difficulty in. The responses were analyzed and the top three topics that each group chose were identified. The communication course will be conducted for junior doctors joining in January 2017. It will be carried out in the form of role play. Scenarios will be identified from the questionnaire administered. Small group training will be conducted by trainers who are senior doctors who have previously attended institution-led communication skills courses. Feedback will be in the form of group discussion and use of video recordings. A post course analysis questionnaire would be administered.

Evaluation Plan: 15 out of 27 (55.6%) junior doctors and 14 out of 24 (58.3%) seniors completed the questionnaire. The average number of years post graduation among the juniors was 6 years. All strongly agreed that good communication skills are important. All except one (93.3%) rated rehabilitation and medical knowledge as the most challenging aspect of communication with patient. The top 3 topics that juniors felt uncomfortable communicating were explaining stages of rehabilitation and length of inpatient stay, explaining prognostication of functional return and explaining about available community resources.All seniors have observed juniors talking to family and all rated their juniors' performance in rehabilitation related knowledge as the poorest. Both senior and junior doctors agreed that communication skills were important and the preferred modes of learning were didactic lectures and watching videos.

Potential Impact/Lessons Learned: It was noted that both junior and senior doctors voiced a need for communication course focusing on rehabilitation related topics would be useful. A tailored communication course would be beneficial in addressing these needs. This can be evaluated in the post course analysis

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Influencers: A Resident-led Approach to Improving Resident Wellness Within an Existing Curriculum

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Idea/Problem Statement: To improve wellness among the 21 family medicine residents at WMMC through the six sources of influence model by Grenny et al.

Rationale/Need: In a recent study, at least 40% of residents experience depression at some point during their residency. Earlier this year, the chief resident at Memorial Kettering Medical Center penned an article stating, "the work did not stop" after an announcement that one of her co-residents ended their life. Physician suicides are estimated at 400 a year or one every day. Compared to other professions, the rate of physician suicides are 40 to 70 percent higher in males and 130- 300% higher in women. Research findings point to undiagnosed and untreated affective disorders, such as depression, bipolar disorder, and physician burnout to be a factor. However, there are reasons why a resident may not seek care for mental health needs, such as stigma, fear of loss of employment, practice restrictions, and increased supervision. The integration of a resident wellness program into the graduate medical education curriculum is one way of addressing the mental health needs of residents. The two authors propose to function as "influencers" (change leadership) by increasing knowledge, changing attitudes and behaviors and building programs in their clinical learning environment focused on resident wellness. Based on Grenny, Patterson, Maxfield, McMillan and Switzler's muti-modal approach to influence change, their efforts will focus on creating motivation and ability in three domains: the personal, the social, and the structural.

Methods: For a period of six months, the "influencers" will bring attention to resident wellness among faculty and colleagues in six domains: 1.Personal motivation: They will provide information on the importance of wellness via emails and through residency leaders. They will give positive reinforcement, recognition, and validation for any efforts on resident wellness. 2.Personal ability: They will provide tools for stress reduction and practicing wellness techniques, such as mindfulness. 3.Social motivation: They will recruit champions for wellness and develop the champion's role. Through their role as champions, they will help to develop social support systems and seek out residents at risk. 4.Social Ability: They will lead efforts to create a resident-led wellness committee to channel energy from social pressure into social activities (games, art) that can boost morale, recharge and reenergize residents. 5.Structural Motivation: They will seek organizational support and incentives (planned wellness days off). They will develop a monthly interactive lecture series, providing articles and guiding discussions to explore personal meaning during residency training. 6.Structural Ability –They will seek to make structural changes that foster resident wellness in physical spaces, such as holding meetings outdoors, displaying list of wellness resources in prominent locations, holding office visit with faculty for healthcare visits, or discussing personal goals and plans.

Evaluation Plan: Following human study subjects' protocol, residents will be invited to participate in the evaluation of this 6-month effort to improve wellness. They will be given the option of refusal from participating without consequence in the evaluation of this resident wellness effort intervention. The informed consent process will provide residents with a detailed explanation of how their identities and responses will be held confidential. Two evaluation instruments, the Perceived Stress Scale and the Abbreviated Maslach Burnout Inventory, will be employed. The Perceived Stress Scale measures levels of psychological stresses and ability to cope. The Abbreviated Maslach Burnout Inventory, which includes the subcategories of emotional exhaustion, depersonalization, and personal accomplishment measures levels of burnout. These validated instruments will be used at baseline, at a 3-month interval, and finally at the end of the 6-month period to evaluate change in resident wellness and wellbeing.

Potential Impact/Lessons Learned: Resident wellness is a more pressing topic as the importance of physician depression and suicide is identified. The study has the potential to create a baseline for resident well-being and provide multiple avenues to address resident well-being with minimal additional time investment.

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Culinary Medicine: Teaching Medical Students about Nutrition Through Hands-on Application

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Idea/Problem Statement: Integrate an interactive, community-based nutrition course with culinary instruction and lifestyle promotion skills into the medical curriculum.

Rationale/Need: In 1985 the Institute of Medicine issued a report on the state of nutrition education in medical schools recommending that schools integrate a minimum of 25 hours of nutrition into their curriculum. The AMA then created the Nutrition Curriculum Project, a national report in which they determined essentials of nutrition education in medical schools (1). Despite the medical community's acknowledgement of the importance of nutrition there has been an alarming lack of education. In 2014 Adams et. al. surveyed every US medical school and found that only 29% of schools provide 25 hours of nutrition education. A study by Weinsier et. al. demonstrated how a lack of adequate nutrition education has created long-term negative consequences, explaining that the majority of students surveyed post-graduation reported feeling unprepared to counsel patients on lifestyle management and nutrition (2). Physicians continuously rate their nutrition knowledge as inadequate, with only 14% of surveyed residents feeling confident in providing preventative education to their patients (3).This is concerning because evidence has shown that patients advised to make dietary interventions by their physicians are more likely to do so compared to patients who have never had the conversation with their doctors. Medical student nutrition education is essential to help doctors learn how to integrate preventative education and the appropriate sources of referral into their practice to maximize patient care.

Methods: The Culinary Medicine ICM-P Selective aims to prepare future physicians to serve, heal, and empower patients and communities through a hands-on nutrition curriculum that incorporates culinary skill and preventative medicine. In order to engage with the local community, Keck School of Medicine of USC partnered with LA Kitchen, a local non-profit organization that distributes healthy meals to the elderly and provides free culinary training and job placement to people recently released from incarceration or the foster care system. In collaboration with LA Kitchen, medical students will learn culinary techniques as they also learn about the specific dietary options to treat common diseases. With this knowledge, they can counsel patients on how to create low-cost, healthy meals on a budget. Class topics include: hypertension, diabetes, cardiovascular disease, grocery shopping on a budget and community outreach. Each class focuses on a specific disease taught from three different approaches: medical perspective (clinical case discussions), nutrition perspective (discussing appropriate diets with each morbidity), and culinary perspective (preparing a meal applying the nutrition lessons just learned). For the final class students will prepare a healthy, low-budget menu based on the principles taught throughout the course. This program was created by students, a nutritionist, chef, and faculty to create an engaging and informative instruction on nutrition and preventative medicine.

Evaluation Plan: A pre-course survey was administered to all the students assessing the students' culinary and nutrition knowledge. The survey was created by Gregory Harlan, MD MPH and Sherene Chou, RD . At the culmination of the course the students will be asked to take the same survey again as well as complete a course evaluation in order to assess how satisfied students are with the course. The pre and post survey will be used to analyze how much the students have learned about nutrition, lifestyle recommendations, and culinary skills throughout the semester.

Potential Impact/Lessons Learned: Integrating classroom nutrition education with culinary application provides students with a collaborative based approach for promoting their personal health and dietary habits while also enhancing their confidence and knowledge needed to apply nutrition interventions in the clinical setting.

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Development of an emergency department peer support network to address the second victim syndrome

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Idea/Problem Statement: Build a peer support network to help emergency medicine residents work through instances of adverse clinical outcomes to promote resident wellness.

Rationale/Need: In 2000, Dr. Albert Wu coined the term "second victim" referring to the impact on healthcare providers after involvement in a case with negative patient outcomes, especially when there has been a preventable medical error or the provider feels responsible for the outcome (1). A survey of practicing American and Canadian physicians revealed that many suffered from anxiety regarding future errors (61%), loss of confidence (44%), sleep disturbances (42%) and lower job satisfaction (42%). Only 10% of these doctors felt the institutions supported them adequately (2). There is an increasing awareness of the desire and benefit of peer support in these situations. A study from Beth Israel Deaconess indicated that 79% of physicians experienced either a serious adverse patient event and/or a traumatic personal event within the preceding year. Survey participants expressed a willingness to seek support but also cited various barriers such as lack of time, uncertainty or difficulty with access, concerns about lack of confidentiality, negative impact on career, and stigma. Physician colleagues were the most popular potential sources of support (88%), outnumbering traditional mechanisms such as the employee assistance program (29%) and mental health professionals (48%). The peer support group would work with each other under the guidance of faculty to discuss adverse clinical events while promoting a "growth mindset" and career wellness strategies.

Methods: This intervention will take place at a 4-year emergency medicine residency program at LAC+USC Medical Center, a busy level I Trauma Center with 68 residents. The residents will be divided into groups of 8-10 peer supporters. Each group will consist of residents from each post-graduate level (PG1-4). The curriculum will consist of six dedicated 1-hour sessions every other month at the end of Grand Rounds during protected educational time. The first session will be a didactic session led by faculty raising awareness and reviewing the literature associated with the second victim and its impact on physicians. The subsequent 5 bi-monthly sessions will be in a small group peer support format. Faculty and senior residents will facilitate sessions after undergoing formal peer support training. The training sessions will be based on previously successful second victim training programs at the University of Missouri developed by Dr. Sue Scott, a second victim syndrome content expert. The peer support sessions will focus on each group sharing experiences to normalize and de-stigmatize the second victim experience. Peer support groups will also discuss strategies to mitigate the negative impact of these experiences.

Evaluation Plan: Upon completion of each session, residents will be asked to write a half-page to one-page reflection on their experience discussing the impact of what they've learned and how that will affect their individual practice with a commitment to act or change. Faculty will evaluate these assignments by utilizing the "REFLECT" rubric to assess for levels of reflective analysis. In addition, residents will complete surveys before and after the intervention regarding perceived levels of departmental support, levels of anxiety, levels of confidence, and job satisfaction related to adverse clinical events.

Potential Impact/Lessons Learned: Resident physicians would have access to departmental peer support networks to develop increased levels of awareness and long-term strategies to process the negative consequences related to adverse clinical events during training. This could serve as a model for other residency training programs.

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Preventing burnout: perspectives of residents and faculty in community-based training programs

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Idea/Problem Statement: Conduct formative research with residents and faculty in community-based residency training programs to inform resident burnout prevention programs.

Rationale/Need: Physician burnout is recognized as a significant problem which affects the health and well-being of individual physicians and also negatively impacts quality of care, patient safety and the overall sustainability of the health system (1). Prevalence studies indicate that one-third to one-half of all residents report burnout (2). A recent systematic review and meta-analysis of interventions to address physician burnout identified several interventions that effectively reduced burnout but concluded that more research is needed about the particular strategies or combinations of strategies with greatest value (3). The authors also recommended research on methods to develop and deploy intervention strategies and suggest that involving local physician stakeholders in the selection and implementation of strategies may result in more effective burnout prevention approaches compared to when interventions are externally developed without local input (3). As a first step in further developing the burnout prevention strategies for the residency programs at Kaiser Permanente Southern California we are conducting formative qualitative research with residents and faculty to learn more about how they perceive the problem of burnout and what they consider effective intervention strategies.

Methods: From October to December 2016, we will conduct 14 focus group discussions with residents and core faculty affiliated with seven residency training programs at Kaiser Permanente Southern California including: family medicine (two programs), internal medicine (two programs), pediatrics (one program), psychiatry (one program), and obstetrics/gynecology (one program). The study protocol and topic guides were designed collaboratively by a team including researchers, administrators, residents and faculty. For each of the seven programs, one focus group will be held with core faculty and one with residents of all post-graduate years. Each discussion will include between five and ten participants and will last approximately one hour. Recruitment will occur at two medical centers: one in Los Angeles, CA and one in Fontana, CA. All residents and core faculty affiliated with the residency programs will be invited by email to participate in this group discussion which will take place at the medical center during either the lunch hour or after a staff meeting. Food will be provided. The topic guides include open-ended questions addressing the prevalence of burnout, its causes and consequences, and burnout prevention strategies. The study protocol was IRB-approved and verbal informed consent will be obtained from participants. All discussions will be audiorecorded and transcribed.

Evaluation Plan: Focus group transcripts will be coded using a predetermined list of codes as well as codes that emerge from reading the transcripts. We will present findings on participants' views about burnout including how prevalent it is among residents in their programs, the factors contributing to burnout, its consequences and prevention strategies. We will describe participants' previous experiences with burnout prevention/wellness programs including their views on what worked well and what was less effective and why, and the content and approaches they believe would be effective for future programs targeting residents. We will compare and contrast perspectives of faculty and residents.

Potential Impact/Lessons Learned: Information obtained from this study will shape the development of burnout prevention programs at our institution, and may inform the design of programs at other graduate medical education institutions by contributing to knowledge about approaches that appeal to the target audience.

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Baggage Check

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Idea/Problem Statement: A platform and refuge for residents and fellows to submit any personal or professional issues to receive support from peer counselors.

Rationale/Need: Resident wellness is an often-ignored facet of graduate medical education (GME). Recent studies have shown that signs of clinical depression are seen in up to 29% of all residents while over 70% are shown to have signs of burnout[1].These depressed or burnt out physicians have been shown to make more medical errors and be less capable of genuine compassion and empathy toward others, posing danger and detriment in both physician-patient interaction and social relationships[2]. The patients of these physicians are less compliant, less satisfied, and more litigious[3]. Surveys have shown that though many physicians would appreciate an outlet to receive support, major barriers exist to receiving support services; these include time constraints, lack of confidentiality, high concern regarding negative impact on career and documentation on their records[2]. Furthermore, physicians who experience burnout are more likely to abandon the profession, and each replacing each of these physicians costs approximately $400,000 per physician per year[3]. Unfortunately, due to these barriers, physicians are often unlikely to reach out through traditional channels for support. This program is based off a similar student-led program currently active at the Keck School of Medicine (KSOM). Topics addressed by Baggage Check at KSOM have included struggling relationships, social isolation, adjustment to changing academic expectations, work burden, work-life balance, academic stressors, and imposter syndrome.

Methods: At the beginning of every month a spreadsheet link will be sent to all residents and fellows. They are able to anonymously input their concern or issue throughout the month in a free text space. The spreadsheet has a disclaimer about issues that would be better-discussed elsewhere and tools and resources for those needed emergency or immediate mental health care. Each time an input is registered in the spreadsheet the 30 trained peer counselors will be notified and given a chance to respond. The specific peer counselor that responds is left up to the counselors to decide, and is typically one that is closest able to relate to the issue. The counselors are all residents and fellows at LAC that have received training certified by the GME and are overseen by the psychiatry department. The counselors will be chosen across specialties and with myriad life experiences to be able to respond to a spectrum of possible questions. They will be specifically trained to notice signs of harm to self or others and will be given tools of escalation if needed in that specific scenario. The responses will be added to the spreadsheet in a real-time basis and the writer will be offered an option of being contacted when it is updated. Of note, since the responses will be anonymous there is no way to specifically contact the writer. The anonymous queries and responses will be compiled at the end of the month and sent out in Portable Document Format (PDF) to all residents and fellows via email.

Evaluation Plan: Each resident and fellow will be given before and after surveys. Prior to the launch of Baggage Check, each participant will receive the Maslach Burnout Inventory (MBI) and the Patient Health Questionnaire -8 (PHQ-8) and complete them again three months after implementation. An additional survey will be sent out after three months to determine utilization, knowledge, and attitudes towards the project.

Potential Impact/Lessons Learned: Increase resident wellness by giving an outlet for residents and fellows that is easily available through an online portal. Providing the monthly PDF for those suffering in silence to show solidarity, thereby decreasing feelings of isolation without the threat of exposure.

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Developing An Anesthesiology Residency Wellness Curriculum using Mindfulness Based Meditation

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Idea/Problem Statement: To create a wellness curriculum for anesthesiology residents using weekly mindfulness based meditation and other lectures and peer support systems.

Rationale/Need: Depression and burnout are common throughout the medical profession, especially during training. The Surgeon General has made promoting and studying physician well-being as a top goal for 2016 (as important as opioid addiction). Anesthesiology is a high stress specialty that is overrepresented with physician impairment and mental health issues. The American Society for Anesthesiology has already conducted research into how depression and which measured a shortened Maslach Burnout Inventory, depression by Harvard National Depression Screening Day Scale, well-being by Physician Well Being Index, as well as drug and alcohol use and demographic data. These authors have documented that residents who are depressed and burnt out are more likely to omit basic anesthesia safety tasks, such as an anesthesia machine check, and more likely to make patient safety mistakes such as administering the incorrect medicine or dosage. Given these results, we believe that it is important for our anesthesia residency to be evaluating our institutional rates of depression, stress and burnout as an assessment of the program's well-being. Patient safety is affected when residents are depressed in additional to the personal and educational suffering of the trainees themselves. Furthermore, since there is evidence that mindfulness based mediation, formalizing peer support and teaching principles of wellness may help treat depression and burnout, our department has created a wellness curriculum.

Methods: The Wellness Survey will be conducted yearly to measure burnout and measure while creating the wellness curriculum. This will be an hour of didactic teaching per month over 10 months. The topics will include: 1) Critical incidents and debriefing about stressful situation by Employee Assistance Program 2) Depression-what does it look like in residents and how to treat it by Psychiatric Chief Resident 3) Drug Use in Anesthesia: A Panel about Personal Substance Misuse by our own faculty and Physician Health Services 4) Spinning class: group exercise with a faculty member who is a spin instructor 5) Developing Gratitude 6) Mindfulness Based Meditation by Carl Fulweiler, Director of UMass Center for Mindfulness 7) Peer Support Group 8) Narrative Medicine 9) Cooking Healthy Foods while in a Time Crunch by nutrition department 10) Journaling about difficult experiences . Each week a meditation session will be led for 5-10 minutes prior to beginning didactics based on Mindfulness Based meditation. I went through the UMass Center for Mindfulness Program Mindfulness Based Stress Reduction Program and then Mindfulness in the Workplace Teaching Training. Dr Lucas or I will lead the meditation. Finally each resident has been assigned an upperclassmen in each year as well as a faculty member as a wellness mentor. These groups have been given $200 to spend on a meal together to improve social relationship and sharing difficult experiences without with other residents.

Evaluation Plan: Endpoints of the study include rates of major depression, burnout and stress within the residency. These will be determined using 3 well validated surveys, which will include the Maslach Burnout Inventory Human Services Survey (MBIHSS), the Harvard National Depression Screening Day Scale (HANDS), and the Medical Student Well- Being Index (MSWBI). The MBI measures depersonalization, emotional exhaustion and personal accomplishment.The MSWBI serves as a brief assessment tool to identify medical students in severe psychological distress by evaluating burn out (do you feel burned out?), depression (Have you been bothered by feeling down depressed or hopeless) as well as general safety questions (Have you fallen asleep while driving). Finally the HANDS survey is both specific and sensitive for major depression. Other endpoints include open ended evaluative questions about the wellness program and teaching and mentorship in the department.

Potential Impact/Lessons Learned: Using mindfulness based meditation at the workplace has the potential to help improve workplace engagement and satisfaction. Taking care of our medical providers in the age of such high rates of burnout is going to be a crisis and we are hoping to develop tools that will possibly treat burnout.

References:

Dr Tanya Lucas

Dr Shubjeet Kaur

Dr Eleanor Duduch

The Role of Teaching Services in Emergency Department Overcrowding; A System Dynamics Approach

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Idea/Problem Statement: To investigate the impact of teaching services on the emergency department throughput using system dynamics modeling.

Rationale/Need: Over the past 15 years, emergency department (ED) overcrowding has continued despite interventions such as increasing the number of ED beds and implementing "fast-track" facilities. While a multitude of studies has been done, from the system dynamics perspectives, to identify the possible causes of this problem and suggest policies that would reduce the burden of ED overcrowding, there were no publications, to our knowledge, in which the impact of teaching services on the ED throughput, its consequences on patient wait times, and points for interventions were included in that analysis. Our goal is to conceptualize the major factors (variables) and their interactions that affect ED overcrowding and throughput, generate a dynamic model of these interactions, test the model to portray the existing system's behaviors, and capture the characteristic dynamics of the variables involved.

Methods: A broad literature search was performed, covering topics of ED process flow, overcrowding simulation, and impact of teaching services on throughput. Once the variables of interest were identified, a causal loop diagram was designed in the environment of Vensim simulation software, to represent the interactions between the variables as described by the literature. This casual loop diagram was then translated into a stock-and-flow diagram that was simulated to identify the range of influences within the system and possible tendencies in ED patient wait times and length of stay, in response to implementation of different policies.

Evaluation Plan: Once the model was complete, the internal validity and integrity of the model were tested. Its external validity may then be verified against existing literature and real-life scenarios.

Potential Impact/Lessons Learned: A viable system dynamics model of the impact of teaching services on ED overcrowding and throughput will provide a platform to identify and test future policies on changes in curriculum, instruction, and logistics of these services without prohibitive costs or risk of squandered resources.

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Data Driven Academic Programming in Urology Residency

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Idea/Problem Statement: Practice guidelines are derived from evidence and experience; as should our academic programming.

Rationale: In Graduate Medical Education, trainees learn to analyze, synthesize, interpret, and integrate evidence into clinical practice. We designed a modular academic program that allows perennial adaptations according to subjective and objective outcomes rooted in repetition through multiple resource modalities. Our goal was to develop a curriculum that can learn and adapt based on objective data.

Methods: The American Urologic Association In-Service Examination (AUA ISE) is an annual exam taken by all ACGME accredited and many AOA accredited urology residencies in the US. The test is designed to provide a performance metric regarding academic progress of individual residents as well as program wide academic performance. In urology, the AUA ISE is the only milestone for medical knowledge. AUA ISE performance is correlated with pass rates on the written portion of the American Board of Urology. The AUA ISE provides 12 educational domains and reports program performance against national averages. This provides an assessment of individual and program-wide strengths and weaknesses. We utilized the AUA ISE educational domains to design a 12 month curriculum. Additionally, we polled residents regarding their preferred educational resources, and cross referenced all preferred resources to corresponding AUA ISE educational domains. We utilized the AUA University Core Curriculum as our foundational resource with cross-referenced, multimodal supplemental material matched to AUA ISE educational domains. We aim to assess outcomes prospectively and longitudinally through ISE results and surveys.

Results: Each AUA ISE domain was assigned to monthly units and the 12 month academic calendar was arranged in a prioritized order focusing on weakest topics in closest proximity to the AUA ISE. AUA Core Curriculum assignments correlated to each unit were reviewed in a weekly, resident directed review session. Grand rounds presentation topics and journal club discussions were focused in each monthly unit on their corresponding educational domain. Residents were provided access to a cross-referenced database of supplemental material for each monthly unit. As a result, residents were afforded the opportunity for self-directed study, guided by data. Performance data is pending repeat ISE. Preliminarily, there is a high degree of individual resident satisfaction regarding the cross-reference program wide academic programming with individually selected academic resources. Additionally, there is a high degree of satisfaction with the AUA University's Core Curriculum.

Potential Impact/Lessons Learned: Our goal is to improve the efficacy and efficiency of formal academic planning that learns and adapts according to outcomes. The aforementioned modular programming is adaptable and targets program wide needs annually, learning from experience and adapting to program wide needs.

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Doctors of Tomorrow: Extending the Pipeline

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Idea/Problem Statement: Construct a manageable, sustainable, and student-run curriculum that extends the efforts of the Doctors of Tomorrow 9th grade program.

Rationale/Need: The Doctors of Tomorrow (DoT) program is a partnership between the University of Michigan Medical School (UMMS) and Cass Technical High School (Cass Tech) in Detroit. Through this partnership, a pipeline program was designed with the intention to support and inspire underrepresented high school students seeking to pursue careers in medicine during their formative education. Our group has been striving to fulfill this mission by implementing a 9th grade curriculum that includes partnership with a medical student mentor, participation in a longitudinal community impact project and visits to UMMS for hands-on medical experiences. The 9th grade curriculum is the focus of another application from our group to AAMC 2016. With promoting the success of students at the forefront of our initiative, we continually collected their feedback about the limitations of the DoT program. The students consistently identify a need for more longitudinal support after the ninth grade year. Their feedback aligns with previous studies that have identified barriers to pursuit of medical education for minority students, which include lack of academic resources and lack of career specific mentoring both early in their education and upon matriculating to college. In response, the DoT program has developed an innovative curriculum to support students in their 10th through 12th grade years, as well as throughout college.

Methods: We sought to develop a sustainable curriculum that addressed priorities identified by the DoT students: continued exposure to the medical field, mentorship, leadership opportunities, and professional development. Our solution is two-fold: 1. DoT Rising targets the 10th – 12th grade students while providing leadership opportunities for DoT Cass Tech graduates who matriculate at the University of Michigan. The core curriculum consists of three annual visits to Cass Tech designed to provide interactive sessions addressing clinical medicine, public health, and community development. Additionally, each year the DoT Rising high school participants have the opportunity to tour the University of Michigan campus, engage in community service with their mentors, and shadow physicians throughout Detroit. 2. DoT College focuses on the vulnerable cohort of DoT students matriculating at the University of Michigan. According to a 2011 study at the Higher Education Research Institute at University of California – Los Angeles, first generation college students and African American students each have a less than 1 in 3 chance of graduating from college in four years. Many of our DoT students fit both those criteria. Thus, DoT College seeks to provide an accessible support network for these college students through continued medical student mentorship, annual meetings with medical school faculty, and advisor support with bi-annual informal check-in sessions to foster a sense of community.

Evaluation Plan: Evaluation of the effectiveness of DoT Rising and DoT College will be performed using multiple metrics. Surveys will be administered repeatedly throughout the program to the student participants to acquire feedback on what aspects contributed most to their personal and professional development, as well as to their choice of career path. Surveys will include multiple choice questions and short answer responses in which the students are encouraged to suggest changes they think would improve the two programs. Personal interviews will also be performed. Students will be prompted with questions on what they view as the most effective aspects of the program and what suggestions they have for improving the program's effectiveness. Finally, the ultimate evaluation of the effectiveness of the DoT Rising and DoT College programs will be tracking the students' completion of their undergraduate education as well as subsequent career choice and/or pursuit of higher education.

Potential Impact/Lessons Learned: Together, DoT Rising and DoT College extend the Doctors of Tomorrow pipeline with the aim of supporting the growth of a diverse cohort of young aspiring physicians. In doing so, we hope to promote higher rates of academic and professional achievement amongst these DoT students.

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Social accountability of medical schools to Indigenous students: Framework for recruiting, retaining

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Idea/Problem Statement: Develop a framework for improving medical school recruiting and retaining strategies for Indigenous trainees.

Rationale/Need: Indigenous persons are underrepresented in the medical field in Canada resulting in nearly all provision of healthcare for Indigenous Canadians being provided by non-Indigenous physicians. As Indigenous doctors are often best equipped to provide culturally safe care to Indigenous people, the low proportion is concerning. In addition, Indigenous views of holism and health may strengthen health systems for everyone. Many Canadian medical schools have initiatives to increase the number of Indigenous doctors being trained in their faculties such as setting aside seats specifically for Indigenous students and providing workshops on the application process aimed at Indigenous high school and undergraduate students. In order to better address the need to increase the number of Indigenous physicians and better recruit and retain Indigenous students throughout medical education, the factors that influence students pursuit of medical school, and understanding experiences that impact choice of placement is imperative.

Methods: Exploring the experiences of current Indigenous medical learners, and their core support systems – particularly family members in Alberta is the purpose of this research. This will be completed through semi-structured, in-person interviews. The intention of exploring the experiences of the participants is to provide a starting point for further research on curriculum, admission and retaining strategy reform that will support and improve current recruitment and retention initiatives in medical faculties in Alberta. Data analysis will follow the constructivist grounded theory approach with the end model being a framework for improving recruiting and retention.

Evaluation Plan: The final model will provide an opportunity for medical school to ground recruitment and retention initiatives in a framework that reflects the experiences of the students who are the foci of the initiatives. The purpose of the framework is to provide the starting point for medical schools to adopt strategy that is informed by the students in order to increase the number of successful Indigenous medical trainees in their faculties.

Potential Impact/Lessons Learned: The development of this framework has the potential to increase medical schools ability to be socially accountable to the Indigenous populations within their areas of service.

References

An Abbreviated Observer Rating Scale for Teamwork Competencies in Interprofessional Education

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Problem Statement: There is a lack of validated and feasible observer rating scales to assess students and the effectiveness of interprofessional education curricula

Rationale: Many accreditation bodies include IPE as a training requirement. Validated tools are needed to provide feedback and assess curricula. Faculty are often limited to 30 minutes or less to observe and provide feedback to students in teams. Of two existing observer rating scales, the Teamwork Mini-Clinical Evaluation Exercise applies only to medicine and requires multiple observations. The Communication And Teamwork Scale is lengthy with 18 items. The 7-item Modified McMaster-Ottawa scale was developed for the Team Objective Structured Clinical Encounter (TOSCE) to assess both individual and team. It addresses 6 competencies of communication, collaboration, understanding roles and responsibilities, patient-centered approach, conflict management and team functioning. We aimed to improve scale usability by reducing the number of items while maintaining reliability. A secondary aim was to determine the minimum number of observed stations/cases required to achieve modest generalizability.

Methods: We administered a 2-station TOSCE to 63 students split into 16 newly-formed student teams, each consisting of four professions. The two stations were of similar difficulty. Each team was instructed to conduct an interview of the standardized patient and to develop an assessment to present to a preceptor. The encounter included 5 minute pre- and post-encounter huddles with a patient interview of 20 minutes. Sixteen faculty raters were trained using a standardized video demonstrating the 3 levels of team behaviors, to rate two teams each. We examined individual and team performance scores using generalizability (G) theory and principal component analysis (PCA). For the G-study, we examined the proportion of variance in student scores attributable to an item and the interaction between person and item to determine the number of items necessary to ensure adequate generalizability of scores. Student TOSCE performance scores were deconstructed into person (p) variation, or variation based on differences in trainee ability, and error variation attributable to differences between station (s), and item (i) as well as the interaction between person and station (ps) and person and item (pi). We considered values between .70 and. 80 acceptable levels of reliability. Based on findings of the G-study, we then conducted a principal components analysis (PCA), using SPSS, to determine what items, if any, would be good candidates for removal from the scale.

Results: Differences between individual student and team average station scores within each faculty rater pair were not significant. Therefore we constructed student and team scores based on the average of the two faculty raters in each station. over 70% of the total variance in student performance scores for the 7 items was attributable to systematic differences between students. Only 2% of variation in student scores were attributable to station (0.01625), indicating similar levels of difficulty between the two stations. Less than 2% of variation in student scores was attributable to item (0.01428), indicating no item on the scale was more or less difficult than another. Reducing scale items for individual student scores from 7 to 4 (measuring competencies of communication, collaboration, patient/family-centeredness and conflict management) changed scale reliability from .74 to .73. The abbreviated scale shows modest generalizability (.73) with individual student scores from two stations. Analysis of team scores, however, revealed low reliability, or generalizability, whether the scale consisted of 4 items (.53) or 7 items (.55). Trainees in newly-formed teams scored significantly higher for the second patient encounter. Students with self-reported prior IPE experience performed significantly better than those with none.

Potential Impact or Lessons Learned: The 7-item Modified McMaster-Ottawa scale can be reduced to 4 items, retaining reliability and validity. Reliable ratings are obtained from two team patient encounters. The 4-item scale can assess and detect differences in student team behaviors. It should be field-tested in clinical settings.

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Junior Clinical Skills Formative OSCE

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Idea/Problem Statement: Directly observing student's clinical skills and offering immediate feedback improves clinical skills and identifies at-risk students.

Rationale/Need: Medical students on clinical rotations often lack direct observation of their history taking, physical exam, patient-physician interaction, and note writing skills. The USMLE CS2 Exam assesses clinical skills of data gathering and also written communication through a post-encounter note. In 2012 the note format for the USMLE CS2 Exam included assessing diagnostic reasoning through justification of top three diagnoses. Many schools have implemented OSCEs which are similar to the USMLE CS2 exam as part of graduation competency assessments. While OSCEs provide feedback in the form of skill scores and typically written feedback, it is often delayed, which does not allow for a dialogue that addresses the students' questions on how to improve their skills. The Junior Clinical Skills Formative OSCE was developed to provide formative feedback on clinical skills, including clinical reasoning through note writing and case discussion, and to prepare students for their senior clinical skills exams. This Formative OSCE offers immediate peer and faculty feedback in an encouraging and supportive environment. Direct observation identifies at-risk students who are then offered additional assistance in improving their clinical skills.

Methods: Prior to the OSCE, students establish three strengths and three realistic, attainable goals to improve their clinical skills along with action plans to help them reach these goals and complete a clinical reasoning worksheet on one of the presenting symptoms. On the day of the OSCE groups of three students are placed with a faculty facilitator and each student's strengths and goals are reviewed. Each student performs a fifteen minute standardized patient encounter while the other two students and facilitator observe and evaluate their performance. All three students are given ten minutes to write a patient note utilizing the USMLE Step 2 CS note format. The student who performed the encounter then receives feedback from their peers and faculty facilitator. The student who was assigned the clinical reasoning worksheet on that particular symptom facilitates a discussion of the case. Each student facilitates the clinical reasoning for a different case from the standardized patient case they perform. Post encounter notes are reviewed. The OSCE is completed with the students reevaluating their goals for further improvement.

Evaluation Plan: It is difficult to assess direct outcomes of this OSCE, as many factors can influence students' performance on clinical skills exams, including remediation, the variety of clinic experiences, and students' efforts to prepare for exams. At Loma Linda, senior clinical skills exam scores have trended upward and there have been fewer failures on Step 2 CS since initiating this OSCE in 2014.

Potential Impact/Lessons Learned: Students found the supportive, active learning environment conducive to learning and valued the immediate feedback from peers and facilitators. Attention to note writing and clinical reasoning gave students practice. Areas for improvement were addressed and at-risk students were identified by direct observation of their skills.

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Neurology Clerkship Students' Perceptions of Assessment for Learning Using Frequent Mini-CEXs

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Idea/Problem Statement: Direct observation assessments that provide both formative feedback and data for summative clinical competency decisions can be difficult to achieve.

Rationale: The mini-clinical evaluation exercise (mini-CEX) is a widely used and studied tool of direct observation assessment that provides opportunities for feedback. Our Neurology clerkship introduced a new direct observation system with frequent mini-CEXs to jumpstart more opportunities for student learning and to improve our assessment program. However, students may express resistance to assessments for learning with any summative impact as they may perceive the assessments as purely a series of summative evaluations. The mini-CEX and other workplace based assessments are perceived as "tick box" exercises for many trainees instead of assessments for learning[1], and assessment activities support or inhibit learning based on how they are perceived by the individual learner[2]. We explored how frequent low stakes mini-CEXs affect student perceptions of learning and sought to understand student perceptions of these assessments supporting their end of rotation clinical performance evaluations.

Methods: The study was conducted at Dartmouth Hitchcock Medical Center after a major reorganization of the clerkship direct observation assessment system. Nineteen neurology attendings and two chief residents were oriented to the mini-CEX assessment for learning system with the clerkship director (JM) within one month of an opportunity to do a mini-CEX. Students were oriented to the system as part of their clerkship orientation session with JM that emphasized the value of learner self-assessment and receptivity of mini-CEX feedback. This qualitative study used a purposeful sampling strategy of focus groups with third and fourth year medical students who just completed their four week neurology clerkship at one of three sites. This study was given exemption status by the onsite IRB. All eleven students chose to participate. The majority of students completed eight mini CEXs, two students completed seven, and one student completed four. The focus group moderator (GHS) had knowledge of the clerkship but was not involved in student evaluation. Semi-structured interview questions were created based on work in the areas of workplace clinical assessment for learning, performance feedback, and clinical competency. Investigator triangulation was used with interpretation comparisons among JM and MF that included independent content analysis. The emerging themes were discussed and reviewed with GHS and final theme consensus was reached. Data saturation was achieved after the second focus group.

Results: Three major themes arose from the focus groups: perceived effects of frequent mini-CEXs on clerkship student learning, consistent effective faculty feedback and engagement to maximize perception of mini-CEX assessments for learning, and support for summative impact of frequent, mainly formative, low stakes mini-CEXs. Students perceived that frequent mini-CEXs facilitated a more comfortable assessment environment for learning and avoided assessment anxiety. Students described a process of deliberate practice that took advantage of multiple assessment moments as authentic learning moments3. Students endorsed that the mini-CEXs were most valuable for improving their neurological exam skills. However, students also perceived that inconsistent assessor engagement and feedback effectiveness can limit the mini-CEX assessment for learning process. Although the students did perceive the mini-CEXs as primarily for their learning, they were also accepting of the assessments having minimal summative impact as part of their mini-CEX file supporting their end of rotation global performance evaluations. This is in contrast to other studies in the clinical workplace where perception of summative impact of the mini-CEX prevailed.

Potential Impact/Lessons Learned: Frequent mini-CEXs can be assessments for student learning while having summative impact. These findings have supported our shift towards an assessment program for learning that promotes frequent direct observation and feedback, while also improving the trustworthiness of summative decisions.

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An Exploration of Study Methods and Exam Score Expectation and Satisfaction at a Single Institution

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Idea/Problem Statement: To determine medical students' study methods and examine relationships between preferred study methods and exam score expectation and satisfaction.

Rationale: Medical students face the challenge of performing well on high-stakes, competitive exams. A recent survey assessing preferred learning modalities revealed that medical students considered lecture notes as one of the most valuable sources of study material.1 However, a growing body of evidence indicates that students who study by using practice questions and digital flashcards (i.e., self-retrieval tools or Memorization Aid Programs (MAPs)) perform better on exams compared to those who use study methods without such tools.2, 3 Given the increasing diversity of available study methods, understanding which study modalities tend to support students' learning is essential. We aim to contribute to this understanding by addressing the following research questions: What are preferred study modalities among a group of first-year medical students? What relationships exist between study method and exam score expectation and satisfaction?

Methods: Study Sample and Design. After their second block exam, 186 first-year medical students at the Keck School of Medicine of USC were invited to complete a Qualtrics survey that served as one of this IRB-approved study's data collection tools. 109 students voluntarily responded (55% response rate). A post-only study design was used. Tools and Procedures. The survey consisted of multiple choice and free response questions. Study method options included: attending live lectures, webcasting lectures, reading lecture Powerpoint slides & handouts, personal notes, textbooks, memorization aid programs, test preparation sources, online references, and online videos. Respondents reported weekly study method use via a 5-point Likert scale (1=never, 5=regularly). Expected exam score was reported on a seven-point ordinal scale (1=less than 70%, 6=95-100%; 5% interval) and exam satisfaction on a 5-point Likert scale (1=very dissatisfied, 5=very satisfied). Analysis. Descriptive analyses were conducted to determine data distribution. To allow for appropriate non-parametric testing and to determine associations between study method and exam satisfaction via the Chi-square test, scales were recoded to have three anchors each (study method: used, sometimes used, and did not use; satisfaction: satisfied, neutral, and dissatisfied). Expected exam performance was not re-coded; Kruskal-Wallis tests were conducted to determine whether study methods were associated with expected exam performance

Results: The majority of students reported reading lecture Powerpoint slides & handouts (n=105; 88.3%), attending live lectures (n=73; 61.4%), using personal notes (n=72; 60.5%), and using memorization aid programs (n=61; 51.3%) often or regularly. Textbooks (n=6; 5%), test preparation sources (n=11; 9.3%), and online videos (n=25; 21%) were rarely or never used. Exam score satisfaction trended positively and most students were satisfied with their exam performance: very dissatisfied (n=2; 1.7%), dissatisfied (n=13, 10.9%), neutral (n=25; 21%), satisfied (n=42; 35.3%), very satisfied (n=29; 24.4%), with the median ranking of "satisfied". All students surveyed (n=109; 100%) expected to score greater than the 70% passing score (median and mode: 80-84%). Chi-square and Kruskal-Wallis results were not statistically significant. Statistically significant, albeit weak, correlations between exam satisfaction and use of notes ($r=-0.22$, $p<0.05$) as well as online videos ($r=-0.26$, $p<0.01$) were observed. Significant correlations between study methods were also observed. Consider, for example, use of personal notes and attending live lectures ($r=0.25$, $p<0.01$); use of MAPs and webcasting lectures ($r=0.19$; $p<0.05$); use of textbooks and test prep materials ($r=0.32$; $p<0.01$).

Potential Impact/Lessons Learned: Students use varied study methods. Some methods are used in combination more than others. Relationships between study methods and focal outcomes remain undetermined. A larger sample and control of covariates (e.g., learning style, gender, Memorang use, etc.) will be explored in future analyses.

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I Earned it! Using Digital Badging to Mark Milestones in a Medical Student's Journey to Residency

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Idea/Problem Statement: We plan to develop assessments for each core entrustable act for residency and award electronic badges to students as milestones are accomplished.

Rationale/Need:): Traditionally the primary method of assessment in medical school has been multiple choice examinations. Multiple choice examinations can clearly demonstrate acquisition of medical knowledge. More modern curricula has recognized that caring for patients involves other skills in addition to medical knowledge. The addition of small groups and early clinical exposure allows for a more comprehensive evaluation of students to determine if they have the skills necessary to be a successful physician. To help medical schools define the skills needed for a residency, the AAMC has published the Core Entrustable Professional Activities required for residency preparation. 1 This provides a framework of assessment of competency for medical students .2 Each school must decide what milestones must be met to achieve these competencies before graduation.3 Medical educators are being increasingly called upon to provide evidence that students have obtained the necessary skills to enter the profession. In order to mark these milestones the use of digital credentials, also known as badges, are one way that universities can effectively track the acquisition of competencies and proficiencies.

Methods: Digital credentials will be effective in supporting medical education to track the Core Entrustable Professional Activities for Entering Residency as defined by the Associate of American Medical Colleges (AAMC). By creating a hierarchy of badges for each EPA and supporting activities, faculty, administrators, and students can easily track learner progress, identify deficiencies, and maintain supporting evidence of achievements. Embedded into each credential is the requisite criteria, thus clearly creating and conveying the associated learning objectives. Built on an open source platform, digital credentials also have the ability to be integrated with important educational applications including learning management systems, electronic portfolios, and custom designed software solutions, as well as shared across social-media websites. Digital credentialing software can also provide robust reporting allowing for the collection of metadata which can be used to examine learner behavior and trends across individual students, class cohorts, and longitudinal studies. A workgroup of invested medical educators at all levels of training will be formed to help determine milestones that need to be achieved to acquire the digital credentials.

Evaluation Plan: Currently students are surveyed in the M4 year with the AAMC graduation questionnaire. Our plan is that at the end of 2016 we will add our own survey to the requirements. Based on EPA skills we will have our soon to be graduates fill out a comfort/confidence survey of those skills. After the milestone curriculum is defined with badging we will compare results of our student pre and post implementation. We will also use data from our Residency Program Director survey. We currently ask the program directors about how prepared our graduates are in the areas of knowledge of basic science, problem solving, diagnostic skills, procedural skills, oral and written communication, ethics, interpersonal relations and professionalism. We will track the answers to these questions pre and post implementation of this new curriculum as well.

Potential Impact/Lessons Learned: The benefit of digital badging is that we will have evidence that our students have acquired the skill needed to be successful. It will allow each student to acquire skills at their own pace, and help us standardize our curriculum in the environment of varied clinical opportunities.

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Introduction and evaluation of a Consultant led formative OSCE in a Child Health Setting

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Idea/Problem Statement: To facilitate a consultant led formative OSCE for students, providing constructive feedback aimed at improving performance in summative assessments.

Rationale/Need: During undergraduate medical education in the UK, exposure to Paediatrics is usually limited to Specialty Attachments/Clerkships in the final years of study, and then it can be restricted to only 5-6 weeks.[1] Equally, students' exposure to OSCEs involving paediatrics is even more limited. This is likely due to the difficulties involved in getting patients and/or organizing simulations[2,3]. Even taking this into consideration, students will still be expected to perform satisfactorily in a paediatrics themed OSCE. Formative assessments can be used as powerful drivers for learning. They provide a dynamic real time interaction between the learner and the examiner when done on non simulated patients. Set in the social constructivist domain formative assessments give effective feedback to students to improve their skills.

Methods: The formative OSCE involves 70 third/final year undergraduate medical students as they undertake the Child Health Specialty Attachment as part of the 4-year graduate-entry medicine course at Swansea University. The students are informed of the OSCE during the attachment induction on the first day and it is pre-scheduled for their 5th and final week of the attachment. During the induction, the students are informed of what could be asked of them to enable them to practice and prepare. The OSCE is facilitated by a consultant and happens either on the Paediatric ward or the admissions unit at Morriston hospital. What the OSCE actually contains is up to the facilitating consultant and the availability of suitable patients. Following completion of the OSCE, feedback is given, highlighting both areas of strength and areas where improvement can be made. Students are also asked for their views on their performance and also any other questions they may have. Feedback is provided with specific areas of improvement if needed and resources are provided to focus on specific learning needs.

Evaluation Plan: Once students have completed the formative OSCE they are sent a link to an online questionnaire enabling them to provide anonymous feedback. The questionnaire has been specifically constructed for this OSCE and includes questions on how the students felt prior to, and following the OSCE. The feedback was then collated and analysed identifying trends and areas of improvement.

Potential Impact/Lessons Learned: Survey results have shown providing this formative assessment experience to students, they feel more prepared and confident before and during their OSCEs.

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Focus Four Goalsheet: a Roadmap for Success (Cool Idea: work in progress with partial results)

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Idea/Problem Statement: Goalsetting is increasingly important for medical students to support self-awareness and learning, yet personal development goals are not being met.

Rationale: Create an educational strategy making goalsetting easy, adaptable, effective, and readily shareable in time-constrained clinical environments.

Methods: At University of Colorado Anschutz School of Medicine, we developed and piloted the Focus Four (F4) goalsetting methodology. F4 was designed to help trainees establish specific personal goals in four domains: Advising/Networking, History-Taking/Communication, Physical Exam/Clinical Reasoning, and Additional Skills. During orientation to the internal medicine clerkship, a faculty member trained in goalsetting meets with the third year medical students, providing them a succinct background on goalsetting and review of deliberate practice. We present F4 and use the iSMART rubric as a framework for creating specific, measurable, attainable, realistic, and timely goals. Students are given 10 minutes to draft goals within the domains of F4. Because we emphasize quality, achievability, and relevance, goals are not required in all domains. Students create, on average, four goals, which are then reviewed and refined in real-time by the facilitating faculty member. Students ultimately define two personal goals to focus on during the ensuing clerkship block.Students are encouraged to communicate their goals to their entire teaching team. To ensure line-of-sight, we send an email to the attending physician with each student's two goals. Currently, we use the F4 in hard copy form, asking students to carry their goal sheets in their white coat pocket, and encouraging attendings to dialog with them. When a goal is accomplished (ie, basic proficiency achieved), the student creates a new goal

Results: We have a control group who do not receive F4 and an intervention group who do receive F4. Students randomize into each group depending on which month the student is doing their internal medicine rotation. We are studying F4 through a pre- and post- rotation surveys. The focus of our pre-survey questions has been on whether the student creates goals, communicates their goals to their attending and whether they feel that they achieve the goals that they set. The post-survey follows up on, if they created goals, whether the goals were communicated to their attending and by whom, how they worked on those goals, and whether they achieved their goals. Students who received F4 training reported a greater variety of individuals communicating their goals to their attendings, while those in the non-interventional group either did not communicate their goals or only communicated them directly to their attendings. In addition, a higher proportion of students who received F4 training reported achieving their goals when compared to the non-interventional group (86% versus 57%).

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A Unique model for CME: Incorporating Problem-Based Learning followed by a Lecture in Context

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Idea/Problem Statement: In response to literature idenified gaps in providing more interactive educational opportunities and knowledge assessments we present unique CME.

Rationale: In an attempt to comply with ACCME recommendations we report a unique model of Regional CME that combines the benefits of interactive case-based sessions of problem-based learning (PBL) with follow-up didactic lectures "in context" to the case discussions in order to reinforce objectives from the cases. Pre-meeting and post-meeting testing (1 month later) demonstrated changes in physician behavior which is the mark of an effective CME meeting. This is consistent with evidence-based studies of PBL sessions not seen when traditional didactic lectures (TDLs) alone are utilized as in most CME meetings in the U.S. Specifically, changes in each participant's behavior pre and post testing and their rationales for their responses were tabulated and reported for two challenging cases typically seen in an allergist/immunologist's practice setting. We believe that this is the first time such specific individual's evaluations have been reported (not just group changes) from a CME meeting..

Methods: The Eastern Allergy Conference (EAC) reports a 2 year experience (2011-2012) with a unique model of CME that combines the benefits of interactive case-based sessions utilizing problem-based learning (PBL) with follow-up didactic lectures "in context" to the case discussions in order to reinforce objectives from the cases.Pre- and post-meeting testing and satisfaction surveys were completed by participants. In 2012, a perceived self-efficacy method was used to evaluate CME PBL. Three additional questions were presented in the perceived self-efficacy evaluation format and used in the 2012 EAC meeting. Measures of self-efficacy have been demonstrated to predict performance and measures of perceived self-efficacy collected before and after participation in an educational intervention designed are useful in assessing the impact of these interventions on the future performance of the learners.In 2012, we used perceived self-efficacy questions as a method of evaluating educational outcomes. Finally, in addition to pre/post-knowledge and behavior change assessment, conference participants were asked to complete a participant satisfaction survey, comprised of 3 evaluative statements. Pre- and post-assessments were used to evaluate changes in participant response. Assessments were identical and administered immediately before and after completion of the PBL case and the didactic sessions.

Results: Pre-and post-meeting testing (1 month later) demonstrated significant outcomes. One impoprtant outcome was 87% percent of surveyed physicians answered they were more confident and had more knowledge after reviewing the PBL case studies. Itemized scores for the pre-/post-confidence questions are presented in Table 8. One month after the PBL and lectures, significantly more physicians responded to these self-efficacy questions, indicating that*. Itemized comfort scores increased significantly on all items post-PBL. Increased comfort was observed 87% of the time in at least one of the answered questions.

Potential Impact/Lessons Learned: We believe that this data supports that future CME may move toward this unique model of a "mixed" or "blended" format due to its real world appeal and its ability to change physician behavior and provide improved self-efficacy. PBL format "engages" and facilitates interchange with peers.

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Improving Senior Residents' Presentation Design and Public Speaking Skills through Peer Feedback

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Idea/Problem Statement: An interactive workshop followed by longitudinal, peer feedback will be used to enhance resident presentation design and public speaking skills.

Rationale/Need: Educating millennial learners has pushed medical education to explore and adopt new teaching strategies, such as the flipped classroom or the TED Talk. One recent publication called for the use of short, lightning-style presentations interleaved into a standard resident conference day. This article noted that Emergency Medicine as a specialty is moving away from serial, hour-long lectures, both during weekly resident didactics and at yearly national conferences (1). As these shorter, formal presentations become commonplace, it will be important for residents to master the skills needed to deliver an impactful, short presentation. Despite this, a recent needs assessment noted that while 60% of residency programs have a formal Resident-as-Teacher curriculum, the arena of presentation design and delivery is not always a major focus (2). Currently in our program, senior residents are required to give six-minute presentations on select clinical topics during our weekly, hospital-wide "Emergency Stabilization and Critical Care Conference". Faculty members have noted that the quality varies widely, but concede that residents have not been formally taught these skills. Our idea is to develop a workshop in combination with a longitudinal peer feedback system, where residents will critique each other on presentation design and delivery over the course of 9 months. We have selected peer feedback as a model since it as been shown to be effective in enhancing formal presentations (3).

Methods: An hour-long workshop on the basics of short presentation design as well as general public speaking skills will be offered to all senior residents in an Emergency Medicine Residency Program at Hennepin County Medical Center (n=18). After the workshop, a standardized rubric for evaluating presentations will be given to the residents and they will be asked to update a talk they have given previously. They will present the improved version during a one-on-one meeting with the workshop's faculty educator. Following this, each senior resident will give lightning-style presentations on a rotating basis at the hospital-wide "Emergency Stabilization & Critical Care Conference". Peers will rate each talk on presentation design and public speaking skills using the rubric. Immediately after each session, feedback will be provided to the presenter by three of the other senior residents. The workshop's faculty educator will attend all sessions and facilitate the peer review process. After participating in this workshop and then giving and receiving feedback to each other, residents will have evidence of the progression of their presentation design and public speaking skills.

Evaluation Plan: We will record attendance at the workshop and track the number of talks presented by each senior resident (n=18) during the study period, approximately 36 weeks, so that each senior gives 3 presentations—one practice presentation and two formal ones with peer feedback. Residents will complete a survey to assess the quality and usefulness of the workshop and peer assessment system (giving and receiving feedback). During the practice presentations, the educator will assess learning will using the standardized rubric. The same tool will be used in the peer assessment and feedback throughout the study to assess the actual performance and detect any areas of growth in design and/or delivery of lightning-style talks. Finally, we will survey the faculty members who are regular attendees at the conference, using a retrospective pre-post assessment too, and ask them to rate the talks in the months prior to the intervention versus the intervention time frame, using the dimensions in the rubric.

Potential Impact/Lessons Learned: If our peer feedback intervention is effective, it could be model for graduate medical education programs in health care professions, to encourage and enhance resident development of presentation design and public speaking skills.

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Qualitative Analysis of LEND trainee Feedback over a decade: what do they think we need to change?

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Idea/Problem Statement: We want to see how well our interpretation of an interdisciplinary CSHCN curriculum matches with what trainees perceive as gaps in their knowledge

Rationale: The LEND medium term curriculum was originally conceived as a means to intersperse interdisciplinary training in mandated pediatric residency didactic conferences. Since the time of creation of its objectives in 2013 the faculty involved with this project have taken a serious look at how to re-direct resources to move trainees further along the continuum of family-centered care delivery. Trainees have also changed the nature of the conferences delivered and how they were received. Moreover, both the introduction of ACGME competencies and Pediatric Milestones should inform the creation of future iterations of the LEND medium term curriculum. This analysis will give the curriculum creators the information necessary to re-calculate and aim for higher level educational objectives across all domains of ACGME competencies and help guide participants in formulating far-reaching but feasible learning goals.

Methods: After receiving IRB approval for exempt study, qualitative analysis of feedback forms derived from 2006 to 2016 will be reviewed as coders review participants' responses and create themes in relation to the following questions: What are the commitments to act that trainees cite? How do these commitments link to ACGME competencies? What were new areas of knowledge acquired in the presentation? What are future topics recommended by participants? Did the trainee indicate whether the presenter fulfilled the educational objectives set? What recommendations were made for improving presentations? Once a list of top themes are derived, re-reading and confirming inter-rater reliability on coding of themes will take place. Then these findings will be presented to the LEND faculty in a faculty development series for the purpose of re-designing the LEND medium term curriculum and improving the quality of teaching within the LEND medium term curriculum.

Results: Pilot analysis of 2014 feedback forms revealed the following information. 42 surveys were collected over the 3 noon conferences delivered in that year. Residents overwhelmingly endorsed that the presenters fulfilled objectives identified for each conference. Moreover, themes that arose in respondents' commitments to act included changes in history-taking, use of new resources from a different discipline, acquisition of new knowledge elements specific to a different discipline, and desire to use new tools in the care of their patients. We have just embarked on the IRB application to complete a comprehensive analysis of more forms available. We will have more preliminary data available by February 2017.

Potential Impact/Lessons Learned: We will learn how to match content with what learners perceive as their shortcomings in caring for children with special health care needs. We will change the teaching styles of LEND faculty as we explore how trainees determine that educational objectives are being fulfilled by the presenters.

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Statistical Landmark Model for Cranial Landmark Detection

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Idea/Problem Statement: Cranial landmarks can be found manually from CT Images by the surgeon, which is time-consuming, exhaustive, and occasionally inexact.

Rationale: The locations of craniometric landmarks of 3D computed tomography volume are one of the most valuable information for a medical purpose. The locations of craniometric landmarks can be found manually by a surgeon from the 3D rendered volume or 2D sagittal, axial, and coronal slices. The inefficiencies caused in the search for the landmark locations manually raise demand for an automatic localization technique for craniometric landmark points. The overall shape characteristic of the cranium varies from person to person. However, the shape characteristic around the landmark location of each may share some similarities. The proposed method is motivated by the idea that each landmark can be found from the statistical characteristic near the landmark. The proposed method constructs the statistical landmark cube to reflect these general similarities around the landmark point and use the cube to detect the landmark location from any given CT volume.

Methods: We construct statistical landmark cubes for each landmark point, and these landmark cubes are used to detect each landmark location from a given CT volume. So, the proposed method is composed of 2 stages; the first stage is to construct the landmark cube for each landmark point and the second stage is to use the landmark cube to find the landmark location from a given CT volume. For the first stage, we align the CT volumes using Frankfurt horizontal plane and a mid-sagittal plane which are defined by 3 and two cranial landmark points each. Before constructing the statistical cube, reference points for the target landmark were manually chosen by the surgeon from several CT volume sets. The statistical landmark model is constructed by iteratively aligning the cubic volumes around the landmark location extracted from the CT volume sets and calculating weighted statistical probabilities of these CT sets around the reference points. For the second stage, the similarities between the landmark cube and the cubic area centered at each voxel in a given CT volume are calculated. The similarity calculations across all voxels are entirely independent of each other; therefore, each calculation can be performed fully parallel. When the location, where the similarity has the lowest value, is found, the final location is determined after some translations and rotations from the location. The final location has the minimal global similarity with the statistical landmark cube.

Results: To verify the proposed method, we constructed the statistical landmark cubes for 12 landmark points detection - anterior nasal spine, nasion, basion, left and right porions, left and right orbitales, bregma, left and right infraoribital formen, opistion and opisthocranium. We used 10 CT volumes to construct the landmark cube and 20 CT volumes to detect landmark points for testing the proposed method. The distances difference for each landmark between the location found from our method and the reference location manually chosen by the surgeon are calculated to obtain the precision of the proposed method. The average distance error is 0.7mm and the farthest distance between the location found by the proposed method, and the reference location is 1.44mm. Our method shows outstanding precision performance comparing with other landmark location detection methods previously proposed. Similar to the template matching, the similarity function should be defined as a convex function in our method. There may exist the local minima, but the global minimum which is the minimum among local minima should be found in the near of the reference landmark point in the CT volume. The similarity values around the landmark should show convexity. In our experiments, our similarity cost function showed convexity near the global minimum. In other words, the similarity values on each data sets converge to the landmark points and always have the global minimum near the reference location.

Potential Impact/Lessons Learned: Through the experiment, we have seen the proposed method shows the outstanding performance in searching the landmark point. The method would make surgeons efficiently work with

morphological information. We also expect the potential of the proposed method for searching other anatomic landmarks.

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A Shock Workshop for 1st Year Medical Students Using Novel Teaching Methods

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Lewis Katz School of Medicine

Idea/Problem Statement: We developed a workshop to teach the pathophysiology of shock to 1st year medical students.

Rationale: Because of limited clinical context, the concept of "Shock" is a difficult clinical topic for pre-clinical medical students to fully understand. Therefore, we modified a preexisting workshop to make it more engaging for the students. As a preparatory resource for this workshop, we developed a voice over Power Point lecture which incorporated a simulated case based approach to provide a general overview of shock. This presentation added a clinical context for the basic science principles. In addition, a pre-workshop knowledge assessment was developed. In addition, the workshop incorporated both a multi-case simulation experience highlighting cardiogenic, distributive and hemorrhagic shock and a small group faculty led discussion on the pathophysiology of shock.

Methods: One week before the workshop the entire MS I class was provided with resources that outlined the workshop objectives, provided guidelines for the simulation component and a link to the "Overview of Shock" voice over Power Point lecture and pre-workshop knowledge assessment. The knowledge assessment was a 5 question, single best answer exam used to gauge the baseline understanding of this topic. In addition for the simulation faculty, 3 simulation cases were developed which focused on cardiogenic, distributive and hemorrhagic shock. For each case, the teaching points focused on identifying the primary abnormality, reviewing the abnormal vital signs and understanding the effect of the shock state on various hemodynamic parameters. Approximately 35 students were assigned to attend each 2 hour workshop. The workshop was offered 6 times over the course of one week to accommodate the entire MS I class. For each workshop, half of the students (16-18) were brought into the simulation center and divided into 3 groups. In the simulation center each group of students encountered 3 consecutive cases highlighting different shock states. At the conclusion of each brief case, faculty provided focused and consistent debriefing reinforcing predetermined key points. The other half of the students attended a classroom discussion on shock led by a clinical faculty. For the second hour of the workshop, the groups switched.

Results: In 2015 and 2016, all 445 students completed the pre-workshop knowledge assessment. 365 students (82%) completed the post-workshop evaluation. All students reported that the workshop achieved it learning objectives and most (98.6%) reported that the workshop was a valuable learning experience. Most students (96.2%) noted that reviewing the voice over Power Point presentation helped to reinforce their understanding of shock. 98.6% of the students reported that the presentation was an appropriate length and 97.5% (n-364) reported that the presentation was at an appropriate level of difficulty. All students felt that they spent an appropriate amount of time preparing for the workshop. 94.4% of students (n-364) reported that participating in the simulation component of the workshop helped to reinforce their understanding of shock and 96.7% (n-361) noted that the simulation cases were at an appropriate level of difficulty. In addition, all clinical faculty preceptors were rated highly by the students.

Potential Impact/Lessons Learned: The case based voice over Power Point lecture helped to prepare the students for the shock workshop. The workshop was well received and was felt to be a valuable educational experience by the vast majority of students.

References:

An Innovative Workshop to Teach Second Year Medical Students About Respiratory Emergencies

Wald, David

Lewis Katz School of Medicine

Idea/Problem Statement: We developed a respiratory emergencies workshop incorporating self-directed learning and simulation to engage students in the learning process.

Rationale: In recent years in our pre-clerkship curriculum, we sought to make the basic science workshops more clinically relevant. For our MS II respiratory emergencies workshop, we combined a self-directed learning experience and a simulated patient encounter to address this need and further integrate basic science knowledge with clinical concepts. The format of the workshop has allowed us to shift some of the educational responsibility to the students allowing the faculty to serve in the role of facilitator rather than lecturer. In addition, the workshop has allowed the students to participate in peer teaching along with an opportunity to apply clinical reasoning skills when encountering a simulated patient.

Methods: For the self-directed component, we developed 3 cases; -A. asthma, -B. chronic obstructive pulmonary disease, -C. adult respiratory distress syndrome/acute lung injury. Each case includes an H&P and a chest radiograph. One week before the workshop, students were arranged into 6 groups of 5 students each and instructions were distributed. Two groups of students were assigned to the same case (ex. groups 1A, 2A – case A, etc.). Each student group worked together to prepare a brief PowerPoint presentation to help teach their peers about their assigned case. Example; group 1A presents the clinical case presentation, pathophysiology and take home points , group 2A presents the epidemiology, management and additional take home points for their assigned case (case A). Each group also develops 1 board style multiple choice question as part of their presentation. On the day of the workshop, 3 student groups are brought into our simulation center for a simulated encounter with a patient complaining of shortness of breath while the other 3 groups finalize their presentations. Each group of students encounters a simulated patient with a different respiratory condition than they are assigned. After the simulated patient encounter and debriefing, the groups switch. Afterwards, all groups convene in a classroom to give their presentations. Basic science and clinical faculty facilitate the sessions and reemphasize key teaching points at the end of each of the presentations.

Results: One hundred seventy seven students completed post workshop evaluations. All students (n-173) reported that the exercise achieved the learning objectives; the majority (96%, n-177) felt the workshop was a valuable learning experience. Regarding the simulation component, 94.4% (n-177) felt it was a valuable learning experience and 94.9% felt participating in the simulation reinforced their understanding of the case. Many (85.2%, n-176) reported that researching their case was educational. Most (97.1%, n-171) students felt their assigned case was at an appropriate level of difficulty. Most (95.9%, n-172) reported that it took an appropriate amount of time to prepare for the workshop, about two thirds (68.8%, n-176) spent 1 hour preparing for the workshop, 27.8% spent 2 hours preparing. All students (n-167) reported meeting to prepare for the workshop, most (94%) met one time with their group before their assigned session. Most students (98.3%, n-174) report that the length of the PowerPoint presentations was appropriate and 92.1% (n-176) reported that they learned something from the other group's presentations. The majority of students (78.5%, n-172) reported wanting more sessions combining self-directed learning and simulation.

Potential Impact/Lessons Learned: The dual format for this workshop worked well. Students worked together researched their assigned case and had the opportunity to teach their peers. This workshop can be easily implemented; modifications may be needed based on class size, simulation center resources and faculty availability.

References:

Enhancing Teaching and Teamwork on Night Shift

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Idea/Problem Statement: Use of Program Director mentoring and a peer assessment sytem to enhance resident teamwork and learning on night shift rotations in internal medicine.

Rationale/Need: Night Float or night shift rotations are a common tool throughout inpatient medicine to help control duty hours [1]. However, studies of resident perceptions locally and elsewhere have indicated that residents often find night shift lacking in educational value [2]. It is also common for them to feel their work is not being assessed and that they are receing very little direct feedback on their work. Various interventions have been tried to help enhance night shift including the addition of nocteralists in large academic medical centers. However, this is not an option for the small or medium-sized community hospital. Prior to this time, those on night shift have received handovers from the day shift and handed patients back to them in the mornings, receiving feeddback on their patient care only when daytime precepters were present. To enhance the two-week night shift rotation, our idea is to add a peer assessment and twice weekly meetings with the program director to review patient care and charting.

Methods: The target learners for this intervention will be the 18 internal medicine residents in a 300-bed community hospital in Los Angeles. Residents rotate on night rotation for two weeks at a time (26 pairs during each academic year) with one senior resident (PGY2-3) and one junior resident (PGY1). During August 2016 - January 2017 each pair will be provided with peer assessment forms that include the behaviors and milestones that each person should be striving to achieve. They will be instructed to assist each other (as a team) both in caring for patients and in achieving the relevant milestones. Twice a week the program director will meet with the team after they handover their patients to review their patient care, address any content questions, and review/provide feedback on their patient notes. Ryan and Deci noted in self-determination theiry that to promot intrinsic motivation three psychologic needs should be met - competence, autonomy and relatedness. This intervention in intended to add to a greater sense of relatedness to each other and the program director (PD), as well as to a greater sense of competence of the internal medicine residents.

Evaluation Plan: The department will track the number of sessions held and the rate of resident completion of the peer evaluation tools. The progress on the milestones assessed within the night float curriculum will also be tracked throuout the pilot period. At the end of the study period the residents will be asked to complete two tools: 1) senior residents (n=10) will complete a retrospective pre-post assessment on the level of supervision provided, amount of teamwork and the learning achieved in the night shift rotations prior to the intervention verus those completed during the intervention; and 2) all residents (n=18) will complete a brief reflection where they are asked to discuss what they gained from their interaction with the program director during the morining sessions. A third tool, a standard rotation evaluation form will be given to the intervention group as well as the control group, the family medicine residents from the same hospital, where their night shift rotatoin remains unchanged. Both qualitative and quantiative review will be utilized to help determine impact on learners' perceptions, learning and future behaviors.

Potential Impact/Lessons Learned: This pilot, if successful, could provide an inexpensive and feasible model for other GME programs who utlize night float or night shift rotations.

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Advancing Inpatient Medical Education (AIME)

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Idea/Problem Statement: A longitudinal program utilizing a peer mentorship and learning community format to promote faculty teaching during family centered rounds.

Rationale/Need: Family-centered rounds (FCR)--the primary setting for inpatient resident education--have been shown to have benefits for both patients and learners, but may be more time consuming than table rounds. Past surveys of pediatric residents have shown that they appreciate learning at the bedside and feel that bedside teaching is underutilized, but that deficits in faculty knowledge and skill in this area can be detrimental. A needs assessment sent to pediatric hospital medicine faculty at our institution showed that medical education skills in general, and skills associated with conducting FCR in particular, were an area of perceived need for professional development. In addition, the 2015 Department of Pediatrics faculty survey revealed that faculty perceive mentorship to be one of the most significant areas of deficiency in career support at our institution. Inpatient general pediatric patients are currently staffed by attendings from the divisions of general pediatrics and hospital medicine, and opportunities for collaboration between the divisions in faculty development activities related to FCR have been limited to this point. This program would bring faculty members of both divisions together in the creation of peer mentoring communities to promote excellence in education on FCR. Peer mentoring communities have been shown in other settings to be a successful alternative to traditional dyadic mentorship systems.

Methods: The intervention will target pediatric hospital medicine and general pediatric faculty of all levels who attend on the resident-covered inpatient service at a single university-affiliated children's hospital. The participants (n=70) will take a survey with a combination of likert-type items and open-ended questions to assess attitudes and behaviors relating to medical education, with a focus on FCR. Faculty will then participate in a series of four one-hour workshops on educational topics designed to support the program structure, including: peer mentorship and the formation of faculty learning communities; peer observation and evaluation; innovative bedside teaching strategies; and promoting learner autonomy. The workshops will incorporate interactive elements such as brainstorming mentorship community structure and processes, group case-based problem solving, and simulated rounding experiences. The participants will form faculty learning communities based on guidelines suggested in the workshop series. These communities will meet monthly in the first 6 months of the program, then quarterly thereafter, to provide each other with ongoing peer mentorship and education according to a program of their own design. Community members will also provide each other with peer observation and feedback during FCR at least three times during each academic year.

Evaluation Plan: Participant reaction and knowledge change will be evaluated at all stages of the program through surveys consisting of likert-type and open-ended short response items, as well as review of products generated during workshop sessions. Impact on individual faculty teaching behaviors will be evaluated through: peer observation of rounds utilizing a validated written instrument; self-reporting in surveys completed before and after the program, with post surveys incorporating a retrospective pre/post methodology; and review of trainee evaluations of faculty. Effectiveness of the program and its impact on inpatient pediatric faculty as a whole will be assessed by an analysis of the peer evaluation instrument data in aggregate, with a focus on change over time as the educational program progresses. Individual peer evaluations will remain anonymous and will not be used for official yearly faculty evaluations or other high stakes decisions.

Potential Impact/Lessons Learned: Peer mentorship communities can address concerns common to inpatient faculty in any teaching hospital: developing skills in medical education on FCR, addressing the mentorship deficit, and promoting cooperation among multiple divisions whose faculty supervise the same trainees.

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"Ask Me." Physician Confidence and Behaviors in Screening and Caring for Victims of Abuse

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White Memorial Medical Center

Idea/Problem Statement: Intimate Partner Violence is a public health issue. 1 in 3 women and 1 in 4 men are victims[1], yet physicians do not regularly screen for it.[2]

Rationale: The CDC estimates that Intimate Partner Violence and Abuse (IPVA) costs 5-10 billion in health care costs each year.[3] Research has shown that victims of IPVA have higher incidence of substance abuse, mental illness, chronic pain, and STIs. Pregnant woman have higher incidence of prenatal complications including maternal and fetal death. In addition, children who are exposed to abuse among other adverse childhood events have shown higher incidence of heart and liver disease, obesity, and diabetes.[2] The USPSTF recommends that clinicians screen women of childbearing age for IPVA. The American Medical Association recommends that physicians learn how to detect IPVA, know the legal requirements for reporting, and routinely inquire about the possibility of IPVA as part of a patient's medical history. Yet physicians are often not trained in IPVA and do not feel confident screening or counseling their patients.

Methods: This is an evidence-based quality improvement study designed to increase knowledge, confidence and skills in screening, treating, and managing intimate partner violence and abuse (IPVA). The design is a simple pretest and posttest-survey educational intervention study that will measure any changes in knowledge, attitudes, confidence, and behaviors at baseline and at 1-month and 6-month post educational intervention. Baseline: Respondents were asked to complete a survey instrument adapted from Dr. Nicolaidis' "Attitudes Toward Survivors of Intimate Partner Violence." Pretest and Education: After completing the pretest-survey respondents attended a 60-minute interactive education session on IPVA. This educational intervention was created from evidence based findings including statistical reports, dynamics of IPVA, patient barriers to disclosing abuse, clinician screening and assessment tools, legal reporting requirements, and local and national resources. Follow-up: One month after attending the educational session, respondents will be asked to complete the same pretest survey as a posttest survey and again at six months. To measure change, an analysis of responses will be done by comparing baseline survey results with their one-month and six-month posttest results. The use of personally selected ID numbers to match pretests with posttest will ensure confidentiality of responses.

Results: The pretest survey sample consisted of 43 physicians, who exhibited the following profile: 1. Respondents have very minimal past training in IPVA. In this sample, 80% reported having only 1 hour or less of previous IPVA training. But regardless of their lack of preparation, 81% responded that reporting IPVA was part of a provider's responsibility. 2. Respondents are rarely screening for IPVA. The sample reported 85% of respondents screened for IPVA 0-5 times in the past 1 week, 88% reported screening only 6 to 10 times or less in the past 1 month, and 67% reported screening 6 to 10 times or less in the past 6 months. Yet 81% of respondents either agreed or strongly agreed that screening for IPVA should occur at every routine health maintenance visit for women. 3. Most felt very strongly that something should be done for an IPVA victim.Very high percentages agreed or strongly agreed that a physician's responsibility to a patient in an IPVA situation should include: inform that such behavior is not acceptable (86%), and inform that such a relationship is harmful (85%). 4. Yet the vast majority felt very little confidence in actually taking steps to do something. The sample reported feeling not at all or only somewhat confident in: screening (78%) and recognizing red flags (71%); responding effectively to a disclosing patient (83%) and making referral to appropriate agencies (86%); and documenting IPVA in a patient's record (70%).

Potential Impact/Lessons Learned: This study seeks to address perceived barriers in the screening, treatment and management of IPVA, identify potential gaps in the follow up and management of IPVA, and to develop physician leadership and advocacy in IPVA prevention.

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Establishing an evidence-based method to diagnose postpartum depression by Family Practitioners

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White Memorial Medical Center

Idea/Problem Statement: Improve perinatal mental health in the community clinic setting by integrating the Edinburg postnatal depression scale into the postpartum visit

Rationale/Need: Studies have demonstrated the increased need for formal evaluation for postpartum depression. The prevalence of postpartum depression ranges from 30-60% in the community setting, yet only 12-30% of perinatal women get screened (1). Interestingly, in our clinic, 45% of women underwent informal screening for postpartum depression at their initial visit after giving birth. This is turn led to a prevalence of 5%. The latter baseline data calls into question the efficacy and accuracy of current clinic screening protocol for postpartum depression. In a landmark study, Evins showed that in an inner city clinic formal postpartum depression screening, in the form of the Edinburg postnatal scale, resulted in 35% postpartum depression as opposed to 6% with non-formal screening (2). Taking the aforementioned into consideration and taking into account the multitude of other obstacles the mothers in our community may face, including their immigrant status, language barrier, cultural/belief gap with their provider, implementing a reliable screening tool for postpartum depression can be difficult. As such integrating the Edinburg postnatal scale is an attempt to establish a concrete method of screening in such a diverse community like ours and in turn advance the well being of the mother-baby dyad/family.

Methods: This study will serve to evaluate whether formal screening for postpartum depression is needed to truly assess its prevalence in our Family Medicine community clinics. Specifically the intervention will focus on the 21 Family Medicine residents and 3 Family Medicine faculty who follow women in the perinatal, natal, and postnatal period from 12/2015-12/2016. Currently a quarter of the data has been accumulated (Projected N = 86-110, to attain significance). The intervention will include randomizing women who have delivered either vaginally or by cesarean section, breast feeding or not, into either: the "formal screening group" or the "non-formal screening group". The women in the formal screening group will be provided with the Edinburg postnatal scale at the postpartum visit, approximately 4-6 weeks after giving birth. In turn, the women in the non-formal screening group will continue to be screened for postpartum depression using the existing built- in questions for depression in Postpartum Visit template already in place at clinic. Mothers will be randomized by delivery date. Residents and faculty alike will be provided with presentations focusing on prevalence, risk factors, diagnosis, treatment and community resources. In turn, mothers who are deemed having Postpartum depression by such a screening will be referred to specific community resources, depending on severity and acuity of condition, according to provider.

Evaluation Plan: Rates of postpartum depression accumulated through both formal and non-formal screening methods for postnatal depression will be compared. In this manner, the need for formal screening will be assessed for statistical significance. Moreover, the rate of postpartum depression accumulated by the formal screening method (Edinburg scale) will be reassessed and compared to the baseline rate to evaluate our clinic's progress in making a more accurate diagnosis and instilling mother-baby dyad/related family with a positive outcome.

Potential Impact/Lessons Learned: This study will serve to establish formal screening for postpartum depression by primary care providers. By means of having an objective measure, integration of the Edinburg postnatal scale will aid in the making of a medical diagnosis and provide a venue for patient health education.

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Time Efficient Use of Video Recording to Train PCMH Engagement Skills to Residents

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White Memorial Medical Center Family Medicine Residency

Idea/Problem Statement: Residency Faculty will have a time efficient process to teach and observe residents engagement skills.

Rationale/Need: The Patient-Centered Medical Home (PCMH) delivery model is consistent with the "Triple Aim" promoted by the Affordable Care Act. Residencies have acknowledged the need to teach the PCMH practice model yet it has proved challenging due to the lack of curricular/teaching models. WMMC-FMR has developed a PCMH curriculum focusing on didactics, integrated QI, and patient centered skill-building. Located in East Los Angeles, the White Memorial Medical Center Family Medicine Residency (WMMC-FMR) serves a predominantly low income, Latino population. Provider engagement and communication skills such as collaborative decision making are vital to understanding the cultural needs, goals and health-literacy of vulnerable populations. Residents need skills that would facilitate both navigating complex patient visits as well as empowering and engaging patients to participate in their own care planning. Implementing videotaping protocols has been prohibitive due to cost, installation challenges, and faculty and resident time constraints; we feel that we have developed an innovative process to address those challenges. Our implementation of a strength based video evaluation model focuses on positive aspects, working with and resolving issues experienced by the resident, and utilizing positive feedback.

Methods: The learners are 21 family medicine residents (PGY1-PGY3) within the White Memorial Medical Center Family Medicine Residency. Our intervention has the following elements: 1) focus on up-front agenda setting and collaborative visit closing during this round of video recording - one per resident (21 total); 2) each resident will select a clinic visit to record, using an iPod touch on a tripod which is easy to set up and use; 3) appropriate patient consent is requested before recording begins; 4) the resident selects a 10-minute portion of the video to review (focusing either on the beginning or ending of the visit); and 5) resident schedules a 30-minute debriefing session with a trained faculty member. The Patient Centered Observation Form is used for evaluation during the debriefing session. The session uses a strength based video evaluation model focusing on positive aspects, working with and resolving issues experienced by the resident, and utilizing positive feedback. At the end of the session each resident makes a plan for incorporating the feedback into a future visit.

Evaluation Plan: The evaluation focuses on resident two level: resident reaction to the experience and resident skills. The program will utilize a Patient Centered Observation Form to evaluate Resident PCMH skills during each debriefing session. Larry Mauksch, M.Ed of the University of Washington developed and validated the tool. Additionally, we will utilize a qualitative questionnaire to review resident reflections on their experience going through this videotaping and teaching/evaluation process. These results will be used to enhance the next round of videotaping as part of our ongoing evaluation of resident work-place performance.

Potential Impact/Lessons Learned: It is our aim to pilot a process that others could duplicate. We believe that videotaping in a time-effective sustainable manner can enhance resident patient-centered engagement skills and result in a more robust PCMH curriculum.

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Creation of a Pain Clinic to Improve Management of Chronic Opioid Users followed by FM Residents

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Idea/Problem Statement: Improve management of chronic opioid users through a pain management clinic that uses a standardized protocol following safe prescribing guidelines.

Rationale/Need: Patients with chronic pain who use opioid medications on a regular basis present several challenges to primary care physicians (ref 1). Due to the fact that multiple problems are often addressed in a single visit, it can be especially difficult for a physician to address and treat the patient's pain and its associated issues adequately (ref 2). This patient population may be more likely to miss appointments, run out of medications early, seek refills from multiple providers (within or outside of their regular clinic), and be at higher risk for drug misuse or addiction (ref 3). These additional issues may cause residents to feel frustrated or overwhelmed when these patients do present to the office. In our practice, there is currently no policy or protocol in place to aid residents in managing chronic opioid users in a standardized manner. We believe it is possible to help resident become better prepared to manage these patients in a consistent manner that will better serve patients to increase both patient and physician satisfaction.

Methods: A third-year Family Medicine resident will hold a pilot resident-run clinic at our outpatient family health center consisting of 10 thirty-minute sessions across 2 months. The goal will be to see 50 patients determined to be chronic opioid users for non-cancer pain (chronic defined as >3 months.) Each patient will have ICD-9 338.99 assigned to the problem list to form a Pain Management Registry. A policy handout will be provided to the patient and explained to introduce the format. A urine drug test will be performed. Patients will sign a Controlled Substance Patient-Provider Agreement (PPA). Prior records will be reviewed. A thorough social and psychiatric history, pain assessment, and physical exam will be performed. An assessment of opioid misuse will be completed using the Opioid Risk Tool (ORT). A Patient Activity Report (CURES) will be obtained to assess appropriate use of prescriptions. A written treatment plan will state the objectives to determine success. The EMR medications list will be updated with the opioid prescription and all subsequent refills. Referrals will be made to behavioral health and ancillary services as appropriate. An appointment will be made to follow up. A referral process will be created for providers to refer appropriate patients.

Evaluation Plan: A survey will administered pre- and post- visit to each patient to assess level of satisfaction with their care at this visit and compared with prior visits. The physician will aid the patient in reviewing questions if the patient has difficulty comprehending the survey. A summary of number of clinic sessions held, number of patients scheduled, attended, and appointed for follow up will be recorded. Total number of attendees based on morning or afternoon times will be noted. Baseline data including level of pain and and functional activity at initial visit, adverse reactions, and signs of aberrant behaviors will be documented to provide information for subsequent monitoring. The physician will review the outcomes of these pilot sessions to determine what makes for a successful resident-run clinic. Findings will be presented to the residency program and the PGY-3 expected to continue the clinic with the intention to expand it to a resident-wide clinic in the following academic year.

Potential Impact/Lessons Learned: If we want future physicians to advocate for solutions during a national opioid "crisis" involving cost and safety, we need to help residents feel comfortable managing chronic pain patients in their practice. Using standard practices can guide residents to provide safe and appropriate care.

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Engaging PGY2 and PGY3 Internal Medicine Residents in a Hospital Medicine Elective

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Emory Saint Joseph's Hospital, Division of Hospital Medicine

Idea/Problem Statement: To determine if offering a residency elective rotation in Hospital Medicine can increase interest in a career in Hospital Medicine after graduation.

Rationale/Need: There have only been a handful of training programs that currently offer electives in Hospital Medicine. While their curriculums are widely available online, there has been no clear standardization of these curricula, and no literature to date that shows how participation in an elective translates to real life hospital medicine skills and improved interest in the field. Through discussions with junior hospitalists, it became evident that new hospitalists entering the workforce directly from residency are often unfamiliar with billing, coding, and other hospital metrics. They also have limited understanding of the non-clinical role of a hospitalist; a role where the hospitalist is a vital member of the broader hospital community. It is felt that by introducing residents to non-clinical experiences open to hospitalists, their interest in a hospital medicine career will increase. In addition, these residents will be able to gain practical knowledge on billing, coding, and other relevant hospitalist skills. This will help launch new graduates into the work force with a higher level of functioning and understanding of the job of a hospitalist, which would not otherwise be learned through their traditional residency training.

Methods: This elective will be offered to upper level Internal Medicine and Family Medicine residents. CLINICAL TIME: Residents who enroll in the elective will have two weeks of clinical time under the supervision of an attending physician at Emory Saint Joseph's Hospital, a community hospital with academic affiliation. They will be independently managing patients with supervision, and also receive daily feedback regarding management decisions, communication style, and other aspects of care that impact outcomes and patient perceptions. NON-CLINICAL TIME: The remaining time will be non-clinical and will be centered on self-directed learning and participation in various hospital committees and activities. Self-directed learning includes reading assignments and online modules addressing the core curriculum topics: palliative care, nutrition in hospitalized patients, coding basics, and prevention of health care associated infections. Residents will spend time with experts in Clinical Documentation, to see the impact this has on their clinical practice. The resident will also experience a Root Cause Analysis session, and teach two didactic sessions to the physician assistant students present that month. They will also be given the chance to learn how quality improvement is approached and structured at Emory Saint Joseph's Hospital. Committee meeting attendance is required for: Utilization Review, Patient Quality and Safety Meeting, and Pharmacy and Therapeutics Committee.

Evaluation Plan: The primary goal of this rotation is to see if the residents find the rotation educational and to evaluate how it has influenced their decision to enter into a career in hospital medicine. Secondary goals would be to measure if the resident gained any objective knowledge on the subjects addressed as part of the core curriculum. Participating residents will complete an exit survey regarding their attitudes about the elective, which will be conducted in the form of an oral interview following the conclusion of their rotation. This survey will also address if their interest in a career in hospital medicine has increased since taking the elective, and what non-clinical area they may be most likely to pursue in the future. To measure our secondary goal, residents will be asked to complete an on-site pre-test and post-test at the immediate start and end of their rotation, which will be structured as a multiple choice test covering the core curriculum topics.

Potential Impact/Lessons Learned: Our elective hopes to encourage residents to pursue careers in hospital medicine, and ensure they are better prepared to do so. Additionally, this curriculum is easily adaptable at other sites, particularly non-academic centers, allowing them the opportunity to engage in teaching initiatives.

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Using Family Centered Rounds as a Strategy for Pre-Licensure Medical, Nursing and Pharmacy Students

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Keck School of Medicine

Idea/Problem Statement: Using Family Centered Rounds as a Strategy for Pre-Licensure Medical, Nursing and Pharmacy Students in Pediatrics

Rationale/Need: "Interprofessional education occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes. Once students understand how to work interprofessionally, they are ready to enter the workplace as a member of the collaborative practice team. This is a key step in moving health systems from fragmentation to a position of strength."(World Health Organization-WHO,2010). Currently, there are few formalized opportunities in actual patient care settings that fulfill the definition of IPE in the clinical arena. Family-Centered Rounds (FCRs) is an existing clinical practice that offers a promising strategy for students to learn the value of inter-professional collaboration in tandem with the knowledge, skills and attitudes required for planning holistic patient and family centered care. The purpose of this pilot is to determine the impact of a single, inter-professional, actual clinical encounter on the knowledge and attitudes towards IPE among undergraduate medical, nursing and pharmacy students in terms of professional role function and perception of team collaboration. Family Centered Rounds will be used as teaching strategy to meet the educational objective. This pilot would serve to fill the gap in providing a formalized IPE experience in Pediatrics and provide a multidimensional, real time, clinical encounter versus simulated experience, panel discussion or case analysis. Fulfills LCME ED 6.

Methods: Students assigned to their pediatric rotation will be assigned once, together as a team ,to attend/observe FCR. Students will receive the leaning objectives of IPE and structure of FCR prior to the attending the rounds. Faculty will receive information about the purpose and goals of the pilot. The Readiness for Interprofessional Learning Scale (RIPLS) and two open-ended questions will be used to determine the students' responses to the single learning experience. A mixed method research design will be used to measure student attitudes and perceptions of the IPE experience. A paired-sample t test will be used to compare pre-test and posttest scores of student attitudes toward the IPE experience. Qualitative Items: In one or two sentences, please describe the impact of this IPE experience: How has your observation/participation in this IPE changed your understanding of other health disciplines roles? What was the most helpful thing you learned with this IPE?

Evaluation Plan: Students knowledge and attitudes will be evaluated pre- post encounter participating in FCR with RIPLS and two open-ended questions. Funding would be utilized for faculty development, administrative support and statistical analysis.

Potential Impact/Lessons Learned: This pilot will promote IPE contextual learning in "real time" real life" encounters - ready application of knowledge.

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Innovative learning plan for third year medical students to promote self-directed learning

Flora, Monica

Mercy St. Vincent's

Idea/Problem Statement: Using individualized learning plans and self-determination theory to enhance medical students' learning experience within a family medicine clerkship.

Rationale/Need: Medical students rotating through inpatient Family Medicine clerkships in the community hospital setting face unique challenges that may affect their learning. Common challenges include a low patient census, minimal teaching on the service by residents or attending physicians, and limited opportunities to practice history-taking skills. In our family medicine clerkship, over one-third of the medical students surveyed report that the rotation was "not useful", prompting design of an intervention to enhance the learning experience. By combining Individualized learning plans (ILP) with the principles of self-determination theory (SDT), we will focus on learners' three underlying needs: relatedness, autonomy, and competence (1,2). In order to help learners' identify, strategize, and achieve their goals, this model will be complemented by mentorship, one-on-one teaching, and continuous feedback throughout the rotation. We aim to enhance learning, motivation, and learners' engagement in the clerkship experience through building relatedness (through mentoring), autonomy (through use of ILP with weekly tracking), and competence (through case-based sessions and direct observation with feedback in the clinical setting).

Methods: This enhancement will be piloted during the third year family medicine clerkship in a community hospital setting with 10-12 medical students. The intervention was built using self-determination theory to help learners build: a) relatedness that aims to build a learning community through weekly meetings with a mentor, b) autonomy through focus on their individual learning plan and c) competence through use of case reports and direct observation. The intervention will have four elements: 1) use of a student self assessment and knowledge pre-test to help each learner gain understanding of their entry level knowledge and skills; 2) guided development of an individualized learning plan for each learner to reflect on their needs and their personal interests and career priorities; 3) weekly meetings with a mentor to discuss "must see" cases, with each student completing a standard case report form prior to the session and to discuss progress on their learning plans; and 4) periodic clinical shifts with the supervising physician of the intervention directly observe each student with patients, assess their data gathering skills and to guide learning.

Evaluation Plan: Tracking will be used to ensure that all planned activities are incorporated and attendance will be taken at weekly sessions to track student participation. To assess learner reaction to the elements of the intervention a standard end of clerkship form will be used to assess the quality and usefulness of the case-based sessions as well as the usefulness of the one-to-one mentoring. To delve deeper we will also ask students to comment, in a separate reflection, on each of the goals (being part of a learning team, relevance to them of cases and learning plan, confidence in their knowledge, support of the lead clinician in their learning). Student learning will be assessed through review of case reports produced (using a scoring rubric provided to the learners) and through sample direct observations of their interactions with patients (using a mini-cex form). Student practice behavior will be assessed through review (using a rubric) of a sample of student inpatient SOAP notes.

Potential Impact/Lessons Learned: If successful, this intervention could serve as a model for enhancing any inpatient clerkship experience, particularly those in community hospitals.

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Students' opinions on gender medicine in clinical research: Development of a new instrument

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Idea/Problem Statement: An instrument was developed to measure medical students' attitudes and opinions about the integration of gender into preclinical or clinical research.

Rationale: So far, the majority of preclinical and clinical studies excluded one sex or gender from participation or analyses. Until recently, these studies also omitted to mention the sex or gender of their subjects [1]. By this omission preclinical and clinical research was biased. Knowledge of illness and treatment of women or men is negatively affected and outcomes may be harmful for both sexes[2]. However, the scientific community is starting to realize this bias and is starting to stress the importance of the inclusion of both sexes or genders into preclinical or clinical studies [3]. At the Medical University of Innsbruck students learn about the importance of the inclusion of sex and gender into preclinical or clinical studies in lectures about gender medicine. Our aim is to develop an instrument to measure medical students' attitudes about the integration of gender into preclinical or clinical research. In the future this instrument could be used for outcome evaluations of such lectures.

Methods: After conducting a questionnaire study with open ended questions we constructed an instrument with Likert-scaled answer categories. To test the feasibility of this newly constructed questionnaire we handed this new instrument to 336 medical students. In the study sample there were 52% female and 48% male medical students. The average age was Mage = 22 (SDage = 2.32) years. Most of the participants were Austrian (60%). Other students were German (23%), Italian (11%) or Turkish (6%). An exploratory factor analyses (EFA) with principal component analysis, Kaiser's criterion (eigenvalues > 1) and an orthogonal rotation with the varimax method was used to analyze the questionnaire's structure. After obtaining the factor solution for each factor-scale the internal consistencies were calculated to get a measure for the instrument's reliability. Finally gender differences in the opinions and attitudes of the integration of gender into preclinical or clinical research were examined using t-tests for each of the factor-scales and the total score.

Results: The questionnaire consists of 26 items. The Bartlett's test of sphericity was significant ($p < .001$), indicating that the correlations between the variables were overall different from zero. A nonzero determinant indicating that no perfect linear dependencies existed among the items. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.96, indicating a very adequate sample size. The EFA yielded a five factor structure of the questionnaire, whereby explaining 57% of variance. The first scale (Chronbach's $\alpha = .85$; 6 items) covered statements about the validity improvement of medical research by integrating gender into research and the second scale (Chronbach's $\alpha = .81$; 6 items) asked whether the integration of this variable would be appreciated by the scientific community. The third (Chronbach's $\alpha = .79$; 5 items) and forth scale (Chronbach's $\alpha = .77$; 4 items) asked about students' awareness about gender in medical studies and the awareness of the lack thereof, respectively. The fifth scale (Chronbach's $\alpha=.77$; 5 items) consists of general statements about gender medicine. Female medical students had more positive attitudes toward the integration of gender into medical research than did male students (all $ts(334) < -1.99$, $ps < .050$).

Potential Impact/Lessons Learned: This new instrument seems to be a promising measurement for students' attitudes on the integration of gender into preclinical or clinical research. This questionnaire consists of five scales with good reliabilities. In the next step, the validity of the instrument is going to be obtained.

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Creating a "Guide to Clerkships" Handbook Using a Reciprocal Mentoring Approach

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Idea/Problem Statement: To create a fully collaborative handbook regarding third-year core clerkships using a reciprocal mentoring approach between faculty and students.

Rationale/Need: Our medical school is unique in that our students fulfill their clerkships at multiple affiliate sites. Based on feedback from previous years, students have expressed a desire to obtain more information from both the school and upperclassmen regarding what to expect at these different sites and during third year clerkships in general. Many medical school handbooks that are currently in existence are general student handbooks that contain mostly policies and procedures. There are also "unofficial" handbooks that are written solely by students, which tend to be more subjective. By utilizing a reciprocal mentoring approach, we hoped to create a handbook that met the needs of both faculty and students. Reciprocal mentoring is a concept that combines traditional mentoring of students by faculty with reverse mentoring, in which the student serves as a mentor to faculty. This serves an important role in encouraging students to get involved in medical education and learn leadership and communication skills. The reciprocal mentoring approach in creating this handbook allows faculty to serve as mentors and better prepare students who are entering their clerkships, and also allows current clerkship students to write about their experience and serve as mentors to both faculty and future students. Both students and faculty contribute different pieces that we believe will help future students prepare for their clerkship experience.

Methods: We first created an outline for the handbook after brainstorming topics that we wanted to cover. The students and faculty discussed which topics should be included and the tone and vision that we wanted for the handbook. The topics included general information regarding the wards such as rounding and writing notes, as well as more detailed information regarding each of the core clerkships. For each clerkship, we compiled contact information, a weekly schedule, how to present on that rotation, what to wear and bring, grading breakdown, specific site summaries, and both clerkship- and student-recommended resources. In order to write about the different sites for each rotation, we reached out to students who were assigned to different sites and asked them to fill out a survey regarding their experience. The student writers then summarized the responses and incorporated them into the handbook. Throughout the writing process, the students met with faculty to discuss goals and create a plan for meeting with various faculty members and clerkship directors to review and edit the handbook. The final handbook will be distributed to the class during their clerkship orientation week.

Evaluation Plan: To evaluate the effectiveness in preparing students who are entering their clerkships, we will do multiple surveys of the class. We will first distribute surveys asking students about their subjective readiness for clerkships and their stress and anxiety regarding clerkships during the clerkship orientation week. We will then distribute a second survey asking the same questions after distributing the handbook, and a third survey asking the students after their first clerkship has ended. To evaluate the reciprocal mentoring approach in creating this handbook, we will also survey the student writers and faculty involved in the writing and editing process to assess what skills they feel they have learned or strengthened as a result of their work on this project.

Potential Impact/Lessons Learned: Our reciprocal mentoring approach is valuable in creating opportunities for both faculty and students to improve medical education. This project is an example of how reciprocal mentoring can benefit those who are involved and also lead to innovative projects that benefit the student body.

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Transforming Pediatric ICU Opportunities for Fourth Year Medical Students – A Curriculum Innovation

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Idea/Problem Statement: First year physicians frequently report lack of confidence and skill in managing critically-ill pediatric patients.

Rationale: Many U.S. medical schools require critical care experience prior to graduation. However, ICU clerkships may almost exclusively focus on adult critical care medicine as opposed to, or in addition to, the unique aspects of pediatric and neonatal critical care. Research indicates that medical students and first year residents express a discomfort in managing the ill pediatric patient. Furthermore, ICU rotations for fourth year medical students (MS4s) frequently lack structured curricula and rely heavily on presumed "self-directed learning" opportunities for clinical acquisition of skills and knowledge. Innovative solutions are needed to address these knowledge gaps. Simulation centers represent an available resource across academic medical centers to provide targeted learning interventions.

Methods: An optional supplementary curriculum was designed to augment the traditional pediatric and neonatal ICU rotations for MS4s at one medical school. The Pediatric Intensive Care Curriculum for Acquiring Doctoral Expertise (PICC-ADE) program was informed by three conceptual frameworks: i) Kern's Six Step Approach to Curriculum Development; ii) Theory of Deliberate Practice; and iii) use of a Logic Model. During a three week rotation, students participated in their usual clinical rounds and didactic lectures. They also completed five podcast videos reviewing the following topics at their convenience: i) pediatric sepsis; ii) shock; iii) management of septic shock; iv) hemodynamics and vasopressor support; and v) delivering bad news. They were expected to complete these podcasts prior to participating in a two-hour, immersive simulation designed to assess their ability to diagnose and manage severe sepsis. The simulation scenarios were accompanied by immediate de-briefing and feedback, as well as an introduction to basic ICU procedures. Students completed pre and post-surveys assessing their knowledge and attitudes about sepsis and its management.

Results: All MS4s (n = 10) rotating through the UCLA Ronald Reagan Hospital NICU and PICU from 7/1/2015 – 7/1/2016 were invited to participate in this pilot program. Seven students completed the curriculum. An eight question survey was administered. It included five PREP-style assessment questions about septic shock and appropriate management, and three Likert-scale questions assessing comfort level with making a clinical diagnosis of shock, managing pediatric patients, and leading a pediatric code. The survey was given prior to and after completing the PICC-ADE curriculum. Results were compared in aggregate. On average, students answered 43% of the knowledge-based questions correctly prior to the intervention. Post PICC-ADE curriculum completion, students answered 80% of the knowledge questions correctly. Similarly, student comfort level in theoretical ICU situations improved from an average of 44% to 76%.

Potential Impact/Lessons Learned: The PICC-ADE curriculum was valuable to MS4 students completing pediatric ICU rotations and may improve performance on related clerkship exams. Podcasts can be repeatedly accessed. Ideally, first year residents will report more comfort in caring for critically ill pediatric patients.

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Enhancing Medical Student Engagement and Performance in Family Centered Rounds

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CHLA

Idea/Problem Statement: Interactive curriculum for third year medical students to enhance their skills in presenting and engaging patients family centered rounds

Rationale/Need: Family-centered rounds is becoming the primary rounding structure in the pediatric inpatient setting (1). Despite this, medical students get little to no orientation on this rounding structure, which is vastly different from the traditional rounding format. Family-centered rounds are conducted by the presenter, held at the bedside, and focus on engaging the family in shared decision-making, whereas traditional rounds are conducted by a lead clinician and focus on learners presenting their cases and on determining patient care. No studies could be found that focus on teaching this structure to medical students, although descriptions of curricula on family centered care for medical students have been published (2, 3) One study examined student comfort with family-centered rounds and found that students felt unprepared and worried about being skilled enough to present in front of patients/families (1). Faculty don't always feel like they have expertise to teach med student effective techniques for family-centered rounds. What is proposed is an interactive curriculum integrated into the pediatric clerkship so that medical students can gain understanding of the principles and have opportunities for role-play and video-taped practice with feedback.

Methods: The learners will be third year medical students rotating on the Pediatrics inpatient service at Children's Hospital Los Angeles during Jan - May 2017 (n= 35, in groups of 4-6 for 3 weeks each). Students will have three-1 hour sessions dedicated to didactic and practice with family centered rounds during their 3-week pediatric inpatient rotation. The intervention will include as follows: (1) Each session will begin with a recap of the students' prior experiences with family centered rounds (either prior to the beginning of this rotation, or in the previous week on the rotation). (2) There will be a small interactive didactic session involved in each session geared toward specific topics within family centered rounds (Session One - general principles, student role, Session 2- family/nurse engagement, Session Three - concise, contributing to the team). (3) Each session will include role play activities to practice the kills related to the session topic. (4) The students will participate in daily family centered rounds during their pediatric clerkship, during which they will focus on the specific skills practiced in the previous session. Students will receive feedback from their ward teams during this time.

Evaluation Plan: The evaluation of the intervention will look at multiple levels. 1) Participation of all students will be tracked. 2) Reaction: a standard form will be used to allow students to assess each session and the overall intervention for quality and usefulness. 3) Learning: At the end of each session, students will be asked to list three things they learned during the session, and one thing they plan to do differently based on what they learned. These will be tallied across all students to record which elements are most important to them. At the end of the clerkship we will assess student confidence and self-perceived competence using a retrospective pre-post assessment tool. 4) Behavior: Faculty will use a validated tool to assess and provide feedback to each student as he/she participates in a least one family-centered rounds as the presenter. To compare pre and post intervention faculty will begin using the tool for three rotations prior to the intervention as well during the intervention.

Potential Impact/Lessons Learned: If this is successful, it is hoped that this curriculum could become a standardized approach to education of medical students on family centered rounds to improve their presentation and engagement skills in this setting.

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Generating an Interactive Concept Map to Encourage Self-Regulation for Preclinical Learners

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University of Miami Miller School of Medicine

Idea/Problem Statement: Offer students autonomy over the cardiology module using an interactive map that contains hyperlinks to concept-level videos and supplemental content.

Rationale/Need: Literature has suggested the rigid structure of the preclinical curriculum can impede students' growth in the first two years as self-regulated learners. (Lucieer et. al. 2016 & Demirören et. al. 2016) With the goal of fostering an environment for lifelong learning, providing all the tools necessary for completion of the cardiology module with modifications to the formal structure of a traditional course allows students to explore information in the order and pace that potentially best suits their individual needs. (Schmidt et al 2011) By providing them the tools constructed from proprietary lectures and videos, the school can still provide students access to its own content all while providing the students autonomy over their education. The interactive concept map also serves as an organizational tool for academic content that is to be covered during the module. This transition is currently part of a faculty-driven request to convert the cardiology module from traditional lecture format to a flipped classroom model.

Methods: Recently, the University of Miami Miller School of Medicine launched an initiative called 'Cane Academy that fosters deep-learning opportunities by appropriately matching academic technologies into the learning experience. One such intervention is packaging short Khan-style videos with self-assessment questions and supplemental materials. This serves as an alternative content delivery method for faculty to implement into their course. / To begin, every lecture from the previous cardiology module was critiqued. We identified redundancies, which were cataloged and organized into core concepts. After this process, prototype concept maps were generated to help identify an appropriate layout and address how to categorize each major node and sub node. / The concept map was created in Keynote, which allowed for hyperlinks to remain active when exported as a PDF. Using built-in Keynote tools, shapes were created to form the skeleton of the concept map. These tools preserve the interconnectivity of all nodes and sub-nodes in the event of future edits or rearranging. After all of the text was added, hyperlinks to individual videos were added to each content node.

Evaluation Plan: During this implementation, the concept map will be provided solely as an ancillary resource for students. For our evaluation plan, we intend to use an explanatory sequential mixed methods design. First, quantitative data will be collected via a post-module survey that will be conducted at the conclusion of the cardiology module. This will provide information as to how or if students used the interactive concept map. After identifying emerging themes from the survey data, follow-up qualitative data will be collected using focus groups with students. Course performance could also be compared from the students who studied using the concept map vs students who did not. This might provide some insight into whether future iterations of the concept map would improve student performance on exams under potentially fully-autonomous situations.

Potential Impact/Lessons Learned: Implementation of this concept map throughout all preclinical subjects could improve student learning, encourage the use of self-regulated learning strategies, and address curricular overhauls that incorporate blended learning approaches.

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The Medical Learning Environment (MLE) at the David Geffen School of Medicine at UCLA

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Idea/Problem Statement: Determine the most important system issues in the medical learning environment and assess what medical schools can do to optimize the transition.

Rationale: The long-term psychosocial well-being of a physician is important given their higher rates of mental illness, suicide, and chemical dependence. Tools currently in place at David Geffen School of Medicine (DGSOM) to improve students' preparedness for clinical years include problem based learning (PBL), which interweaves the application of knowledge and patient care, as well as, short transitional courses, designed to teach students how to work in multidisciplinary settings. However, students still face similar difficulties to their counterparts, difficulty with adapting and utilizing clinical knowledge, insufficient time for studying and adjusting to the new cultural norms of third year rotations.

Methods: A qualitative study using grounded theory with structured in-depth individual interviews (n=12) with medical students that matriculate at DGSOM (Prime/MSTP/Riverside/CDU/Geffen) who have completed at least one clerkship rotation at an affiliated hospital.

Results: Although there are numerous challenges medical students face during third year clerkships, our findings suggest a lack of clear expectations and clinical evaluation congruency in hindering a productive MLE. Additionally, although medical students perceive flaws within both the MLE and preparation for third year clerkships, there is an overall sense of complacency.

Potential Impact/Lessons Learned: 1)Foster camaraderie within the medical class / 2)Provide adequate personal time for medical students / 3)Increase upperclassmen involvement with third year preparation activities / 4)Provide an understanding on the interdisciplinary roles within the hospital / 5) Provide clear expectations

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Foundational/Applied Clinical Correlates: Real-time integration of curricular components

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Idea/Problem Statement: First and second year medical students will apply foundational knowledge to clinical presentations in a collaborative learning environment.

Rationale/Need: The integration of emerging basic science, clinical medicine and the societal aspects of care is an important goal in medical education1.In order to develop an appreciation of life-long learning in our students, the impact of these three aspects of medicine need to be demonstrated to be critical as well as interwoven2.With this goal in mind, we developed a weekly, longitudinal program termed Foundational/Applied Clinical Correlates beginning in the first week of the curriculum and running through the end of the basic science component. Each session addresses the three goals in the context of the material discussed that week, allowing for the interrelatedness and importance of seemingly disparate topics to be discovered.

Methods: All medical students in the basic science portion of the curriculum participate in this weekly program. There are five different clinical correlates run every week allowing for students in semesters one through five to participate in sessions that coordinate with the content that they have just covered. This activity takes place in our group learning facility which contains tables accommodating eight students each with a total of twelve tables including the infrastructure to allow individual student groups to present to the entire room. Structurally, each faculty-facilitated session includes reading of a contemporary article from the primary literature, basic science, comprehensive care issues, clinical information and clinical skills information. Procedurally, sessions begin with a student-led discussion of the assigned pre-reading. Importantly, the level of complexity of the primary literature increases as students proceed through the curriculum. Students then take turns reading the clinical scenario aloud, noting questions as they proceed. Small groups of students (individual tables of eight) next work through detailed questions associated with the case and after time for investigation, report their findings back to the entire room3.Time is allotted at the end of each session for a wrap up, discussion of key points and resolution of any remaining questions.

Evaluation Plan: The effectiveness of the Foundational/Applied Clinical Correlate sessions will be evaluated by student feedback responses. In particular, the utility of the exercise as a means of generating an appreciation for the relationship between the various aspects included (primary literature, foundational science, clinical skills and societal issues) will be addressed. Faculty facilitators will also be consulted through survey instruments in order to gain their perspective on the effectiveness of this educational methodology.

Potential Impact/Lessons Learned: Foundational/Applied Clinical Correlate sessions will allow medical students to integrate seemingly disparate concepts and may be generally applicable to other medical school curricula as an integrative component.

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Clinical Reasoning: Making the Invisible, Visible

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Idea/Problem Statement: Case-based exercises can be used to teach medical students basic clinical reasoning skills in the second year of medical school.

Rationale/Need: Up to a third of patients have had a close experience with a medical error1 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 inadequate 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 organize their knowledge by organ system, with cardiac knowledge separate from pulmonary knowledge. Students' recall is triggered by questions or contexts related to individual organ systems. In the clinical setting, patients present with symptoms that are not specifically linked to an organ system, making it difficult for students to retrieve their knowledge in a practical manner that leads to appropriately diagnosing a patient.[2] Expert clinicians reach diagnoses by recognizing patterns in symptoms and signs and automatically integrate these clues with their basic science knowledge and clinical data to arrive at a diagnosis. Novices must retrieve their knowledge more systematically, through a series of steps. However, experienced clinicians may find it difficult to explicitly teach clinical reasoning because the process becomes so automatic that it is difficult to explicitly provide steps that are meaningful to students.[3]

Methods: 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 delivered in an organ system-based curriculum. Students are arranged in small groups in our group learning facility with 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 gynecology section of the OB/GYNE block, for example, the first session has cases of a 32-year-old woman with increasing menstrual pain and a 38 year-old woman with irregular menses. For each case, student groups are randomly assigned one of three or four diagnoses (e.g. dysmenorrhea, endometriosis, pelvic inflammatory disease, and genito-pelvic pain/penetration disorder for the case of the 32 year-old woman). 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 then insert a comment for each red section that describes a change that would make that section consistent with their diagnosis. After this activity, the highlighted cases are projected to the rest of the class, and each group justifies both their green and red highlighted sections. Faculty members facilitate an evidence-based discussion if there are disagreements.

Evaluation Plan: The effectiveness of the Clinical Reasoning sessions will initially be evaluated by student feedback responses. In particular, the utility of the exercise as a means of assessing the appropriateness of a given diagnosis to the clinical picture of a patient will be addressed. We also plan a comparison of the assessment section of patient notes that students submit during third year clerkships to determine if the differential diagnoses are better documented after this intervention. Faculty facilitators will also be consulted through survey instruments in order to gain their perspective on the effectiveness of this educational methodology.

Potential Impact/Lessons Learned: This program is designed to teach students explicitly how to integrate their evolving basic science knowledge with history and physical findings in patients in order to arrive at a diagnosis. We hope that this will improve their clinical reasoning in the third year clerkships and beyond.

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The Impact of Health Sciences Mentorship on Underrepresented High School Students

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Keck School of Medicine of USC

Idea/Problem Statement: Does exposure generate interest? The Impact of Direct Health Sciences Mentorship on Historically Underrepresented Minorities in Science & Healthcare.

Rationale/Need: The underrepresentation of minorities in healthcare professions is well-documented. Also well-documented is that minorities are more likely to provide care for underserved communities as compared to professionals from non-underserved backgrounds. Thus, the need for workforce diversity is striking - both in terms of the overall lack of underrepresented minorities in healthcare, and in terms of the importance of such minorities being an essential component of meeting the healthcare needs of the communities they come from. Many programs exist that target young minorities for recruitment into the sciences and health professions. However, one common facet that these programs share is self-selection - students opt in to apply into the program, and are often selected on already existing academic achievement and grades. Programs that place underrepresented minority students into "science intervention" programs regardless of prior achievement seem to be nonexistent. Hence, data on such programs is lacking. Public schools have been successful with a technique referred to as "direct selection" - underachieving students are identified by professional educators and intentionally placed into enrichment programs for which the students would not otherwise self-select. A common implementation of this tactic can be seen in various literacy intervention programs. In these situations, participation does not happen because of prior interest; interest develops as a result of participation.

Methods: We propose the creation of a health sciences mentorship program at a local K-12 public charter school, Renaissance Arts Academy (RenArts). The demographics of RenArts reflect an urban community, where more than half of students identify as a minority. Work will be done with students grades 9-12. The program has three sequential levels of participation. 1. Self-selection via application process (control group) / *Self-selecting participants who choose to apply through an essay-based application process, representative of existing programs. 2. Self-selection without an application process (experimental group) *Self-selecting participants who choose to enter the program only after the barrier of an application has been removed. 3. Self-deselecting participants direct intervention group (experimental group) / *Educational leaders at RenArts will select students based on educational and socioeconomic need and invite them to participate in our proposed program. The program will include on-site (at RenArts) and off-site events (such as at KSOM) and will include lectures, workshops, attendance at various conferences, etc. The majority of the program's events will be incorporated into the student's regular academic school day.

Evaluation Plan: Students will complete pre- and post-program surveys that will measure baseline attitudes toward healthcare, interest in college majors, and likelihood of pursuing a profession in the sciences and/or healthcare, etc. As the students involved graduate high school and enter college, we have the potential to keep collecting data regarding college major, graduation rates, future employment, etc. All participants will keep an ongoing journal detailing expectations and experiences of the program. Participants will be asked to journal about what sparked interest in the program and how that interest has evolved over the course of the program. We are interested in why this interest is invisible in the first place for many students and wish to look into the reasons behind this automatic deselection of students specifically evaluating responses of our third group as compared to the first and second groups.

Potential Impact/Lessons Learned: Recruitment of underrepresented minority students to health science enrichment experiences (exposure) may foster an increase in career interest and long-term improvements in health-care attitudes in those students who would not otherwise have opportunities for such experiences.

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UCLA Geriatrics & DMH Genesis Program Collaborating for Better Mental Health Through Home Visits

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Idea/Problem Statement: To evaluate and treat older adults in their home environment using a multidisciplinary team using up-to-date evidence-based medical interventions.

Rationale/Need: There is compelling evidence that early intervention in mental healthcare can improve outcomes and lower health care costs. One particular model of early intervention - the Genesis Program - has been shown to be effective in improving the physical and mental health of an elderly home-bound population. In this model, a psychiatrist works alongside a nurse, social worker and/or a case manager to identify and treat mental illnesses in the patient's home, while also promoting medical compliance through regular visits. The Genesis program exposes residents and fellows to the older home-bound patients from various cultural backgrounds, and is addressing the need to treat this underserved population by increasing the workforce of psychiatrist going into community psychiatry, especially as our population of older adults booms.

Methods: Through a collaborative effort between the UCLA Geriatric Psychiatry Fellowship and the LA County DMH Genesis Program, a team-based academic and public psychiatry approach is interwoven into community mental health, and vice versa. A variety of academically-informed and clinically driven activities inform this approach. These activities comprise OACTs (older adult consultation team meetings); journal clubs; forensic team meetings; a 6 month rotation for UCLA fellows; field safety training of the fellows; supervision by Dr. Gelberd, MD, an internist for Genesis, and Dr. Espinoza, MD,MPH, a psychiatrist at UCLA; 2.5 hour long seminars with CME value; conferences on Geriatrics; and tele-psychiatry in client homes. From the aforementioned, we are able to bring up-to-date evidence-based treatment to vulnerable older adults, who are often indigent, undocumented and unable to navigate the usual ambulatory healthcare system. We look back, since the inception of the collaboration between UCLA and LA County DMH Genesis program, at the patient demographics, diagnoses, needs, healthcare utilization and outcomes of the patients seen in this program.

Evaluation Plan: There is a difference in approach and intervention for each case based on the clinician's background. Whether he/she has mostly academic or community mental health experiences, the fellow is taught a variety of approaches to caring for the mentally ill using these distinct perspectives. The fellow is put into the role of leader in a many different settings: as a leader of the team going out to the homes and as a leader acting as consultant to clinicians in the community and within the Genesis program to allied health providers. Through regular supervision and mentoring by both a Geriatric Psychiatrist and Geriatrician, the fellow develops the capacity to assume team leadership and to acquire team management skills. Thus, he/she also acts as a mentor to social workers, USC psychiatry residents and other trainees who rotate through the Genesis program on a monthly basis. They also act as teacher, giving a 2.5 hour long seminar on subjects pertaining to the care of the older adults.

Potential Impact/Lessons Learned: The potential impact of this program is principally in two domains: 1) workforce development, increasing community psychiatrists and 2) decreasing the marginalization of the socially isolated mentally ill older adult.

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Needs assessment/intervention for increased benzodiazepines use by Gardena High School students

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Idea/Problem Statement: Perform a needs assessment of Gardena High School (GHS) clinic patients who are using benzodiazepines to design an educational program.

Rationale/Need: In 2000, our department organized a school based clinic at GHS staffed with Family Medicine and Pediatric attending physicians, residents, and medical students. The clinic was implemented in response to an identified need within the school population that has had the majority of its students qualifying for federal assistance with a 40% drop-out rate. The clinic has successfully implement multiple programs including a health education class, various group medical visits, extensive psychological services, Healthy Start Coordinator, and clinical services to help address the multiple social determinants of health these students face. Beginning this academic year, GHS patients have reported/presented with a surge of benzodiazepine use and intoxication requiring urgent to emergent medical evaluation for overdose and negative side effects. In response to this rise in risk taking behavior the GHS healthcare team wants to assess students using benzodiazepines illicitly in an anonymous fashion to develop an educational program as well as clinic resources to reduce the risk and prevent the dangerous use of this illicit drug. We anticipate using the SAMSHA Center for the Application Prevention Technologies (CAPT) Preventing Prescription Drug Misuse May 2016 Guidelines to help guide our educational and/or clinical interventions

Methods: Current evaluation of GHS clinic patients includes yearly self-administered behavioral health intake surveys as well as Health Education Activity Drugs Social Support Sex Suicide (HEADSSS) assessments performed by clinic providers. If a patient admits to alcohol/drug use, the National Institute Drug Abuse Adolescent Screening tool Car Relax Alone Forget Friends Trouble (CRAFFT) screening tool is administered. Beginning October 2016 and ending April 2017, blinded GHS Clinic behavioral health intakes that are positive for benzodiazepine use in addition to their HEADSS and/or CRAFTT surveys will be aggregated. The aggregated data will be analyzed for any potential risk factors, co-occurring disorders and areas of unmet need at the clinical and community level to create an educational and clinical intervention for GHS students and community partners that includes a Spring symposium. We will submit an expedited review to our IRB committee to obtain consent to use the blinded behavioral intake form with their respective HEADSS and/or CRAFFT screening tools to create new educational and/or clinical interventions as well as apply for resources to address the critical issue of adolescent prescription medication misuse and potential lifelong substance use disorders. In addition, we will obtain permission from GHS and/or LAUSD to administer any new surveys and/or educational materials we create and intend to use for educational purposes at the school.

Evaluation Plan: Create and administer a pre and post survey of GHS students that attend the proposed Spring 2017 “Benzodiazepine Education and Harm Reduction Symposium” Create and administer a pre and post survey of GHS community partners that attend the proposed Spring 2017 “Benzodiazepine Education and Harm Reduction Symposium”. Use the pre and post GHS student survey to potentially modify existing GHS SUD screening and clinical intervention for patients that do and do not endorse benzodiazepine use. Use the pre and post survey GHS community partner survey to potentially create new education, harm reduction, and/or grant applications to prevent and reduce the risk of substance use disorders.

Potential Impact/Lessons Learned: The GHS Clinic needs assessment and tailored intervention will help reduce morbidity and misuse of benzodiazepines and help us in applying for funding to study and meet identified areas of unmet need for GHS students/communities suffering from multiple social determinants of health.

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Increasing Diversity in Medicine to Address Health Disparities

Sanchez, Katia

White Memorial Medical Center

Idea/Problem Statement: Addressing health disparities by improving the diversity of those entering health professions via family medicine residency and community partnerships

Rationale/Need: Working as a physician in East LA, I am honored to work with and alongside a very under served community. I am exposed to the needs of this community on a daily basis, and observe that there is a clear need for an increase in physicians that are culturally and linguistically aware. There is a need to increase, help develop, and nurture the future health professionals that will be taking care of these under served communities in the near future. / The project I am working on consists of a diverse and multidisciplinary team composed of resident physicians, educators, and a psychologist which work with students from a local high school. The goal through the collaboration of the resident physicians and high school is to motivate the students to enter health professions. Research shows that individuals which come from under served backgrounds tend to work in similar or the same undeserved communities they are from (Castillo-Page, 2010). Mentorship is needed and is also a goal of the program. By exposing students to individuals that are similar to them and have achieved a goal the same or similar to theirs is a powerful message. In addition, this project improves the resident curriculum by supporting residents to develop leadership skills and participate in community medicine (White, et al, 2014) .

Methods: As mentioned above, need for the project and goals are to increase health professionals which come from diverse and under served communities as well as to enhance resident physician development in their leaderships. The sessions are monthly and consist of didactic and interactive hands-on sessions put on by residents. Every month beginning in October and ending in May, a specific body system is reviewed through resident lectures/interactive sessions. At the end of each session, an assignment developed by the resident leader is developed. The last session is an immersion experience and takes place in the simulation center at the hospital. and. Students experience a labor and delivery case, pediatric case, newborn case, and end of life case (topics will likely vary each year) with residents working with them on each case. A final project is designed in such a way so that students work closely with their resident mentors and present at the community health exposition and teach community members on a specified topic. All of the aforementioned activities are to expose, encourage, and motivate the students for a career as a health professional.

Evaluation Plan: In collaboration with the school, data on each student that participated will be collected and will consist of the following: highest level of education beyond high school, undergraduate institution and field of study, post-graduate work and field of study, track what communities students choose to work in. Comparison with students from nearby and similar high school will be used as a control. As the project continues, the data collected will show how effective such pipeline programs are at addressing the need for diversity in medicine and health disparities. Clearly, this is a long term project however sustainability has been considered. Residents graduate after 3 years however the behavioral medicine director and educators will be the constant thread which allows the project to carry on. Each year one resident heads the project and in their graduation year they transitions the role to the resident that will carry it on.

Potential Impact/Lessons Learned: Increasing the diversity in medicine via community partnerships and addressing health disparities by providing more culturally and linguistically aware health professionals in under served communities.

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A Doctor in Class! Family medicine resident learns how to engage Latino youths' interest in medicine

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Idea/Problem Statement: Family medicine resident will foster the development of interest in medicine among 10th graders in an underserved inner city Latino high school.

Rationale: In 2010 in California, while there were 390 non-Hispanic white MDs per 1000,000 NHW populations, there were only 50 Latino MDs per 100,000 Latino populations. Studies in educational achievement suggest that school environments created through partnerships with community organizations and professionals in specialized fields can help integrate a student's cultural background, nurture caring relationships, encourage curiosity and academic scholarship among students. The students at the target school are 98% Latinos however recent California statewide tests (CAASPP) indicate 18% of students proficient or better in life sciences and 38% for problem solving. The purpose of this study is to observe and evaluate changes in knowledge, beliefs and interest in family medicine among inner city high school students, as a result of, physician – student interaction focused on problem solving, medical cases and mentorship. The observations will provide a framework to engage Latino adolescents.

Methods: A family medicine physician visits a 10th grade high school class as an outside speaker to share his experiences as a doctor, making the path from high school to a career as a healthcare provider clear. The physician will provide 9 interactive classroom presentations on: a. the path to a career in medicine, b. the daily activities of a physician, c. clinical reasoning and hypothesis testing, and d. encouraging student to ask questions, to inquire. A Pre/Post study design, 10-item open-ended survey will first assess students' knowledge of a physician's education path and daily activities. This pre assessment provides a baseline on student's familiarity with family medicine and provides insight into topics of interest to high school students. Following this first rapport building session, the physician will align his classroom presentations and topics for discussion with the PLTW curriculum. Students will be encouraged to tap into their curiosity, to ask questions and engage in discussions.

Results: Preliminary Results: For baseline evaluation, thirty students completed pre-surveys before the introductory session. Students ranged from 14 to 16 years of age. A tally of the responses to assess familiarity with a family medicine physician showed most 67% (20) had never heard of a family medicine doctor, with only 26% (8) reporting that they had and 2 choosing not to answer. The open-ended student responses to questions regarding topics of interest related to the profession of medicine included how to become a doctor, how much do doctors get paid, and if it was a stressful job or boring. Responses related to health topics of interest, responses included wanting to learn more about hormones, weight loss, and the consequences of having sex without a condom. Responses related to what students want the physician to know about them as individuals, ranged widely and included that they didn't like the smell of hospitals, that learning about medicine can be boring or that some liked learning about medicine. Continued Evaluation: The 30 students from the 10th grade class will complete a pre- and post-test questionnaire as part of each interactive session. The questionnaire will mainly be open-ended questions to gauge students' response with respect to changes in knowledge about medical fields and questions for the presenter. An anonymous ID will track individual changes in response between the pre and post-test.

Potential Impact/Lessons Learned: The study will gauge the impact of direct physician engagement early in high school education among Latino adolescents and whether it increases exposure, knowledge and desire to enter healthcare related fields. Potentially, this can study can identify factors to better engage these students.

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Multi-Stakeholder Collaboration to Identify and Reduce Health Inequities

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Idea/Problem Statement: An innovative model by which academic researches collaborate with elected officials and constituencies to reduce health inequities via informed policy

Rationale/Need: Improving health inequities in communities across the United States requires collected efforts of many stakeholders. Elected officials, academic researchers and community members are key stakeholders integral in addressing environmental, social and systematic barriers to improved health outcomes. However, elected officials who represent communities to enact change on their behalf often lack resources to scientifically analyze problems and develop evidence-based solutions. While academic researchers have resources to analyze problems, they rarely involve communities or elected officials and are limited by an inability to legislate or implement recommendations. Therefore, stakeholders often operate in independent siloes, leaving gaps in efforts to effectively address inequities.

Methods: Arizona State University's School for the Science of Health Care Delivery (ASU-SHCD) presents an innovative collaboration to leverage the capabilities of academic researches, elected officials, and community members to improve ecological health inequities. The fundamental goal is to crosswalk efforts of traditionally independent silos of elected officials, communities and academic researchers. Elected officials and communities identify specific health issues and request research to inform policy changes. With a better understanding of community needs and elected officials agenda, academic researchers study the role of social determinants of health to develop evidence-based policy recommendations that shift communities' ecology equity. Qualitative community engaged participatory research will be conducted through the use of both primary and secondary data collection. ASU-SHCD will develop a multi-modality packet of evidence-based research through deliverables including a demographic dashboard, case studies on national best practices, model legislation, issue briefs, evaluation metrics focused on the inclusiveness of health promotion efforts, evaluation of the partnership process and an effectiveness assessment of enacted policy changes. These findings are then presented to policymakers who have committed to utilizing the research to implement evidence-based legislative and budget efforts.

Evaluation Plan: The initial pilot program is with Phoenix's Vice Mayor in a predominantly Latino and low socio-economic municipality. The pilot addresses determinants contributing to the municipality's place-dependent inequities, including a food desert devoid of supermarkets and high pediatric asthma rates attributed to industrial and urban pollutants. ASU-SHCD researchers will be conducting qualitative research in the affected areas and identify at-risk individuals who experience uncontrolled asthma, barriers faced within the community and accessing timely and affordable health care services, and develop culturally appropriate solutions to meet their needs. Through targeted interventions to improve individual outcomes, evidence will be developed to show the effectiveness for high-value health care services at the community level. This evidence can then be utilized by elected officials to drive forward policy changes.

Potential Impact/Lessons Learned: This reproducible and scalable model represents a significant change from current paradigms of community work conducted in silos, to one characterized by long-term, collective impact. This represents a shift in relationships communities have with elected officials and self-advocacy.

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Curricular Redesign - Combining Faculty and an Instructional Design Team

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Wake Forest School of Medicine

Idea/Problem Statement: Plan for an 18-month integrative pre-clinical curriculum and remaining individualized clinical curriculum fueled by an instructional design team.

Rationale/Need: The field of medical education lacks the evidence that is essential to guiding changes in clinical workforce development including the change in undergraduate medical education (UGME) curriculum from the traditional model proposed by Flexner to one that uniquely suits the health care system of today. Instead, the duration, setting, and organization of UGME curricula are determined by tradition rather than evidence and have not changed much over the past 100 years to meet the changes in pedagogy, health care needs of patients, or society. Nationally, medical schools are reevaluating this approach and progressing towards integration which has included moving hospital clerkships to within the first two years, adding clinical skills curricula early in the academic calendar, and shifting instructional design methods from lecture-based to team-based learning and other pedagogical approaches. Critiques of medical education have emphasized the misalignments surrounding the emphasis on basic science, the attention paid to acute and chronic disease, and the lack of communication and interactive skills as part of training. Critiques have often addressed curriculum at the level of pedagogy, context and content. How medicine is taught and the choice of pedagogy influences the way curriculum is delivered because it not only emphasizes key points by which students take away but also what the teacher does with the students.

Methods: Wake Forest School of Medicine is in the planning stages of curriculum redesign which utilizes faculty decisions to determine the "what to teach" and instructional designer partnership to determine "how to teach it." Our vision for this redesign effort is to teach the future leaders of medicine by educating students in the integration of information through inquiry and active learning experiences which teach the right thing at the right time. Decision making is occurring through bringing together faculty on a regular basis to discuss logistics and calendars, produce detailed mapping, and to work one-on-one with an instructional design team to determine how best to approach material for the learners of today.

Evaluation Plan: Once planned and upon implementation over time, the design will be evaluated by faculty and instructional design team evaluations, student evaluations, and student assessment data pre and post implementation for courses/blocks through quantitative and qualitative data analysis and focus groups. The data will tie into existing course, component, and program review documentation presented to our Undergraduate Medical Education Curriculum Committee (UMECC) for continuous quality improvement (CQI) on an annual basis.

Potential Impact/Lessons Learned: This project will demonstrate to others the process by which curriculum redesign can occur, the impact of an instructional design team working in partnership with faculty to innovate curriculum, and after implementation, the student and faculty outcomes associated with curriculum redesign.

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Novel Approaches to Predictive Modeling for Customizing Educational Activities

Reiter, Jamie

CME Outfitters

Idea/Problem Statement: Utilize a novel method of predictive modeling to inform outcomes, customize education, and target the appropriate audiences.

Rationale/Need: The ultimate goal of medical education is to improve patient outcomes by ensuring healthcare providers are performing according to best practices. Successful education is typically measured by comparing performance pre-activity to post-activity using traditional parametric and nonparametric statistical methods. However, demonstrating improvement does not provide information regarding factors that may have influenced these improvements, or whether particular subgroups outperformed others. By understanding these influences, future educational activities can be designed to ensure the appropriate topics, formats, questions, and audiences are targeted. The medical education industry is starting to appreciate the value in predictive modeling. Linear and logistic regression are among the more widely used methods, but they have some limitations. PredictCME utilizes a form of predictive modeling known as CHAID (chi-square automatic interaction detection). Although frequently used in data mining, CHAID has not been utilized in medical education.

Methods: This presentation will focus on the advantages of PredictCME over linear and logistic regression, and will provide an example of its application to data from a real-world educational activity. PredictCME allows for a visual representation of its results in the form of a decision tree, making interpretation more informative and user-friendly. In addition, it can handle both continuous and categorical data. An example of its value will be presented via a measure of performance. Responses to a behavior question will be entered into the model as the response variable, with variables such as knowledge, number of patients seen, years in practice, and confidence entered as predictors. Output from the model will be presented and discussed, as well as its value for use with other endpoints (e.g., knowledge and confidence).

Evaluation Plan: The utility of this method will be evaluated in the short-, mid-, and long-term. For the immediate short-term, the software used for the program provides an estimate of how well the predictive model fits the data. Adjustments to the model can be made, and new models tested, until an acceptable model fit is achieved. Mid-term evaluation would come in the form of determining feasibility of customizing future educational activities based on results of the PredictCME analysis. This can include considerations of logistics, cost, marketability, and need. For the long-term, after certain predictors have been deemed important for influencing behavior, future activities will be tailored to address the needs of particular types of learners, and activity success will be evaluated. For example, if the model shows that primary care physicians are performing less well than specialists on a particular behavior measure, future activities can be geared toward educating this group.

Potential Impact/Lessons Learned: By understanding how factors such as demographics, experience, format, and confidence influence practice behaviors, educational activities can be tailored to address the needs of different groups of learners. This will help maximize the impact of education, and ultimately patient outcomes.

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Improving Electronic Health Record Training in Medical School

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Idea/Problem Statement: An EHR curriculum designed to equip medical students with the skills needed to utilize health information technology for design and QI projects.

Rationale/Need: Teaching institutions across the country have been implementing Electronic Health Records (EHRs) over the past decade, making it a critical part of medical student education. AAMC reports from 2014-15 show that a majority of surveyed U.S. medical schools (140 of 141) require medical students to use an EHR during their clerkship years. Lecture was the most popular training method reported (35 of 80) and only 2 schools reported reported using simulation, which has been shown to be more effective. Adding an interprofessional framework may further improve students' technological fluency and understanding of real-life workflows. EHRs play an important role in good patient care, but are still widely viewed as cumbersome. Third year medical students are part of a generation of native users who have the opportunity to influence the future development and design of EHRs. With good training, these students will not only gain the ability to operate EHRs intelligently during clerkship years and as future residents and attendings, but will also be able to identify innovative QI projects and provide valuable feedback on how to improve electronic systems. EHRs must be improved with patient care at the heart, and medical students who receive engaging, interprofessional training will be prime candidates for shaping the future of healthcare information technology for the better.

Methods: This intervention would focus on a medical school's class of third-year students. At the beginning of the year, 50% of the class would receive standard EHR training, typically a lecture-based class. The other 50% of the class would work in small groups of pharmacy, nursing, and medical students to work through a patient's hospital course in a simulation environment. This four-hour class will allow them to recreate the real-life workflow of coordinated patient care and observe how information flows through the system to other users. Cerner and Epic both include training environments in their standard environment strategy. Typically, these environments are automatically copied down from the build environment so that no additional resources are needed to maintain them. Classroom instructors will create a virtual patient in the training environment and act as guides during the small group exercise. Rather than lecturing or demonstrating a workflow, their role will be to encourage students to discover the correct steps themselves. After the first year of this curriculum, the now fourth year medical students will become the instructors, creating a self-sufficient system. Their roles will be folded into an elective that teaches them to explore the mechanics of EHR build in the form of a QI project. By giving fourth years the opportunity to train new EHR users and experiment with build, we can position them to be uniquely fluent in healthcare information technology.

Evaluation Plan: A student survey completed immediately after training will assess both cohorts' satisfaction with their training method and assess how ready they feel to use an EHR on clinical rotations. A second survey after their second rotation will assess their comfort level with EHRs to determine if either cohort demonstrated an advantage. Finally, a survey of all fourth year medical students will assess their technological fluency and confidence in analyzing EHR systems for potential QI projects by comparing the students who completed the EHR elective to those who did not.

Potential Impact/Lessons Learned: Implementing a meaningful EHR curriculum for medical students can better prepare young healthcare providers to be effective EHR users and valuable influencers in the development and design of future QI projects and healthcare information systems.

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Doctor of the Day telephone triage and intake assessment and faculty development

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Idea/Problem Statement: Analysis of interfacility patient transfer call recordings will be fedback to improve skills and attitudes of Pediatric Hospitalists.

Rationale/Need: With decreasing inpatient pediatric beds(1) and increasing complexity of hospitalized pediatric patients, increases in the transfer of patients to pediatric centers have occurred. Telephone management, focused primarily on questions from families, is an integral of a traditional pediatric practice. The need for standardized skill development and assessment in telephone triage is recognized in nurses and medical students and residents.(2) In Pediatric Hospital Medicine (PHM), competencies in communication, transitions of care, and transport of ill children have been developed without known published assessment of or faculty development in these competencies. Interfacility patient transfers are activities with high risk to patient safety due to numerous factors, including variable expertise or knowledge of pediatrics by referring providers; reliance on verbal descriptions by referring providers' interpretation of subjective and objective clinical data; changes in illness severity over the transfer course; and absence of formal training or skills assessment in telephone triage knowledge and skills and professional communication behaviors of PHM attendings and fellows. Analysis and assessment of CHLA PHM attending knowledge, skills, and attitudes in managing interfacility transfer requests would provide a needs assessment for new and ongoing attending orientation, feedback, and faculty development and a better understanding of systems-level failures and gaps in patient safety.

Methods: The intervention will focus on 40 PHM attendings in the Division of Hospital Medicine (DHM) at CHLA while serving in the role of "Doctor of the Day" (DoD). In our institution, the DoD is the first physician contact for all ED-to-inpatient and inpatient-to-inpatient transfer requests for all general pediatrics patients. All the transfer requests are routed through the CHLA Access and Transfer Center (AC) and all phone conversations are digitally recorded and archived in a searchable database. Three random recorded phone calls from each of the PHM attendings will be analyzed using an assessment tool and rubric. The tool will include 1) a minimum data set that provides an overarching impression of the illness severity and relevant co-morbid diagnoses to determine the appropriate transport method, inpatient team and nursing unit, and 2) a scale to assess communication behaviors related to task–relationship characteristics(3). These assessments will be aggregated to identify those domains needing the most improvement, leading to the assessment-driven development and delivery of educational content at the division level. Each attending will also receive feedback on his or her assessed phone calls.

Evaluation Plan: Following the first cycle of assessments and educational intervention at both the division and individual levels, a repeat assessment will be performed to evaluate for an improvement in the skills and attitudes as demonstrated through the DoD phone calls. The PHM attendings will be asked to evaluate the faculty development content and individual feedback, related to their individual knowledge, skills, and attitudes in this patient care activity. Lastly, during patient safety and quality case analyses, attendings will be asked to incorporate and determine whether the transfer phone call communication content or approach contributed to the adverse outcome and how improvement may occur via additional educational and/or systems changes.

Potential Impact/Lessons Learned: A standardized communication assessment tool and related educational content for PHM attendings and fellows could be used at other institutions to better understand and improve their transfer processes and systems.

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Highly uncontrolled diabetes: "What I learned from 2 years of outpatient quarterly HbA1C data"

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Idea/Problem Statement: To observe if HbA1C levels decrease with quarterly testing in a subsample of patients with highly uncontrolled diabetes over 2 years.

Rationale: The Centers for Disease Control and Prevention (2016) report that more than 29 million Americans are living with Diabetes with Type 2 diabetes, accounting for 90-95% of all cases. Between 1997 and 2014 the rate of diagnosed diabetes among Mexican-origin Latinos increased from 6.9 to 9.7 per 100. Healthcare providers work tirelessly to reverse the diabetes epidemic and prevent associated complications, such as, retinopathy, nephropathy, neuropathy, and cardiovascular events. One key diagnostic in the management of diabetes is monitoring A1C levels. The development, progression and overall morbidity of diabetes is directly related to HbA1C levels. Quarterly A1C measurements have been recommended by the American Diabetes Association (ADA) and the American Association of Clinical Endocrinologist (AACE) with the goal of bringing A1C levels <7%.This study observed quarterly A1C levels over 2 years in a sub-sample of predominantly Mexican-Latino patients with uncontrolled diabetes (A1C > 9).

Methods: The outpatient charts of 520 adults diagnosed with diabetes mellitus were reviewed. To observe if there was a positive correlation between the frequencies of A1C testing and the lowering of A1C over time, a subsample of 216 highly uncontrolled (A1C > 9) diabetes mellitus patients visiting the outpatient clinic between January 2013 and December 2014 were selected. Several statistical analyses were performed on this subsample of patients. First, descriptive statistics were performed, which included counts, means, medians, and variances. This was followed by a regression analysis performed on the full data set using models where c = # the number of readings. The problem encountered with this model was that c included an average of all A1C values for one patient. To resolve this problem, a repeated measure linear ANOVA mixed model analysis was performed. An ANOVA or analysis of variance is used to analyze the difference among group means, as well as, the variation among and between groups, thus permitting a regression-type analysis to be done where the mean A1C across time would help identify any trends. Thus, for observing A1C levels over 2-year time period of 8 quarters, all measures less than 8 had missing values, which were then handled in the mixed models analysis. The result was that, greater measurement frequency would be correlated with the lowest "time" variable where "time" indicated the change in A1C at increasing time points.

Results: Of the 520 charts reviewed, 216 patients were included in this study (N=216, M=84, F=131). The overall A1C average within this subsample was 11.40. Only one patient had an A1C test done quarterly for the entire 2-year period, thus meeting the American Diabetes Association recommendation of quarterly A1C testing for patients with an A1C level above 7. There was no statistically significant trend or change in A1C values that correlated with frequency in A1C measurements (r=-0.38, t=-5.71). There was a change in the amount of variance in A1C levels in the 8th and 7th quarterly measurement, as compared to the 6th measurement but this variance was not significantly different from the rest. And there was a greater variation in the A1C values of those who had less than 6 quarterly A1C tests done.

Potential Impact/Lessons Learned: Physicians are challenged by the complexities of managing diabetes. Measuring quarterly A1C levels provides only part of the data that is necessary to guide treatment and successfully clinically manage uncontrolled diabetes. Testing alone is not enough to decrease levels in this patient population.

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The Effect of Formative Usage on Summative Grades for Preclinical Medical Students

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Idea/Problem Statement: Does use of a curricular tool such as weekly formative exams result in better student outcomes as measured by summative scores?

Rationale: Tremendous time and effort is invested into developing medical school curriculums and accompanying tools. Furthermore, the proliferation of learning materials outside of the curriculum has opened the possibility that students can succeed without the use of curricular tools. This study investigates whether the use of one such curricular tool, weekly formative exams has a positive result on student outcomes as measured by unit summative scores. Downstate COM employs an integrated competency based curriculum with a number of learning tools including patient orientated problem solving (POPS), problem based learning (PBL), interactive lectures and weekly formative exams. Formative evaluations are nominally mandatory, however there is no minimum score, making them effectively optional. Student use of weekly formatives varies widely in time and effort.

Methods: This study analyzed formative and summative data for 2 classes of preclinical medical students (N=373) at Downstate COM. First data was visualized using histograms, which revealed a bimodal distribution of formative scores. Then students were split into two groups, a group that took formatives as intended and a group that did not (i.e. those who guessed or put in little effort), based on whether a student scored above or below a formative score cutoff point. The first cutoff point was 22% based on the guess rate, the 2nd was 50% based on the bimodal formative score distribution. Mean summative scores were then compared using a 2 sample independent t-test. Furthermore, students were split into quartiles by formative score and the mean summative score of each quartile was compared by one-way ANOVA. Linear regression was also used to examine the correlation between formative and summative scores.

Results: Analysis of the data showed that 72% of students achieved scores of >60% despite formatives being effectively optional, suggesting that most students put in effort when taking weekly formative exams. Students scoring greater than 50% on formatives had significantly higher (P<.001) summative scores (82.2%) than lower scoring students (76.5%). Students in the 4th quartile of formative scores had significantly higher summative scores (P<.001) than students in 1st quartile. There was a weak positive linear correlation (R=.389, R2=.15) between formative score and summative score. The data shows that students taking formatives with effort had significantly higher summative scores than students that did not use effort. However, the positive association between effort on formatives and higher summative scores could be related to test taking ability or studiousness, in addition to the positive effect of formatives.

Potential Impact/Lessons Learned: Conclusions from this analysis can improve formative use. Adding a minimum score to weekly formatives could encourage students to take formatives more seriously and therefore benefit more from their use. Students scoring below the minimum could be obliged to go over the exam with faculty.

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Assessing the Impact of a Near-Peer Taught Structural Competency Curriculum on Medical Students

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Idea/Problem Statement: Survey-based study to assess the effectiveness of a structural competency course on the knowledge, attitudes, and applied skills of medical students

Rationale: There is growing recognition within the academic medical community of the importance of including cultural competency in the training of medical students and physicians. A 2004 study evaluating the training of pharmacy students in cultural competency showed that such courses helped students improve in the areas of cross-cultural communication and diversity awareness.[1] Recently, structural competency has been proposed as an extension of traditional cultural competency, but very little primary literature exists regarding the practical application and evaluation of structural competency in medicine or medical education. With the author's permission, we adapted an existing validated survey to assess changes in structural competency knowledge, attitudes, skills, and awareness in first year medical students after participating in a novel, peer-led, structural competency course. (See Cool Idea: Exploring Causes of the Causes: Novel, Student-Led Structural Competency Curricula at OHSU)

Methods: This study, employing a mixed-method design, surveyed all first year medical students prior to the start of the course using a Structural Competency-adapted version of the previously-validated Clinical Cultural Competency Questionnaire (CCCQ)-Pre. The CCCQ, although originally developed to assess cultural competency of medical professionals, has been adapted and applied to pharmacy students and nursing students in previous studies, and has been shown to have high internal consistency in these populations.[2] The adapted tool, the Clinical Structural Competency Questionnaire (CSCQ)-Pre, was administered to medical students to assess baseline knowledge, attitudes and skills. The original CCCQ utilized a Likert scale, so additional question formats (dichotomous, rank, etc.) were added, as well as questions adapted from the most current structural competency literature. [iii] Students were asked to complete the CSCQ-Post at the end of the course, and once again approximately 8 months later to assess long-term retention. Students were surveyed after the course regarding the near-peer teacher format using a 7-point Likert scale, and also responded to 6 open-ended, qualitative feedback questions regarding the curriculum. A preliminary analysis using descriptive statistics was done with Microsoft Excel. Data will be shared in aggregate to ensure participant anonymity. Future analyses will test the significance of findings. This study was approved by the OHSU IRB.

Results: A total of 135 first year students took the Structural Competency course. The response rates for the pre- and post- surveys were 84 and 76% respectively. Demographics information was collected as part of the CSCQ-Pre, and will be shared in the presentation. Preliminary results indicate increases in self-perceived knowledge in 11/12 subject areas (4-51 percentage points). In particular, the number of respondents that reported themselves as "Quite a bit," and "Very," knowledgeable increased substantially for the subject areas of "Structural Competency," "the ways that 'upstream' decisions impact physicians and patients," and "structural interventions into patients' lives" (51, 49, and 35 percentage points, respectively). With regard to perceived skills, students reported higher levels of comfort in dealing with all eight specific structural issues during patient interactions (6-36 percentage points). Overall, the vast majority of respondents rated their second year group leaders as at least 5/7 on the Likert scale in all seven categories of near-peer feedback (63-98%). From the preliminary coding of the qualitative responses, results indicate that the perceived importance of topics in structural competency is polarizing. Complete data will be presented at the time of presentation to further characterize the magnitude of the change and short-term durability of the knowledge gained by the students.

Potential Impact/Lessons Learned: These results reveal that this entirely student-developed course increased medical students' self-perceived knowledge and skills in applying structural competency. Further analysis will provide the opportunity for data-informed decision-making and future iterations of this innovative curriculum.

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Should I Study for Your Exam, Or the Boards? A novel approach to get the answer.

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Idea/Problem Statement: What is the correlation between student performance on medical school exam questions and their performance on national licensing exams?

Rationale: Many medical school curricula use national licensing board (NLB) exam subjects as a design guide for instruction and summative assessment. This is likely appropriate as studies have shown significant associations between NLB performance and clinical practice outcomes. An important question to ask is how do we know that what we assess during the preclerkship curriculum actually correlate to student NLB performance? More specifically, do certain courses', or certain faculty members' high stakes exam questions have a positive correlation with student NLB performance? What might prove useful is a reliable statistical method to determine whether student performance on course exam items match student performance on NLB exams. Such a method could provide meaningful feedback to faculty and course directors for improved instructional methods and test item design. This, in turn, should optimize student performance on licensing examinations, and ultimately, improve clinical practice.

Methods: We used a combination of readily available commercial software, SharePoint and ExamSoft, to tag all test items at WesternU/COMP with a controlled vocabulary. This vocabulary includes item author, course, and national licensing board (NLB) subject domains. ExamSoft is used for most preclerkship high stakes exams and this assessment software allows us to assign tags, or categories per exam item (e.g., by course, discipline, faculty, etc.). Data by category as well as item performance are joined with NLB performance data, using our in-house developed student advising dashboard, ProgressIQ. As students take the COMLEX USA Level 1 and USMLE Step 1 exam, the data are automatically uploaded into ProgressIQ. Because ProgressIQ joins the data in a format optimal for statistical analysis, evaluation of exam item performance relative to student licensing exam performance is relatively easy to perform. Moreover, item performance analysis may be aggregated by course and originating faculty member. This analysis may allow us to determine whether certain courses as well as individual faculty exam items have strong or weak correlation with the national boards, which could then allow for improvement of the curriculum.

Results: We analyzed the data of exam item performance relative to student performance on national licensing board (NLB) exams for over thirty preclerkship courses, one hundred faculty who submitted exam items for these courses, and two thousand students, spanning ten years of NLB test cycles. Some exam questions associated with specific courses and authored by individual faculty members, while statistically significant, show relatively strong correlation with student NLB performance ($R > 0.69$), modest ($0.50 < R < 0.69$), low ($0.30 < R < 0.49$), and some very little or no correlation ($R < 0.29$). These results create a new and useful perspective on how closely exam items associated with particular courses and faculty members correlate with student NLB performance.

Potential Impact/Lessons Learned: Our study creates a useful perspective on how exam items associated with distinct courses and faculty members correlate with student NLB performance. The challenge remains as how to best use--and not misuse--this information to improve test item writing, and potentially, instructional techniques.

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Improving Feedback in Emergency Medicine Clerkship: A New Model Using First Person Video Recording

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Idea/Problem Statement: Integrating first person video in order to improve the quality of feedback for fourth year medical students in their Emergency Medicine clerkship.

Rationale: While a large meta-analysis identified formal feedback as one of the most significant factors for students' success1, it is difficult to provide such feedback in clinical settings. Due to the fast paced nature of the Emergency Department, opportunities to directly observe medical student patient encounters are limited. One method used to rectify the need for direct observation is recording videos of medical student patient encounters. However, traditional methods for recording these sessions are limited to a single viewpoint and may not capture the full spectrum of verbal and non-verbal skills that students employ while communicating with patients. Previously, first person video (Google Glass) was utilized in encounters with standardized patients and majority of students indicated that the new technology positively influenced their experiences and merits inclusion in clinical education2. We aim to evaluate the quality of feedback students received after viewing the video recordings.

Methods: This retrospective study was conducted at a U.S. medical school. We analyzed the already existing evaluations of fourth year medical students, who completed standardized patient encounters while using Google Glass during their EM clerkships throughout the 2015-2016 academic year. The students performed a full history and physical while the patients recorded the students using Google Glass. The preceptors also recorded students' presentation using Google Glass in the ED. Students completed a standardized and validated self-assessment, which uses a 5-point Likert scale, to evaluate each encounter based on scientific knowledge, patient care, practice-based learning, interpersonal and communication skills, professionalism, and systems-based practice. Students reviewed the recordings with a faculty member, who provided feedback regarding the student's performance. Students completed the self-assessment once again to reassess their perception of their performance. We will compare the students' self-assessments before and after the review session to determine the benefit of reviews augmented by first person video recordings. The primary outcome of the study is the comparison of the medical students' mean scores for the individual questions of the pre-review and post-review questionnaire, using paired T-tests. If the students' self-assessment scores decrease significantly, this may indicate that the review of the recording helped to provide objective and constructive feedback.

Results: There were a total of 45 pre-review and post-review self-assessments completed by the medical students. The mean scores for the pre-review and post-review responses for each evaluation category were calculated: Knowledge (pre-review: 3.4, post-review: 3.4), Patient Care (pre-review: 3.6, post-review: 3.6), Practice-Based Learning (pre-review: 4.0, post-review: 3.9), Interpersonal and Communication Skills (pre-review: 4.1, post-review: 3.9), Professionalism (pre-review: 4.2, post-review: 4.1), and Systems-Based Practice (pre-review: 3.6, post-review: 3.7). From the preliminary analysis, we found a significant difference in the mean scores for the Patient Care subcategory: Observed History and Physical Examination Skills, between the pre-review and post-review self-assessments ($p=.024$). There is a decrease in the self-assessment scores for this Patient Care subcategory. This finding illustrates that the review session and faculty evaluation may have assisted in providing constructive feedback and better understanding of individual history and physical examination skills to the students. There were no other significant differences in the mean scores.

Potential Impact/Lessons Learned: First-person video, executed in actual hospital environments, provided an opportunity for an educator to give insightful feedback to a learner. Students could improve their performances using feedback from this activity, specifically in history taking and physical examination skills.

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Faculty Beliefs About the Importance of ACGME Competencies Versus Ratings of Marginal Learners

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Problem Statement: The purpose of the study was to explore how ratings of relative importance of the ACGME competencies relate to overall judgment of trainees.

Rationale: Evaluation of learner performance is a key element of all training programs within anesthesiology. The task of making high stakes decisions about trainees is most challenging in relation to learners whose performance might be considered on the margin (1). Given consequences / importance of summative decisions, trustworthiness of pass-fail decisions is crucial. Prior research findings suggest that expert judgments are inherently biased with decisions on learner performance susceptible to the impact of individual faculty rater characteristics like performance theories (2). The purpose of the study is to explore how ratings of relative importance of the ACGME competencies relate to overall judgment of a trainee. Our hypothesis is that the raters can often attend to only a few learner characteristics (e.g. knowledge and interpersonal skills) and may judge one to be more important than the other in making an overall judgment of the trainee's performance.

Methods: This study used an exploratory design with 123 faculty volunteers from Departments of Anesthesiology. Each participant rank ordered by importance, the six ACGME competencies; reviewed 4 portfolios of marginal learners (Table 1) using a standardized grading form based on the American Board of Anesthesiology (ABA) graduation form. It included ratings of each competency (scale: 1-9) and a global rating (scale: 1-100). All portfolios had the same overall mean score and the same number of positive, neutral and negative comments. Relative strengths and weaknesses of each learner differed, for example Learner A was stronger in medical knowledge (MK) and problem solving and weaker in self-reflection and use of feedback. A power analysis using G*Power indicated that a total required sample of 54 to detect a medium effect ($f = 0.25$). Independent t-tests were used to assess significance since the data did not meet the assumptions for use of ANOVA.

Results: Results of the rankings of competencies indicated that patient care was ranked most important by a majority of faculty with Professionalism, ICS, and then Medical Knowledge ranked in terms of importance. Significant findings related to two learner portfolios. Results from an independent samples t test indicated that faculty who highly valued the relative importance of medical knowledge ($M = 66.0$, $SD = 8.4$, $N = 75$) ranked the marginal resident #1 (higher medical knowledge, lower in self-assessment and use of feedback) significantly higher than those who valued it relatively less ($M = 61.9$, $SD = 9.3$, $N = 48$), $t(121) = 2.48$, $p < .015$. Faculty who more highly prioritized professionalism scored the resident #3 (higher in technical skills, lower in self-assessment and use of feedback) lower ($M = 61.2$, $SD = 9.7$, $N = 39$) than those who did not ($M = 65.9$, $SD = 8.2$, $N = 84$), $t(121) = -2.76$, $p = .007$. These results illustrate that there is a difference between in how faculty are scoring the portfolios. Qualitative data from interviews with a subset of participants are being analyzed and may help provide more explanation. Both quantitative and qualitative results will be shared at the IME Conference.

Potential Impact or Lessons Learned: It is hoped that two things could result: a) faculty could realize that they should gain a better understanding of how they view areas of competence and b) leaders might develop faculty development to help faculty understand their own potential biases to help enhance evaluations.

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A Mentor-Based Model for Teaching Reflective Practice

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Need for Curriculum: The ability to reflect on one's experiences in order to gain self-awareness and personal insight is an essential skill in all professions. Learning this skill facilitates personal and professional growth and helps to develop emotional intelligence. This is of particular importance for physicians, who encounter challenging situations on a regular basis, and whose reactions to those situations have important implications for the treatment plans they develop and their style of communication.

Learners: Amidst the "high tech", productivity-focused, fast-paced environment of modern medical care, it can be easy to lose sight of the importance of the skill of self-reflection. Even when the importance of developing this skill is recognized, fear that self-reflection may result in feelings of vulnerability, guilt, and/or shame can impede engagement. For residents, whose performance is being continually evaluated, this can feel particularly threatening. Overcoming these barriers requires intentional implementation of a reflective practice curriculum in an environment of mutual respect and in which self-reflection is demonstrated and encouraged by trusted educators and mentors.

Description of curriculum: We designed a 4-year, longitudinal reflective practice curriculum for our OBGYN residents which included 16 topic-based modules that guide residents and their mentors through reflection on their own patient encounters and discussion about these experiences within small groups.

Lessons learned: In the first year of since this curriculum was implemented, residents learned to identify their reactions to healthcare encounters, were more mindful of their and others' personal context, and have developed future plans for coping with similar situations.

Addressing Health Disparities by Empowering Health and Social SystemsThrough A Dynamic Partnership

Zapata, Geny; Sanchez, Katia; Solorio, Gabriel

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Need for the Curriculum: As the role of family physicians continues to evolve, it will be important to empower and equip physicians with a greater understanding of the impact of community related factors on health, function, disease, and disability. In the United States, research continues to demonstrate racial and ethnic health disparities in preventable and treatable conditions, as well as in the healthcare system (1). To help minimize these disparities, studies strongly emphasize that academic medicine create opportunities and experiences which integrate learning on community engagement and how to develop community partnerships with educational and social sectors.

Programs which integrate such education into their academic experience have demonstrated enhanced awareness of environmental, social, cultural, ethnic, and behavioral factors that contribute to overall wellness(2). According to Bronfenbrenner's bioecological model, the function and wellness of individuals are informed and affected through experiences and interactions in different environments, more specifically with persons, objects, and symbols (3). By creating opportunities in academic medicine that focus on community engagement, programs will be able to create leaders that focus on finding solutions to challenges in healthcare, enhance awareness of cultural/diversity issues, and provide prevention/intervention to underserved populations.

Workshop Description: The White Memorial Family Medicine Residency program has been participating in a dynamic partnership with Applied Technical Center (Health Pathway Program) located in an underserved area reflective of the Latino/Latin-X population served at White Memorial Medical Center. We will exemplify how the partnership has assisted to address health disparities in the community through a developed health literacy curriculum, mentorship, community engagement/outreach, and program development experiences.

Learner outcomes: Upon completion, participants will be able to define community partnerships and understand the need for how these partnerships can contribute to help address health disparities in underserved communities and develop leaders that seek to find solutions to challenges faced in healthcare. Upon completion of the workshop session, participants will be able to describe how to build relationships outside of the immediate clinical or social sector setting to promote community engagement. Upon completion, the participant will be able to list 2 ideas on how to create collaborations with health, educational, and social sectors to help address health disparities.

Structure/Method of the presentation: The beginning of the presentation will focus on defining community partnerships, health disparities, and discuss the current literature which describes the importance of creating partnerships within our community to engage the populations served. The discussion will also focus on how such recommended approaches proposed to empower individuals and communities.

The presentation will provide information on how the partnership came to exist and how the partners identified the need and the stakeholders, the initiation and process of communication between the identified partners, the establishment of a collaboration and the identification of goals and objectives for the learners/stakeholders.

The session will discuss how the partners collaborated to create a curriculum on health literacy to be provided to the high school students taught by the family medicine residents, to meet the capstone guideline requirements for the high school curriculum and the ACGME requirements for community medicine (inclusive of the following milestones: practice in interpersonal and communication skills, Professionalism, Practice-Based Learning and Improvement, Patient Care, and Systems Based Practice) for the medical resident learning experience

Following the discussion, a panel which will consist of members of the partnership will engage in a question and answer session. The participants will then be asked to participate in a small group activity and work with a provided venn diagram to identify a need within their health/social sector, think about two ways in which they could address the identified need through community engagement/partnerships and identify community resources, organizations,

stakeholders, and infrastructure of their sector to help guide the development process of a partnership. After the activity, the groups will have an opportunity to share their identified need and ideas which will then be summarized and connected to the presented concepts, ideas, methods, and strategies that promote community engagement/partnership experiences that can help address health disparities.

A School of Medicine Introduction to Interprofessional Education: Two IPEs in One!

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Need for Curriculum: In order for Health Care Professional (HCP) students upon graduation to participate in Interprofessional Collaborative Practice (ICP), they must be trained in certain competencies prior to graduation. This can be achieved by incorporating Interprofessional Education (IPE) into curricula.

Learners: I will introduce an Interprofessional Education and Collaborative Practice Learning Activity (IPECPLA) that is an introduction to IPE for entering medical students and a Immersion IPE activity for students currently enrolled in multiple Health Professional programs. Our event was held from 1-5 pm in our Institutional Simulation Center with students from the professions of medicine, nursing, speech and hearing sciences, occupational therapy, pharmacy and the graduate school of biomedical sciences.

Description of Curriculum:
(1) Planning and organization of the IPECPLA. Emphasis will be on recruitment and the role of faculty participation; identification of student participants and construction of cases that are appropriate for their level of knowledge.

(2) Presentation of check lists and flow charts for Implementation of this IPECPLA. Alternative ideas as to how our event can be modified for other venues will be discussed.

(3) I will conclude with allowing the audience to briefly outline a similar scenario that could be implemented at their institution.

Lessons learned: This will be followed by a question and answer session of specific topics that deal with potential problems; lessons learned and inclusion of criteria to ensure a successful event that will keep students coming back for more IPECP learning activities!

From Theory to Educational Practice: Medical Schools as Leaders of Patient Engagement

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Need for Curriculum: The Louisiana Public Health Institute has created a curriculum focused on principles of patient engagement and Patient-Centered Outcomes Research (PCOR). Although these ideas have gained traction in recent years, a gap persists between the patient-driven work that clinicians and researchers are increasingly expected to do and the training they receive in working with patients.

Learners: This curriculum was designed for medical students ranging from traditional first-year students to third- and fourth-year MD/MPH students. The different components of the curriculum are adaptable to help first-year students understand the importance of patient engagement and to guide advanced students looking ahead to medical careers upon graduation.

Description of Curriculum: The curriculum features an online component and two in-person sessions. Central topics include the key ideas behind PCOR; building partnerships with patients; new roles for patients, clinicians, and researchers; and case studies of several PCOR studies. The curriculum culminates with an activity in which students role-play with standardized patients in real-life scenarios related to engaging and partnering with patients for PCOR.

Lessons learned: From initial implementation, we learned that more work needs to be done to help future clinicians see the connections between their work and that of medical research. Given the breadth of material covered in the traditional medical school curricula, specific attention also needs to be paid to making real and relevant connections between the ideas of PCOR and existing ideas or frameworks around patient care in medical teaching.

A Curriculum for Interprofessional Education Using Narrative Medicine Techniques in a Context of Aging and End of Life Care

Nathanson, M; Edmondson, N.

Need for Curriculum: The curriculum structures a semester-long Interprofessional Seminar on "Aging and End of Life Care" taught to health professions students at Columbia University Medical Center. It merges topics in interprofessional education and narrative medicine techniques of close readings and shared writing stimulated by poetry, short stories and use of video materials of aging and end of life topics.

Learners: Participants are health professional students, clinicians, educators and administrators interested in new teaching environments to improved quality of life to our patients and enhance team building across disciplines

Curriculum:

- Successful Aging and Ageism, using poetry from Philip Larkin "The Old Fools;"
- Caregiving is addressed using recent video lecture material by the psychiatrist and anthropologist Arthur Kleinman, MD, and the HBO series The Alzheimer's Project;
- Bereavement and loss, using the short film The Beautiful Hills of Brooklyn (the Michael Chekhov Association, 2008) and the Walt Whitman poem, "Crossing Brooklyn Ferry"
- Palliative care, assisted suicide, end of life care-Leo Tolstoy's novella The Death of Ivan Ilych
- Pain and compassionate care

Being Mortal, (Gawande, A. 2014) assigned as core background material.

Lessons learned: Issues of aging, loss, pain, palliative care and death will catalyze our use of narrative understanding, close reading and discussion to further the goals of breaking down silos between disciplines and fostering respect for all members of the health care team.

Promoting Physical Resiliency During Global Health Rotations (GHR)

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Objective: Incorporate and evaluate mindfulness-based resiliency training for residents participating in global health rotations (GHR)

Need for Curriculum: As participation in global health experiences grows, proper preparation is critical for residents, a population which been shown to be under high stress and prone to burnout. Evidence shows that academic preparedness, defined objectives, techniques to build sustainable partnerships, mentor support and time for decompression and reflection lead to the best abroad experiences. Few programs address pre-departure techniques to address potential emotional and personal stressors despite research showing that a significant number of humanitarian staff experienced high levels of depression, anxiety and posttraumatic stress disorders. Resiliency- the ability to recover readily from adversity is a crucial trait that can be learned and strengthened to help navigate high stress, high intensity experiences. Our goal is to incorporate resiliency training to our existing GHR curriculum.

Methods/Evaluation: Participants will be CHLA global health tract pediatric residents. 6 months prior to departure, residents will complete validated depression and burnout surveys, time management surveys, sleep and exercise logs, difficult patient encounters and inter-current personal stressors. 5 resiliency modules will be initiated month 2-6. Residents will be surveyed at 3 months and prior to departure to assess learning. Brief exercises, text message reminders and mentor calls will be initiated while abroad. Post return, a debriefing and reflection exercise and evaluation will be performed.

Lessons learned: Pre-departure resiliency preparation for GHEs could be an effective way to prepare residents for the stress and emotional challenges encountered while abroad.

The Aggie Doctor Initiative: An Innovative Approach to Increasing the Pipeline for Race

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Idea/Problem Statement: The number of students of color prepared for entering medical school has continued to decline, which is now on the verge of a crisis.

Rationale: There is strong evidence that mentorship is an important value-added experience that can increase student success, particularly for underrepresented students (Nora & Crisp, 2007). We used cognitive student development theory and critical race theory as our theoretical frameworks. Cognitive student development theory informed how our interventions sought to create student learning by balancing challenge and support to create cognitive dissonance that allows for new learning (King & Kitchner, 2002). Further, critical race theory informed our approach to create spaces of empowerment and resistance for helping students navigate a predominantly white research university (Feagin, Vera & Imani, 1996). Together, these frameworks allowed us to holistically consider the needs of underrepresented students navigating the challenges of starting college.

Methods: Our program identified 24 low income, first-generation college freshmen (most all of whom were Hispanic/Latino or Black/African American) who declared an interest in pre-med. We created structures to surround students in a cocoon of support that not only prepared them for the rigor of college, but also provided empowering experiences such as mentoring from an upperclassmen pre-med student, mentoring from a current medical school student (M2) mentor, opportunities for shadowing a physician and working in a free clinic, and a common (co-enrolled) academic schedule that created a cohort feel for these students that facilitated opportunities for study groups and peer accountability. Students also participated in a common student success class that allowed them to learn the skills they would need (study skills, time management, college finances, etc), but also allowed students to make sense of their experiences and share their experiences, ideas, feelings, reflections, aspirations, and concerns. These common shared experiences built camaraderie and trust among the participants, but also allowed students to build necessary reliance, community, and compassion skills critical for success.

Results: The results were overwhelmingly positive. This initiative was a relatively low-cost endeavor (about $20,000/year for the entire program), but had a tremendous impact on grades and ability to continue on a path toward medical school. The cohort of students who declared an interest in pre-med the year prior to this program earned an average GPA of 2.1, which is well below what would be required and resulted in all but a handful of student continuing with a pre-med curriculum. The first year of this program, the average GPA for students jumped to 2.9, and the second year the average GPA jumped again to a 3.1. The value added that students described in the qualitative data indicated that they felt not only empowered by the mentorship and structured experiences, but they felt supported by the cohort model, where they built strong friendships with students of similar background and goal orientation. Further, more than half of the participants indicated a desire to continue with their pre-med coursework, and several of the participants from the first year applied to mentor the following year's freshmen. This program was funded from a grant from the Texas Higher Education Coordinating Board, which was renewed based on the strong data and results.

Potential Impact/Lessons Learned: There is a great opportunity to replicate these results at a wide variety of medical schools, particularly those attached to an undergraduate institution, which represents a low-cost, high impact opportunity to increase student of color success and ultimately increase the number of matriculants.

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Pre-Med Insight: An Innovative Mentorship Initiative for Minority Pre-Medical Students in Minnesota

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Idea/Problem Statement: Few pre-medical mentorship programs expose students to facets of medicine with a goal of helping them discern if a medical career is fitting for them.

Rationale: Despite the increase in pre-medical advising programs, many fail to emphasize appropriate career selection and facilitation of the application process, often focusing only on pre-professional preparation. Without proper guidance, disadvantaged undergraduate students may begin as premedical students that were not aware of the existence of alternate health careers. For some, these programs may in fact be either personally preferable or more realistically attainable (Johnson). Uniquely, Pre-Med Insight, a program founded and coordinated by Mayo Medical School students in Rochester, MN takes an innovative approach to pre-medical education. The program not only exposes minority students to medicine, but also helps them determine whether a career in medicine—or healthcare—is right for them, instead of solely attempting to "recruit" them into medicine. Similar programs could be created by medical students across the country with accessible minority and disadvantaged undergraduate students.

Methods: Pre-Med Insight included a total of thirty pre-medical undergraduate "interns" from three universities within Minnesota. They were selected based on minority or disadvantaged background, grade point average, and application. The interns were required to attend five all-day sessions at the Mayo Clinic and Mayo Medical School during the 2015-2016 school year. These sessions included: 1) Different Faces of Medicine- Introduction to Medicine 2) Teamwork in Medicine- Clinical and Trauma Simulation 3) Discover Yourself in Medicine- Diversity and Skill Building 4) The Gray Side of Medicine- Surgical Simulation and Patient Stories 5) The Next Step in Medicine- Application Preparation and Success. Prior to the first session, based on similarities in background, application, and preferences, all thirty interns were individually matched with a volunteer Mayo medical student (years 1-4) as their mentor for academic or non-academic guidance. Finally, interns were required to collaborate with fellow colleagues in the program to participate in a longitudinal volunteer service project within their community and present it at the final session. The cohort of interns was surveyed before and after the program in addition to following each of the five sessions in order to track changes in their medical ambitions and experiences during the course of the program.

Results: Perceptions in confidence changes of interns regarding various aspects of the pre-medical career path were assessed using a rating scale from (1 = not confident; 9 = can do without outside help). After completing the program, students felt more confident in navigating the medical school application (mean Δ +2.09, $p=1.8 \times 10^{-5}$) and in finding relevant resources (mean Δ +2.13, $p=1.4 \times 10^{-5}$). Over the course of the program, 24 of 27 students that completed the post-program survey had new experiences in at least one of the following areas: leadership positions, clinical/non-clinical volunteering, shadowing, healthcare employment, or research. Of these students, 75% cited that at least one of their experiences was a direct result of or due to encouragement received from Pre-Med Insight. Finally, while the majority of students remained interested in pursuing medical school, four students were able to use this program to successfully establish that they would rather pursue another health profession (i.e. physical therapy, graduate school) rather than apply to medical school.

Potential Impact/Lessons Learned: Pre-Med Insight exposes disadvantaged students to clinical AND non-clinical aspects of medicine, alternative health careers, and application guidance. This provides a holistic picture of medicine which equips students with better resources to make an educated decision regarding medical career goals.

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Comparison of Internal Medicine and Psychiatry Resident Implicit Attitudes toward Depression

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Idea/Problem Statement: Implicit biases play a role in decision-making and contribute to poorer health outcomes for people with mental illness and depression in particular.

Rationale: The Federal Collaborative for Health Disparities Research has chosen mental health disparities as one of the top 4 topics warranting its immediate national research attention (Safran 2009). As a result of these disparities, people with mental illness have worsened health outcomes. Reasons for disparities are multifactorial, but self-stigma and perceived stigmatizing responses from health care professionals play a role in these outcomes. (Barney 2006) as does provider stigma toward mental illness. (Leucht 2007) The purpose of this study was to compare implicit biases towards depression in Internal Medicine Residents with implicit biases in Psychiatry residents, who chose a career path to deal with mental health issues.

Methods: After receiving IRB approval from LSU and USC for the project, emails were sent to residents in 3 psychiatry training programs and 3 internal medicine training programs in Baton Rouge and New Orleans, Louisiana and Los Angeles, California requesting they take a 15-20 minute online survey supported on the Project Implicit website. The survey consisted of four Implicit Association tests (IAT's), developed to measure attitudes towards depression. Participation was anonymous and voluntary; no incentives were offered. An independent samples t test was run, comparing the two specialties' resident attitudes on the four IAT's. In the analysis, the scores were categorized as having little to no association up to strong association, using the framework provided by Project Implicit.

Results: 51 out of 230 (22%) of Internal medicine residents participated in the study. 35/107 (33%) of psychiatry residents participated in the study. For the IAT that measured the association of good and bad with physical illness and depression, internal medicine residents were significantly more likely to associate "good" with physical illness and "bad" with depression ($t(83)= 3.93$, $p<0.001$). For the IAT that measured the association of controllable and uncontrollable with physical illness and depression, internal medicine residents were significantly more likely to associate physical illness with "controllable" and depression with "uncontrollable" ($t(84)=3.05$, $p<0.003$) than the psychiatry residents. The two groups did not demonstrate a significant difference in their implicit attitudes regarding the association between physical illness and depression with biological/psychological; both moderately associated physical illness with "biological" and depression with "psychological" (internal medicine $D= 0.46$, ($SD=0.54$)) and psychiatry $D= 0.38$, ($SD=0.35$)). The two groups also showed no difference in their associations between physical illness and depression and permanent/ temporary. Both groups showed a little to no association of physical illness with permanent (internal medicine $D= 0.15$, ($SD=0.34$)) and psychiatry $D= 0.06$, ($SD=0.36$)).

Potential Impact/Lessons Learned: Internal medicine residents are more likely than psychiatry residents to view depression as uncontrollable and negative. These biases may contribute to clinical decision-making and should be addressed in the curriculum to improve health outcomes in people with depression.

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"Patient Can Do!" Developing and Evaluating Motivational Interview Skills for Weight Loss in Clinic.

Brass, Bernard

Family Care Specialists

Idea/Problem Statement: Between 2001 and 2012 the prevalence of adult obesity increased by 30 percent in California - The UCLA Center for Health Policy Research

Rationale: Obesity rates within the US have increased rapidly. As reported by the CDC, 42.5% of US Hispanics, which comprise >90% of the patients in the resident's medical group practice are obese. A physician's options are limited, as patient insurance often does not cover weight loss interventions such as surgery or medication. The situation is aggravated by a scarcity of gyms and healthy food options around the neighborhood. These factors make the obese patient's lifestyle change an especially necessary component in the physician's management. Motivational interviewing has been suggested as an attractive technique doctors may employ as part of a comprehensive approach to weight loss. Given that this skill requires significant practice in order to positively influence change, this project chose to develop a study that would focus on adapting motivational interviewing to the obesity situation and would then evaluate this effort to successfully bring about personal change in this population.

Methods: This was an office-based lifestyle modification intervention by a family medicine resident, who developed motivational interviewing (MI) skills to help patients achieve weight loss in six adults who expressed an interest in lifestyle modification for weight reduction, had a BMI> 25 and were willing to return monthly for a period of 6 months. The four principles of MI are: 1. Resist the righting reflex, 2. Understand sources of motivation, 3. Actively listen to your patients, and 4. Move to empower a patient. 2 The resident applied the MI principles as follows: Principle 1: Physician did not attempt to convince patients to change by instructing them how to change, or by warning them of the health consequences for not changing their lifestyle. Principle 2: Physician directed his patient's attention towards the discrepancies they stated between their weight reduction goals and the specific behaviors that prevented them from attaining these goals. Principles 3: Physician listened empathetically, creating an atmosphere where patients could safely explore conflicts and the difficulties they faced daily. Principle 4: Physician empowered by supporting a patient's belief in their capacity for change, for the goal of increasing a sense of self-efficacy or a "can do" spirit. Patients were invited to utilize a food diary and to increase daily physical activity and exercise. Each office 15-30 minute visit was conducted in the spirit of MI's guiding philosophy.3

Results: Seven Latino adults agreed to participate in this weight reduction intervention guided by their physician who used motivational interviewing skills to engage patients in change talk, empowering patients by listening and understanding client's source of motivation. Of the seven, six followed through returning to see their physician for weight reduction and lifestyle modification counseling. Age range of participants: Three males ages 45, 49, and 57. Three females ages 45, 68 and 69. All participants were asked to keep a food diary and to increase their physical activity. Food Diary: Two of the three males and one of the three females succeeded in keeping a food diary. Physical Activity: All three males reported increasing their physical activity; two of the three females reported increasing their physical activity or exercising. Weight loss: Over a 4 months, the most significant weight loss of 5 pounds was observed in one of the six participants. A weight loss of 2 pounds was observed in four of the six participants. A weight gain of 5 pounds was observed in one of the six participants. The participant who lost 5 pounds was seen by his physician three times, did not keep a food diary but did report increasing his physical activity. The four participants who lost 2 pounds varied in the number of outpatient visits they attended. Two of the four participants attended all four outpatient visits and the other two participants attended only 2 outpatient visits.

Potential Impact/Lessons Learned: 1. It is possible to adapt the four principles of MI to the clinical weight loss situation. 2. However, the small sample size (N=6) did not allow a quantitative evaluation of the MI effectiveness. 3. The project serves as a pilot study. The MI has been developed, and field-tested on 6 patients.

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Innovation in Medical Education through Entrepreneurship

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Idea/Problem Statement: Current medical education curricula and implementation requires constant innovation to adapt to a changing training landscape.

Rationale: Medical curriculums are typically delayed in the analysis of current literature. Online supplements typically cover large breadths of subjects in the format of delayed broad reviews as opposed to reviews of current individual study summaries. As a result, there exists a need to integrate both the foundations of evidence-based medicine with current data to present a comprehensive resource. Here we reflect on a unique ground-level entrepreneurial venture out of Harvard Medical School, involving over 70 medical students, residents, and Attendings. 2 Minute Medicine® functions using news media systems and logistics for selecting key high-impact breaking medical studies, curated by physicians. A study report, written by physicians, is released the same day the original study is published. Reports are published on www.2minutemedicine.com and syndicated through a unique online data transfer protocol to numerous medical education institutions and libraries around the world.

Methods: 2 Minute Medicine is a hybrid news and textbook publishing organization designed by, and for, physicians. Data and systems were integrated to ascertain the most relevant and high-impact current medical studies from all journals, with summary reports created by physicians (Current Reports). In addition, a curated list of 250+ "landmark" studies, selected as foundational by a physician board, were summarized by physicians (The Classics in Medicine). Lastly, a once-per-week recap series of the top 5-6 studies was created (The Rewinds Series). This 3-pronged hybrid approach targeted both critical needs of reporting on current, new medical knowledge (dynamic component) as well as providing a foundation of evidence-based knowledge for the trainee (static component). Studies are rated according to the Oxford Centre for Evidence-based Medicine. Key outcomes measured to assess the impact of the organization in augmenting consumption of medical knowledge included user engagement (via online bounce rate), page-views, demographics, content popularity, readership and qualitative reader surveys.

Results: Over 5000 peer-reviewed, original reports in addition to textbooks and electronic books have been published since 2012 by 2 Minute Medicine. The website component serves over 500,000 monthly views worldwide. The bounce rate was 29%, in Q2 2016, indicating engaging content (lower is better, 40-50% is considered excellent). Over 100 search terms relating to The Classics in Medicine were ranked in the top 10 results of Google. A user survey was administered to 250 users readers. Of the 105 that responded who responded, 36% were residents and 55% were trainees. Prior to using the site, readers reported consuming a mean of 2.92 studies per week. After using the site for at least one week, readers reported consuming a mean of 6.99 studies weekly ($p<.0001$). 90% of readers Agreed or Strongly Agreed that the amount of detail in reports was suitable. 97% of readers Agreed or Strongly Agreed that they were more up to date with medical research. 2 Minute Medicine won the Massachusetts Medical Society Information Technology Award for innovation in medical education.

Potential Impact/Lessons Learned: 2 Minute Medicine was created by trainees to improve medical education. It has since evolved into a tool used by numerous educational institutions around the world to target key deficiencies in medical education. This strategy has resulted in an effective supplement to medical education.

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A Community Based Resident Curriculum to Address Obesity Among High-Risk Inner-City Youth

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Idea/Problem Statement: Obesity is the leading cause of premature death in the U.S. with nearly 1/3 of children being overweight or obese.

Rationale: Obesity related health care spending now makes up more than 20% of total U.S. health care costs not including revenue lost in productivity from premature morbidity and mortality. More distressing is that obesity has now become a disease of poverty, disproportionately affecting ethnic minorities and low-income communities. Evidence shows that many factors beyond the individual, contribute to obesity. Therefore, tackling this complex issue will require work beyond the individual. However, many physicians feel ill prepared and may not have the knowledge, skills to go beyond the clinic to effectively address this issue in the communities they serve. The Youth Opportunity for Life Options (YOLO) is an innovative & comprehensive curriculum that takes the physician learner beyond the clinic into the community. It helps learners understand the social determinants of health, while providing skills to address factors beyond the individual, at the family and community level.

Methods: YOLO has 2 main components. First, a comprehensive high school based program lead by resident physicians/medical students & high school student leaders, targeting obesity among high-risk inner-city youth. Using components of previously successful healthy lifestyle interventions, YOLO has several components including 15 weekly group medical visits (GMV), an exercise program, mentoring and advocacy. YOLO is a collaboration that trains learners to form meaningful coalitions with patients, families, schools, and community partners such as "Healthy Start", ARC after school program and the local "Y". The second component includes resident physician and medical student capacity building to address diseases of poverty. The curriculum involves extensive training in elements of conducting GMV, Motivational Intervention, community health diagnosis, research methodology, individual and family meetings to impact behavior change, and a mental health component to address psycho-socio barriers that keep individuals from achieving their goals. It gives physicians an opportunity to understand the social environments of their patients, and to mentor youth outside the clinics in a manner that resonates with their reality. Resident physician knowledge/skills, comfort in management of diseases of poverty, and future desire to work with underserved was assessed. Youth participants are also assessed, based on their participation, pre/post tests and self-efficacy to bring forth behavior change.

Results: YOLO is a work in progress. 12 resident physician and medical students facilitators have undergone training and delivered the curriculum to 43 high school students. A preliminary program evaluation surveying the physician learners was conducted to understand the impact of YOLO. Following are preliminary results based on 10 completed surveys. 60% of facilitators believed that YOLO was very efficacious in impacting health behavior change among youth participants, and 85.7% believed programs like YOLO should be incorporated into routine Family Medicine training. In terms of knowledge and skill improvement, PGY2 residents indicated the greatest improvement in knowledge and skills as a result of YOLO (32.4% very much improved, 32.4% moderately improved). Majority of the resident physician facilitators (71.4%) indicated feeling very confident that they would engage in efforts that go beyond the traditional medical roles to address chronic diseases such as obesity in their future practices. They also felt that they understood the social determinants better and would be able to educate and impact behavior change among patients using motivational intervention strategies. 71.4% also indicated that they felt very confident as a result of YOLO to work with high-risk youth in the future to address obesity prevention and management issues. Data regarding youth participant outcomes is being collected, analyzed, and will be presented as well.

Potential Impact/Lessons Learned: Comprehensive curricula involving community and medical training programs, that also address the social determinants of health and advocacy training, can better prepare our future providers in dealing with diseases of poverty such as obesity, improve health outcomes, and diminish health disparities.

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HIV stigma and its effect on the quality of administered care by healthcare students and personnel

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Idea/Problem Statement: Stigmatizing attitudes within the healthcare industry hinder HIV positive patients from getting the care they need.

Rationale: While the implementation of antiretroviral therapies (ARTs) and public health campaigns have mobilized the epidemiologic fight against HIV/AIDs, there are many additional challenges people living with aids (PLWA) face. Notably, the stigmatizing attitudes and even discriminatory actions that PLWA encounter are widely documented yet remain pervasive. Though public health campaigns attribute the manifestation of stigma to the lack of HIV knowledge, does this remain true for healthcare workers who should be at no disparity of HIV education? More specifically, do working, fully educated healthcare personnel have less stigmatizing bias than healthcare students who have yet to complete their training? To our knowledge, no such study has been conducted in the conservative, overwhelmingly Muslim country of Indonesia. Our study will compare the HIV attitudes between physicians and medical students, nurses and nursing students, as well as midwives and midwifery students in Bandung, Indonesia.

Methods: A questionnaire was adapted from three prior studies which similarly studied stigmatizing attitudes of health care providers. Those enrolled in our study included practicing health providers (physicians, nurses, and midwives) as well as providers in training (medical students, nursing students, and midwifery students). Participants were recruited from a partnered public health institution in Indonesia called Dinas Kesehatan (Health Bureau). Indonesian translators were utilized to verbally consent and administer the survey which included questions about HIV stigma in specific contexts. Namely, questions were categorized into the following categories: personal/cultural beliefs regarding HIV, breadth of HIV education, and clinical encounters with HIV patients. For each question, participants had three potential options: “Agree” (0 points), “Disagree” (1 point), or “Don’t Know” to avoid unanswered questions. The surveys were later scored, with higher scores indicating lower levels of stigma. The questionnaire was available to participants in both English and Indonesian. Indonesian speaking study investigators and were present to translate and provide clarification for any questions participants presented. No identifying information was collected.

Results: The data for this study was collected in June of 2016. Analysis is currently still in progress but will be completed by the conference date.

Potential Impact/Lessons Learned: By gauging the level of stigmatizing attitudes within the healthcare community we can better understand how to tackle barriers to health care that PLWA face. In doing so, we can improve access and quality of services provided to those who truly need it.

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Another Generation of Stigma? Assessing Healthcare Student Perceptions of HIV-Positive Patients in M

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Idea/Problem Statement: HIV-related stigma remains global health concern among PLWA in developing nations, further complicating prevention efforts and access to medications.

Rationale: There are several reports of healthcare-related stigma by providers contributing to the negative physical and mental health of people living with HIV/AIDS (PLWA). However, many of the healthcare providers surveyed in these studies may hold different values from the current healthcare students who are being raised in a different generation. Healthcare students stand as the future healthcare leaders of their communities and understanding their perceptions towards HIV-positive patients will provide insight into the generational changes in perceptions of HIV. It will also act as a way to ascertain the potential need for incorporation of educational curricula that target reduction of HIV-related stigma. HIV-related stigma among healthcare students in Tanzania has never been studied. Furthermore, no study has assessed stigma in healthcare students entering non-clinical professions, like medical laboratory or health information management, that are indirectly involved with patient care.

Methods: The study was conducted over a 4-week period in June 2016 at the Tandabui Institute of Health Sciences and Technology (TIHEST) in Mwanza, Tanzania. Study participants were drawn from Clinical Medicine, Laboratory Sciences, Health Records and Information Management, and Community Health classes at TIHEST.A composite survey was developed utilizing questions from three previous studies in order to assess the healthcare students' perceptions of HIV-positive patients in three domains: Personal or Cultural Beliefs about HIV, HIV Education, and Clinical Interactions with HIV-Positive Patients. The finalized survey consisted of 18 questions: 9 questions assessed Personal or Cultural Beliefs about HIV, 5 assessed HIV Education, and 4 assessed Clinical Interactions with HIV-Positive Patients. Study investigators invited potential participants to complete the voluntary survey and provided them with the survey and information sheets, available in both English and Swahili. A convenience sampling method was used to recruit participants, as only those students who were present at the TIHEST campus over the course of the study period were actively recruited for survey completion. Participants gave verbal consent after speaking with co-investigators about the study and reviewing the information sheet. Participants were informed that no identifying information would be obtained, all responses were anonymous, and there were no repercussions for survey responses on school evaluations.

Results: Of the 210 students who participated in the study, the mean age was 23.9 years. Mean scores of 5.9, 3.6, and 3.4 as well as median scores of 6, 4, and 4 were obtained for Personal or Cultural Beliefs about HIV (9 points total), HIV Education (5 points total), and Clinical Interactions with HIV-Positive Patients (4 points total) subscores, respectively. As the subscores suggest, there was a negative skew in the distributions of subscores and the total score, pointing to an overall trend in low stigmatizing beliefs towards HIV. Several notable points emerged that the subscores themselves did not elicit. With regards to Personal and Cultural Beliefs about HIV, 23.1% of participants believed that HIV is a punishment for bad behavior, and 30.8% believed that people who got HIV from drug use or sex deserved to become infected. Additionally, more participants cited that they would feel ashamed if they themselves became infected with HIV than if someone close to them was infected. Furthermore, despite an overall high HIV Education subscore among participants, 69.2% believed that individuals who are HIV-positive could have avoided infection if they wanted to, and 26.0% believed that HIV-positive patients have had many sexual partners. Finally, students who received hands-on clinical training obtained a significantly higher Personal and Cultural Beliefs than students who did not receive such training.

Potential Impact/Lessons Learned: Requiring all students to complete a comprehensive course in HIV infection—basic sciences, clinical, social, and mental health aspects of the virus—that includes opportunities to interact with PLWA may allow for reductions in stigma towards such patients and improved clinical outcomes.

Effects of a Residents' Training Program on CRC Screening Rates

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Idea/Problem Statement: Colorectal cancer screening rate in our residency is at 33.5% in 2015. National goal is to achieve 80% in 2018.

Rationale: Colorectal (CRC) screening has been recommended in clinical practice guidelines. Studies has shown that patient reluctance to undergo screening is one of the main reasons behind low screening rate. A survey of our residents has shown that the reasons for not screening were patient resistance (57%), time constraint (23%), and failing to remember to screen (19%). Therefore, in order to increase screening, training programs must improve physicians' ability to address these patient barriers to screening.

Methods: The goal was to design and test an educational intervention based upon assessment of residents competency in patient education using CELI tool. SJGH IRB approval obtained. Pre-workshop CELI Assessment: residents were directly observed and assessed using CELI tool. Areas of weakness were identified. A single workshop was offered to the residents. Material delivered was based on the results of the prior assessment. Teaching methods utilized included- Problem-focused tutorial, didactic presentation, demonstration and group discussion. Attendance at the workshop was voluntary. 10 residents out of a total of 23 residents (43%) attended "intervention group'. The rest were considered "control group". CRC screening data: immediately after the workshop screening rate for both groups were evaluated for one month. Research design: Quasi-experimental control design to measure differences in CRC screening rates between residents participating in a noon conference educational workshop and residents unable/ unwilling to attend the workshop, using study design 4 (Randomized Control Group Post test only). CELI instrument: is an assessment and feedback tool used to measures four patient education subcompetencies (Control/rapport, Explain, Listening and Influence). The inter-rater reliability for the subcompetencies using this instrument varied between 0.65 and 0.91.

Results: Results / Pre-workshop CELI Assessment: Nine residents (four PGY1, two PGY 2, and three PGY 3) were observed and assessed. Summary of the results are as follows: Explaining subcompetency: 5/9 were unacceptable. Listening-5/9 were unacceptable. Influence- 6/9 were unacceptable. Control/rapport- 7/9 were unacceptable. No resident received an acceptable rating in every category. The workshop was attended by 10/23 residents (43%) including three PGY1, three PGY2, and four PGY3. Post session survey: Seven residents completed the survey. Six indicated the usefulness of the session and planned to use the information. One did not find it useful. Change in screening rate: The following summarizes the Colorectal screening data for patients in both intervention and control residents' groups from August 10, 2016 to September 10, 2016- immediately following the work shop: Intervention Group: % of Eligible Patients Screened 71.4% / Control Group: % of Eligible Patients Screened 44.8% / Rate of CRC testing between groups (categorical data) were compared with the X2 test with Yate's correction. Rate of testing occurred significantly more often in the group of residents who had attended the workshop (90/126 = 71.4%) than it did with the control group (60/134 = 44.8%) after one month ($X2 = 17.823$, $df = 1$, $P = 0.0001$). The greatest difference in screening rate occurred with PGY2 residents (87% for intervention group and 33% for control group).

Potential Impact/Lessons Learned: This is a pilot study involving a small group of residents, however the results reflect significant improvement in the rate of CRC screening at least in the short term after implementing a carefully designed educational intervention using CELI tool to assess resident's competency needs in patient ed

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"Ask Me." Physician Confidence and Behaviors in Screening and Caring for Victims of Abuse

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Idea/Problem Statement: Intimate Partner Violence is a public health issue. 1 in 3 women and 1 in 4 men are victims[1], yet physicians do not regularly screen for it.[2]

Rationale: The CDC estimates that Intimate Partner Violence and Abuse (IPVA) costs 5-10 billion in health care costs each year.[3] Research has shown that victims of IPVA have higher incidence of substance abuse, mental illness, chronic pain, and STIs. Pregnant woman have higher incidence of prenatal complications including maternal and fetal death. In addition, children who are exposed to abuse among other adverse childhood events have shown higher incidence of heart and liver disease, obesity, and diabetes.[2] The USPSTF recommends that clinicians screen women of childbearing age for IPVA. The American Medical Association recommends that physicians learn how to detect IPVA, know the legal requirements for reporting, and routinely inquire about the possibility of IPVA as part of a patient's medical history. Yet physicians are often not trained in IPVA and do not feel confident screening or counseling their patients.

Methods: This is an evidence-based quality improvement study designed to increase knowledge, confidence and skills in screening, treating, and managing intimate partner violence and abuse (IPVA). The design is a simple pretest and posttest-survey educational intervention study that will measure any changes in knowledge, attitudes, confidence, and behaviors at baseline and at 1-month and 6-month post educational intervention. Baseline: Respondents were asked to complete a survey instrument adapted from Dr. Nicolaidis' "Attitudes Toward Survivors of Intimate Partner Violence." Pretest and Education: After completing the pretest-survey respondents attended a 60-minute interactive education session on IPVA. This educational intervention was created from evidence based findings including statistical reports, dynamics of IPVA, patient barriers to disclosing abuse, clinician screening and assessment tools, legal reporting requirements, and local and national resources. Follow-up: One month after attending the educational session, respondents will be asked to complete the same pretest survey as a posttest survey and again at six months. To measure change, an analysis of responses will be done by comparing baseline survey results with their one-month and six-month posttest results. The use of personally selected ID numbers to match pretests with posttest will ensure confidentiality of responses.

Results: The pretest survey sample consisted of 43 physicians, who exhibited the following profile: 1. Respondents have very minimal past training in IPVA. In this sample, 80% reported having only 1 hour or less of previous IPVA training. But regardless of their lack of preparation, 81% responded that reporting IPVA was part of a provider's responsibility. 2. Respondents are rarely screening for IPVA. The sample reported 85% of respondents screened for IPVA 0-5 times in the past 1 week, 88% reported screening only 6 to 10 times or less in the past 1 month, and 67% reported screening 6 to 10 times or less in the past 6 months. Yet 81% of respondents either agreed or strongly agreed that screening for IPVA should occur at every routine health maintenance visit for women. 3. Most felt very strongly that something should be done for an IPVA victim.Very high percentages agreed or strongly agreed that a physician's responsibility to a patient in an IPVA situation should include: inform that such behavior is not acceptable (86%), and inform that such a relationship is harmful (85%). 4. Yet the vast majority felt very little confidence in actually taking steps to do something. The sample reported feeling not at all or only somewhat confident in: screening (78%) and recognizing red flags (71%); responding effectively to a disclosing patient (83%) and making referral to appropriate agencies (86%); and documenting IPVA in a patient's record (70%).

Potential Impact/Lessons Learned: This study seeks to address perceived barriers in the screening, treatment and management of IPVA, identify potential gaps in the follow up and management of IPVA, and to develop physician leadership and advocacy in IPVA prevention.

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Development and Implementation of a Neonatal-Perinatal Resuscitation Curriculum

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Idea/Problem Statement: Neonatal resuscitation skills training for neonatology fellows utilizing a simulation curriculum incorporating a boot camp and multiple mock codes.

Rationale/Need: Out of 4 million infants born in the United States per year, 10% will require neonatal resuscitation, and only 1% will require advanced resuscitative measures [(1)]. Effective and timely resuscitation is crucial to ensure a good outcome for a compromised neonate. Neonatology fellows receive the national Neonatal Resuscitation Program (NRP) training during orientation with re-certification every 2 years. It has been shown that cognitive knowledge and technical skills are retained for only 6-12 months after NRP certification training [(2)]. Simulation based medical education allows the opportunity to practice resuscitation skills on a regular basis. Studies evaluating performance changes after a single simulation training session have failed to demonstrate significant improvements in NRP performance. Simulation-based education with deliberate practice involving repetitive simulation training sessions has been shown to have a positive effect in improving performance in neonatal resuscitations [(3)] and is a much more powerful predictor of professional accomplishment than experience or academic aptitude. At our institution, fellows provide care at a level IV NICU at Ronald Reagan-UCLA Medical Center (RRUCLA). Resident evaluations of their NICU rotations have indicated inconsistent adherence to NRP guidelines during neonatal resuscitation. Currently there is no formal simulation curriculum in neonatal resuscitation for neonatology fellows at our institution.

Methods: A simulation curriculum will be implemented for 9 neonatology fellows and will occur over 1 year. It will include the following: 1) Simulation boot camp at commencement of fellowship for 1st year fellows (n=3). The boot camp will incorporate skill stations (positive pressure ventilation, chest compressions, intubation, umbilical line placement, and medication administration), NRP scenarios (e.g., hypoxemia, resuscitation of an extremely preterm infant), and special delivery scenarios (e.g., congenital diaphragmatic hernia, hydrops, congenital heart disease). The boot camp will take place over 2 days (8 hours/day) in the simulation center, utilizing high fidelity mannequins, and will be conducted by neonatology faculty and senior fellows. Each scenario (15 minutes) will be followed by a debriefing session (15 minutes) incorporating review of the video recorded scenario. 2) 2nd and 3rd year fellows, mentored by faculty, will design and implement an in situ mock code (15 minutes) for 1st year fellows at RRUCLA followed by debriefing and feedback (15 minutes) from a faculty mentor. The mock codes will incorporate tension pneumothorax, arrhythmias (e.g., supraventricular tachycardia), or hypoxemia. 3) Neonatology faculty will implement bimonthly in situ mock codes for all fellows (1st-3rd year) at RRUCLA in the latter half of the year. 4) All fellows on service in the NICU will conduct a 1 hour NRP booster session for residents at the start of every resident NICU rotation.

Evaluation Plan: The evaluation will include the following levels and activities: Accountability - in all curriculum components, faculty will monitor participation of fellows. Reaction - standard forms for evaluation of sessions and the entire curriculum will be used to gather fellow and resident opinion of quality and usefulness. Learning - prior to curriculum implementation, a needs assessment, eliciting knowledge, attitudes, and skills, will be distributed to all fellows. Direct observation will be used throughout using a modified NRP mega code checklist. Behavior - time series design will be used to evaluate for improvement in NRP skills using a) baseline data on adherence to NRP guidelines through review of resuscitation code sheets using a standardized checklist and b) ongoing bimonthly review of resuscitation code sheets using a standardized checklist. Also, the ACGME milestones for neonatal-perinatal medicine will be integrated into the evaluation methods.

Potential Impact/Lessons Learned: This integrated simulation curriculum could provide a model for other children's hospitals to enhance resuscitation skills of both fellows and residents and improve self-confidence as independent physicians and ultimately enhance patient care.

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The Effectiveness of a Peer Based Culturally Responsive Healthcare Curriculum

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Idea/Problem Statement: To develop a curriculum on culturally responsive healthcare for pediatric residents at a large stand alone children's hospital in Los Angeles.

Rationale/Need: In the past thirty years, we have seen a shift in clinical practice towards a culturally responsive care model due to an increased public awareness of health disparities. Physicians agree that culturally responsive care leads to better patient outcomes and satisfaction; however, many cite that lack of diversity in the workforce, limited cultural training and communication barriers hinder such practice. In this study, we aim to train pediatric residents to respond to patients' diverse beliefs, values, and customs in order to provide compassionate care. The ACGME recognizes the importance of incorporating cultural responsive education in residency training. And nearly all residents agree that it is important to consider "patient's culture when providing care," as demonstrated in a national survey conducted by Weissman et al. Despite this recognition, there are no guidelines on how to develop a culturally responsive curriculum specific to pediatric residency training. Additionally, there are limited studies on the effectiveness of such training. We plan to develop a multifaceted culturally responsive healthcare curriculum in a pediatric residency program, and to study the effectiveness of the different teaching methods. We hope to share our findings with the medical community to provide some guidelines for the development of a culturally responsive healthcare curriculum for the other pediatric residency programs.

Methods: Developed a needs assessment questionnaire to determine residents' preferred styles of learning and the patient populations in which residents feel they need more training. Developed a pre- and post-intervention survey that was distributed before and after the implementation of the curriculum to analyze the differences in residents' knowledge, skills and attitudes. Developed an evaluation form to be distributed to the residents at the end of each session to evaluate the effectiveness of the different teaching methods. Developed a culturally responsive healthcare curriculum, which includes the following 4 sessions: I. 30-minute small group session during intern orientation. The residents discuss their experiences with home remedies. II. 1-hour small group session to discuss cases on immigrant children, Muslim culture, and Chinese birth tourism. The residents will be asked to read articles and participate in small group discussions surrounding the above mentioned cases. III. 1-hour interactive lecture on implicit bias. The lecture will use current social and political events to highlight implicit bias. The residents will be asked to take the Implicit Association Test and discuss their results. IV. A video recording session where residents will be interviewing a limited English proficiency standardized patient using a medical interpreter. Direct feedback will be given after the session and residents will have access to the video recording for self-evaluation.

Evaluation Plan: The pre- and post-intervention survey was modified from the Clinical Cultural Competency Questionnaire created by Dr. Robert C. Like, a Professor of Family Medicine at UMDNJ-Robert Wood Johnson. A hard copy of the survey was distributed to all the pediatric residents at Children's Hospital Los Angeles before and after the culturally responsive healthcare curriculum is completed. We will use statistical models to analyze the differences in physicians' knowledge, skills and attitudes before and after the implementation of the curriculum. Additionally, an evaluation form will be distributed at the end of each session as a tool to analyze the effectiveness of the different teaching methods utilized in this curriculum, e.g. small group discussion vs. one-hour interactive lecture vs. standardized patient.

Potential Impact/Lessons Learned: To promote culturally responsive healthcare and prepare residents at CHLA to provide compassionate, high quality care. Our goal is to share our study findings to provide some guidelines for other pediatric residency programs across the nation.

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A train-the-trainer model to develop educators for Emergency Medicine in Myanmar

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Idea/Problem Statement: A train-the-trainer model to prepare Emergency Medicine physicians in Myanmar to teach in new training programs

Rationale/Need: Emergency medicine is a new medical specialty throughout the world. Developing an integrated emergency medical system is often an important goal for developing nations in order to address the UN's Millennium Development Goals (1). Additionally, Myanmar is facing the challenge of developing an emergency medical system after emerging from decades of shrinking health care spending (2). In order to develop emergency medical systems, Myanmar is beginning to develop Emergency Medicine specialists (3). These Emergency Medicine trainees will need to become the future teachers for the specialty in their country in order to develop a sustainable emergency medicine physician base. Arnold and Holliman described this as a "train-the-trainer approach" which has been shown to be effective in many settings (3). In Myanmar, the training in emergency medicine as a specialty has only been available for a few years and only through one public hospital so an 18-month course through a private hospital was started in September 2015. Our program will utilize in a train-the-trainer model to prepare graduates of this course to become new trainers for the next class of students.

Methods: The project is called the Advanced Clinical Educators in Emergency Medicine (ACEs) program and will select 5-6 participants from among the applicants. All will complete their 18-month emergency training program in 2/2017 to join the ACEs program and receive training prior to their graduation. These ACEs members will typically be 2-5 years post medical school graduation. The intervention will include the following: 1) asynchronous online training (synchronous not possible due to inadequate local bandwidth); 2) two synchronous web-based written discussions set for pre-established times; 3) 24 hours of onsite training over four days in January 2017, and 4) mentored teaching within the next cohort (3/2017 - 9/2018). Teaching methods are being selected based on learning principles to ensure active participation, focus on learner needs and desires, opportunities for practice with feedback, scaffolding as needed to address learners' prior knowledge and experience, situational teaching methods (instructing, coaching, facilitating, mentoring). Learner outcome objectives include being able to: 1) discuss learning principles, 2) develop a teaching session, 3) lead an educational session, and 4) provide feedback to learners. While they teach, skilled project-provided instructors will be present for feedback and evaluation of participant teaching efficacy. As the ACEs members gain in skills and confidence, over the 18-month course, their teaching responsibilities will increase.

Evaluation Plan: The evaluation will include tools at multiple levels: accountability, learner reaction, learning, and behavior within their actual teaching. The evaluation will include: 1) accountability - tracking attendance and participation at all phases of the program; 2) reaction - learners will complete standard evaluation forms to assess quality and usefulness of each session and phase of the program and 3) learning - evaluation of written assignment, oral cases and teaching presentation (online and on site). Behavior: The ACEs members will be assessed by senior project instructors who will attend their educational sessions during the 18 months of the project. The ACEs members should utilize learning principles as well as effective instructional methods during formal presentations and oral simulations. Finally, the 2017-18 class of trainees will be surveyed regarding the efficacy of teaching of our ACEs trainees (content, organization and delivery).

Potential Impact/Lessons Learned: The ACEs project will provide a model of formal educational instruction that could be implemented in other countries as well as within other specialties in order to increase the sustainability of specialty training programs around the world.

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A quality improvement effort to improve new intern performance during the early months of residency

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Idea/Problem Statement: A quality improvement effort involving simulation and interactive teaching of new first year internal medicine residents to reduce the July "effect".

Rationale/Need: Residents in our internal medicine residency program at Harlem hospital center New York,agree that the first few months of residency training (the “transition months”) as PGY1/interns are extremely overwhelming. The traditional hospital orientation process does not increase the self-confidence in new residents in meeting the needs of patients in our hospital setting. Nationwide, orientation of interns is carried out over some weeks just prior to commencement of residency training. This traditional orientation process typically involves long hours of lectures by human resources resulting in information and paper overload1. After orientation, interns are expected to perform their responsibilities on the first day without a steady understanding of the workflow in their specific program1. This translates into reduced quality of care in a phenomenon described by many authors as the “July effect”2. Other studies show that depression is high amongst residents and reduced self-confidence during the transition months can be a contributing factor. The traditional orientation process of new interns nationwide does not directly involve input from present first year residents and therefore lacking much interaction, two-way communication, and feedback. Based on this deficiency we (the outgoing first year residents) instituted a peer to peer orientation for new interns utilizing a hybrid of interactive learning/teaching and simulation which have been validated as highly effective methods3.

Methods: Quality improvement(Q.I)was planned to involve all 23 new I.M interns and occurred in the last week prior to commencement of residency training on July 1st 2016. Our Q.I involved:(1)3 hour session with a) interactive learning and teaching about first year rotations (b)simulation of electronic medical record(EMR),(c)reflections about challenges faced as interns in different units.(2)Provision of an intern manual/guide to all participants, prepared by current first year residents.The 1st hour of interactive learning involved teaching the interns efficient discharge process. This included discharge medication reconciliation and discharge summary(DS)documentation.The 2nd hour was teaching appropriate physician documentation, how to activate the rapid response team,compliance with our hospital/NY state public health mandates. The 3rd hour was simulation of medication reconciliation process,DS documentation, how to conduct proper hand off during shift change.Experiences about the dynamics and work flow were shared. We provided each participant an electronic and a hard copy manual with valuable information that will aid in their daily routine.We hope the new interns would a) have increased self-confidence for high performance during the transition months b) demonstrate improvement in efficient discharge process.c)demonstrate improvement in physician documentation,d)decrease medical errors.Performance of previous year interns during their transition months will serve as a control.

Evaluation Plan: Q.I was carried out with 22 of the expected 23 new interns in attendance.All 22 participants present received the new intern manual provided at the end of the project.A pre- and post-survey to assess confidence level of participants showed an average increase of 34% in the confidence level of attendees.A post intervention survey showed 99% were highly satisfied with the methods utilized and contents taught. Some behavioral changes have been noticed by our faculty members as new interns are seen utilizing the manual provided.Objectively,we shall compare participants(intervention group) performance in the area of discharge documentation and rate of documentation errors to the control group using the JACHO standard.Data will be obtained retrospectively for the duration corresponding to the first 3 months of commencement of residency training for both groups.We hope to consolidate improvements by incorporating feedbacks from participants over 3 PDSA cycles.

Potential Impact/Lessons Learned: The cumulative effect of improved confidence of new interns and ensuring smooth transition will result in improved performance.Involvement of present first year residents during new intern orientation process in a peer to peer format has a potential to reduce the "July" effect across the nation.

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Teaching teach-back: a model for patient-and-family health education in pediatrics

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Idea/Problem Statement: A teach-back workshop series for pediatric residents to improve patient-and-family discharge education for children admitted with severe asthma.

Rationale/Need: Asthma is the most common chronic illness of childhood, accounting for nearly 700,000 ED visits, 200,000 hospital admissions, and $56 billion dollars in health care costs.1-2 In an effort to reduce avoidable asthma exacerbations, Joint Commission guidelines for the management of pediatric asthma call for providing a patient and family with a written asthma action plan detailing the plan of care, and ensuring asthma education is repeated at every interaction with the health care system.1 Teach-back is a teaching tool for patient health education, grounded in educational theory, and established as an effective tool for improving disease-specific knowledge, adherence to medications, and self-efficacy in patients with chronic disease.3 Currently in our institution, no formal assessments of patient and parental understanding of the asthma action plan are conducted at time of discharge from the hospital. We propose a curriculum designed to educate pediatric residents on the principles of patient-and-family-centered communication to improve patient understanding of asthma action plan recommendations, encouraging proper management of this chronic condition in the home setting.

Methods: This workshop series will include PGY-1 pediatric resident trainees at the Children's Hospital Los Angeles (n = 32) on inpatient general pediatrics inpatient rotations from February to June 2017. The workshop will include a series of three sessions, 90 minutes each, conducted over the course of a 4-week clinical rotation, in small groups of 6 residents per session. The curriculum is designed to provide pediatric residents with a basic understanding of asthma home care management, skills for improved patient-and family-centered communication in discharge education with emphasis on the teach-back method, and progressive opportunities for engagement with the material and techniques through the use of role-play scenarios and direct observations. Session one will focus on asthma care basics to ensure all learners possess a solid knowledge base on which to base future patient-and-family discharge education. Session two focuses on the educational theory and application of the teach-back technique, including demonstration videos and opportunities for peer role play using student-selected topics of interest. Session three is a direct observation of learners utilizing the teach-back technique in standardized cases of asthma discharge education with feedback from the facilitators. Learners also have the opportunity to contact the workshop leadership for additional direct observation while providing discharge education with active patients admitted for severe asthma.

Evaluation Plan: Attendance will be taken at each session to ensure participation by all residents. Session evaluation forms will be provided for each session and the workshop series in its entirety, to assess the quality and usefulness of the curriculum. Standardized, published observational rating forms will be utilized to assess learner competency with the teach-back technique during the role-play scenarios in the final session. After the completion of the workshop series, behavioral evaluation will be conducted on a sample of residents providing asthma discharge education for actual hospitalized patients, using the standardized observational rating form. Lastly, the impact of this workshop series will be assessed using rate of return emergency department visits and/or hospitalizations for asthma within 30 days of discharge, as a marker of patient-and-family learning of appropriate asthma management in the home setting.

Potential Impact/Lessons Learned: Teach-back may be utilized as a model for patient-and-family health education across a variety of clinical diagnoses within pediatrics, and may be extended to other medical disciplines, to improve patient understanding of disease management in the home setting.

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An Online Video-based Curriculum to Develop Clinical Reasoning Skills

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Idea/Problem Statement: An online curriculum to develop student clinical reasoning using deliberate practice on differential diagnoses, justification and contrasting cases.

Rationale/Need: Developing clinical reasoning skills requires deliberate practice on developing differential diagnoses and diagnostic justification, yet traditional curricula do not provide sufficient opportunity to do this.1 Evidence suggests that medical school does not produce graduates who are competent at clinical reasoning.2, 3 Multiple studies have shown that fourth-year medical students' diagnostic justification performance is case specific.3 Many fourth-year students demonstrate borderline or poor clinical reasoning on more than half of cases at the final year of medical training.3 This deficiency in clinical reasoning skills suggests an ineffective learning environment, especially in clerkship. For example, clinical decisions tend to be made very quickly, which makes it hard for medical students to observe physicians' diagnostic thinking and practice their own.6 These studies unanimously stress the need for curriculum innovation that ensures medical students' deliberate practice of clinical reasoning and access to experts' cognition while diagnosing.

Methods: Southern Illinois University School of Medicine developed an online, interactive, video-based curriculum streamer named Critical Clinical Competencies (CCC). The CCC curriculum is designed to provide learners the opportunity to diagnose 144 discrete conditions associated with 12 chief complaints, accompanied by observation of experts' clinical reasoning process, for the first three years of medical training. It serves as students' individualized and self-regulated approach to developing clinical reasoning that is supported by expert role modeling. We adopted online learning as a curriculum environment because asynchronous online learning can deconstruct clinical reasoning practice as learnable and teachable objects while utilizing patient encounter simulation. CCC is designed to create a learner-controlled environment where a clinical reasoning process can be slowed down, and students have opportunities to stop to think about their diagnoses and justification. Patient information is gradually provided in a standardized patient video format in the order of CC, HPI, PMH/SH/FH, ROS, PE, and lab/test. At each step, students are prompted to use new information and revise their differential diagnosis and justification. They can also compare their clinical reasoning with an expert panel's reasoning at each time. Due to this asynchronous nature, students' learning can go into a deeper level as they are asked to compare and contrast cases and their reasoning relative to experts.

Evaluation Plan: The CCC curriculum enables us to guarantee that students see and reason through 144 diagnoses associated with 12 chief complaints they will likely encounter as general practitioners. As a result, we expect to see improved clinical reasoning at the end of the first, second, and third year of training relative to historical controls. In addition, we expect to see a steady increase in reasoning development throughout all three years of the curriculum. To explore these outcomes, we are instituting a 12-case standardized patient exam based on the 12 chief complaints to be delivered at the end of the first and second years of medical school and at the end of core clinical clerkship training. Clinical reasoning will be assessed using diagnostic justification essays.3 The CCC curriculum is a web-based online curriculum that can easily be utilized by other medical schools. It also has a web-based case authoring and management system, which allows an admin to edit cases without programmer help.

Potential Impact/Lessons Learned: Potential impacts include: (1) facilitating students' self-directed learning in clinical reasoning skills development on 144 diagnoses, (2) detecting struggling students in clinical reasoning skill earlier, and (3) creating a performance assessment culture that emphasizes diagnostic justification.

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eMpower: A Peer Mentorship Program at the University of Michigan Medical School

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Idea/Problem Statement: eMpower, founded and led by medical students, is a near-peer mentorship program at the University of Michigan Medical School (UMMS).

Rationale/Need: The journey of medical school can be challenging, from the first time you step through the lecture hall doors to determining your role on the healthcare team as a clinical student. Although medical students frequently face similar obstacles along the way, the current structure of medical education does not provide a space for upperclassmen to effectively share lessons learned with their underclassmen peers to better prepare them for these challenges. Year-specific academic calendars and physical separation between pre-clinical and clinical environments hinder the development of these connections. In response to the need for more interaction and mentorship between the different years, medical students founded and launched the eMpower program this fall at UMMS. The overarching goal is to unite medical students from all classes in a small group setting to support one another in finding personal and professional success. The program creates a platform for upperclassmen to serve as mentors by communicating acquired knowledge and sharing personal experiences with underclassmen. This practice allows mentors to refine their teaching skills and become more confident in this environment (1). These skills reinforce students' future responsibilities as physicians. The small group format also creates a space for underclassmen to ask questions, discover newfound interests, and reflect on the challenging, yet exciting road ahead.

Methods: Out of a total of 691 students, 272 students chose to participate in eMpower. Students from all classes were divided into 17 small groups, each comprised of about 16 students. Within each group, 2-4 medical students were selected to serve as student facilitators to manage communication between group members and promote student engagement.

Students will remain with the same assigned group for the remainder of their time at UMMS. There are four scheduled eMpower sessions throughout the year, each one focused on providing near-peer mentorship on topics that medical students frequently seek guidance in. These topics include: achieving academic success, discovering your path through extracurriculars and research, practicing wellness, and thriving in the clinical environment. Prior to each session, group facilitators are provided with a student-designed template outlining specific session objectives, suggested activities, and discussion points. This ensures consistency amongst the groups and guided development of strong mentorship skills, such as management, teaching, and effective communication. In contrast to the more traditional dyadic mentoring, eMpower's small group mentorship model exposes students to a wider variety of opinions and experiences, promoting the formation of relationships aligned in similar values and professional desires. It also provides a solution to the limited number of mentors, commonly noted to be an issue in the medical community (2).

Evaluation Plan: To gauge the effectiveness of the mentoring sessions and ensure that eMpower continues to meet its goals for all students, participants anonymously complete surveys in Qualtrics following each session. Questions assess the overall effectiveness of the session, development of mentorship skills, acquisition and future application of new information, and evaluation of small group dynamics. Both qualitative and quantitative information will be collected through open responses and Likert-scale ratings. The survey questions address similar themes across the four sessions to allow for longitudinal monitoring of growth in students. Furthermore, a post-participation survey will be administered following completion of the eMpower program to allow students to reflect on their personal and professional transformation, as well as areas for potential improvement in programming.

All data analysis will be completed in Qualtrics.

Potential Impact/Lessons Learned: The eMpower program is a novel, near-peer mentorship initiative that will create a greater sense of community at UMMS, as well as equip students with the relationships, tools, and strategies that will help them thrive both in medical school and in their future careers as physicians.

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Weight Stigma Reduction among Medical Students through Narrative Medicine

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Idea/Problem Statement: A narrative medicine curriculum for medical students to reduce anti-fat stigma and increase empathy for the experiences of fat patients.

Rationale/Need: Public health concern about the "obesity epidemic" has led to increased research about the multifactorial causes of weight gain; this new research demonstrates that many of the negative stereotypes about fat individuals are not only offensive but scientifically inaccurate (fat used herein as a neutral descriptor in solidarity with the fat activism movement). However, stigmatization of fat individuals persists among medical practitioners, a group with access to the data that refute these negative stereotypes and an obligation to provide respectful, evidence-based care to all patients. Alarmingly, studies indicate that younger age is a strong predictor of anti-fat bias among health professionals (1). Furthermore, "morbidly obese" patients have been shown to be the most common target of derogatory humor by both medical students and attending physicians (2). Thus, it is imperative that interventions to reduce fat phobia take place in undergraduate medical training prior to contact with patients. Narrative methods such as theater, creative writing, and film-making have emerged in recent years as powerful tools for such interventions.

Methods: This intervention will be designed for groups of 5 to 10 medical students and 5 to 10 non-medical participants who will meet 6 times for 2 hours per session. Each student will be paired with a fat person who has experienced medical discrimination based on their size. These participants will be recruited from personal networks and fat activist/educator communities. During the first session, participants will collectively establish agreements about discussing sensitive and potentially hurtful topics related to weight stigma. The first session will also focus on deconstructing fat phobia through educational materials (e.g. article and book excerpts, images, and videos) that challenge assumptions about fat through the lens of culture, history, and medicine. Each of the next four sessions will follow this format: 1. Close reading of creative works that engage with fatness. 2. Short writing exercises related to works discussed. 3. Workshopping their own writings in dyads (i.e., medical student and a community participant). Texts will come from a variety of narrative media, including fiction, non-fiction, spoken word, and graphic arts. The final session will be a participant focus group. Facilitation of each session will be shared by the investigators and experts recruited from disciplines such as sociology, nutrition, fat studies, and literature. Participants will be given the option to publish their works on a webpage created specifically for this workshop series.

Evaluation Plan: Assessment will take a mixed-methods approach. Quantitative: a demographic survey will be administered at time of consent. The Fat Phobia Scale (3) will be administered to all participants prior to and following the workshop series. This questionnaire measures attitudes about fat people based on positive and negative descriptors. Qualitative: transcribed recordings of the focus group will be analyzed using content analysis, which systematically examines textual data to make inferences based on key words and themes.

Potential Impact/Lessons Learned: Medical students who work to reduce anti-fat bias will be better equipped in the future to practice empathetic, effective, and weight-neutral care for fat patients.

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"Invent-then-Tell": A Constructivist Approach to Procedural Skill Acquisition and Adaptive Expertise

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Idea/Problem Statement: Self-regulated, hands-on learning activities (i.e., invention) prior to direct instruction may improve preparation for future learning (PFL).

Rationale/Need: Health professionals must efficiently use previously-acquired knowledge to provide quality patient care. Beyond efficiency, however, the diverse and changing health care milieu requires practitioners who have developed adaptive expertise [1]. That is, practitioners must apply foundational knowledge flexibly in order to implement novel or 'outside-the-box' solutions within diverse and complex clinical contexts. For trainees, this adaptability has been conceived as Preparation for Future Learning (PFL), which describes the capacity to use resources and strategies to problem solve in new learning situations [1]. Yet, the concept of PFL is not considered in most contemporary medical curricula, and assessment for the capacity is non-existent [2]. Educational Psychologists have studied educational designs that might improve trainees' PFL abilities. Evidence is growing for interventions in which trainees engage in self-regulated, hands-on learning before they receive direct instruction from an experienced educator [2]. This "Invent-then-Tell" sequence is the converse to the usual "See one, Do one" approach from clinical medicine. No study has been conducted to compare these two versions of instruction, especially when the goal of instruction is to teach trainees to transfer knowledge to novel situations. We plan to study the effectiveness of an "Invent-then-Tell" curriculum for procedural skill acquisition and future learning ability using simulation-based medical education.

Methods: Our Invent-then-Tell curriculum uses the constructivist approach of allowing learners to Invent solutions to a novel problem before they are directly taught infant lumbar puncture (LP). Invention activities are designed to help learners notice important structural features and form organizational strategies, which prepares them to learn from expert instruction. The curriculum is designed to reflect the characteristics of a good invention task [3]: it presents a clear goal and encourages learners to develop an efficient, reproducible strategy for performing LP that would be effective in simulation and clinical settings. To achieve this goal, learners work in groups and invent strategies with instructor guidance. The goal of instruction is to guide learners in their inquiry process and assist them in understanding the deep structure of the procedure, as opposed to providing the correct solution. Thus, instructors refrain from giving explicit directions or manipulating the equipment, with the goal that learners can independently invent as many strategies as possible. This Invention experience is followed by presentation of a video recording, and a live demonstration of infant LP technique by an expert, culminating in a second opportunity for practice with the simulator under instructor guidance.

Evaluation Plan: We will use a double-transfer design to compare "Invent-then-Tell" training to a Mastery Learning curriculum (i.e., a stringent form of competency-based education). The design involves an initial learning session followed by a second session in which learners transfer their strategies developed in the first session to problem solve a novel task. Participants then complete a final assessment evaluating acquisition of the new material (referred to as the PFL assessment). In our first session, students will be randomized into an experimental group, undergo a baseline assessment of infant LP skills on a simulator, participate in group-specific instruction and practice, and complete a final assessment. In the second session two weeks later, all participants will view an instructional video on knee arthrocentesis and then practice independently with a simulator. We expect the Invent-then-Tell group will display superior PFL capacity on the final test of knee arthrocentesis performance.

Potential Impact/Lessons Learned: Our work would be the first to evaluate the feasibility and impact of an "Invent-then-Tell" curriculum for simulation-based training of procedural skills. By using a novel outcome, the PFL assessment, our work would also provide support for using constructivist approaches when designing education.

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Exploring Causes of the Causes: Novel, Student-Led Structural Competency Curricula at OHSU

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Idea/Problem Statement: "Near-peer" facilitated discussions of structural determinants of health among medical students in a student-led component of OHSU's UME curriculum.

Rationale/Need: In the context of widespread US health disparities, increasingly appreciated to be driven by systemic barriers and structural vulnerabilities, medical students and faculty recognized a strong need for required undergraduate medical training to critically and practically investigate how social structures make people sick (1,2). Structural competency is an emerging framework in medical education that strives to engage future physicians in identifying institutions, policies, and structures that shape both individual health and clinical interactions within ACGME competency-based curricula paradigm (3). In 2014, a cohort of Class of 2017 medical students articulated a need for more rigorous and clinically-integrated discussions of the effects of politics, policies, social structures, and systemic oppression on the health of populations and individuals in the formal undergraduate medical curriculum at OHSU. The cohort created a student-led component of the MS1 curriculum with the primary objective to expand students' ability to define, identify, and analyze structural issues and their influence on personal biases, population-level health, and medical practice. In parallel, an MS2 elective course "Leadership, Education and Structural Competency" was created as a mechanism for student-led curriculum development, collaborative learning and teaching, and facilitative leadership, and teaching skills.

Methods: A student-led component of the MS1 curriculum was created and led by MS2 students participating in an elective course "Leadership, Education and Structural Competency" (LESC) to prepare students with training in facilitative leadership, applied pedagogy, and curriculum development. Seventeen MS2 students facilitated "near-peer" group sessions for all MS1 students (135), after receiving 10 hours of formal facilitation training. Each MS2 led (or co-led) the same 12-13 MS1 students over 5 sessions, allowing the creation of a "safe space" for engagement in a dialogue and analysis of nuanced, often divisive themes. Student collaboration with administration resulted in five 1-1.5 hour sessions integrated into the "YourMD" OHSU first-year curriculum on 5 topics: 1) Defining Structural Competency: An Overview, 2) Implicit Bias, 3) Urban Health Issues, 4) Rural Health Issues, and 5) Specialty Care and Structures. Each session lesson plan was created by a student team and collectively edited using consensus-building and group facilitation. Sessions included a pre-work activity, warm-up exercise, 1-2 facilitated exercises on session topic, culminated with a "Clinical Pearl" to practically apply structural analysis in clinical settings, and "Plus/Delta" exercise to allow point of learning feedback of session strengths and weaknesses. Applicable community resources were also shared and distributed.

Evaluation Plan: A collaborative and iterative model of assessment was implemented within the student-led cohort. MS2s participated in self-facilitated group reflection on individual and group outcomes after each session. Qualitative feedback from MS1 participants was gathered from in-session "Plus/Delta" exercises. These two sources of iterative feedback informed the development of the curriculum for subsequent sessions. Since 2014, MS2 participation in the LESC elective has increased with each subsequent year (17 students in 2014, 27 in 2015, and 38 in 2016). We hypothesize that this growing MS2 participation demonstrates the effectiveness of the curriculum. Summative evaluation of the effect of this curricula on prior knowledge, knowledge gained, and impact of near-peer model to be assessed with IRB-approved Likert and descriptive evaluation (please see Innovations with Outcome Data submission: Assessing the impact of a near-peer taught structural competency curriculum on medical students).

Potential Impact/Lessons Learned: This curricular design and content allows students to operationalize structural analyses while developing effective skills to carry out structurally competent teaching and clinical care, and is the first successfully implemented structural competency curricula in undergraduate medical education.

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Interprofessional learning: Conquering time, distance, and disciplines

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Idea/Problem Statement: Interprofessional team case discussions based on common core competencies will improve cross-professional understanding and cooperation among students.

Rationale/Need: While there have been numerous calls for increased interprofessional education in healthcare[1], such training lags behind in the demands of clinical care[2]. In 2011, an expert panel from six national associations of health profession schools released a set of four interprofessional core competencies designed to build on discipline specific competencies in guiding training the health professions[3]. 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 exist[3].

Methods: Interprofessional student teams will discuss clinical cases using online technology that accommodates differences in schedules and professional demands. Using the learning management system Moodle, each case will include information regarding the patient's initial presentation, background information on personal social, medical and family history, and include opportunities for teams to develop statements and questions for the patient (and family) to ensure comfort, optimal communication and trust. Further information will be provided to the teams as the case progresses. The information will reflect the decisions the teams made previously. Guided discussion questions throughout the case will focus on team member understanding of potential conflicting professional objectives in complex care. / Cases will be developed to meet the core competencies goals established by IPEC and will allow students from different disciplines to understand and reflect upon common of conflicting objectives of each profession leading to a collaborative method for addressing interprofessional care challenges.

Evaluation Plan: Pre-and post-participation survey to identify the baseline effects that professional background and previous experience have on attitudes towards IPE and understanding of the roles of other professions. Face-to-face focus group discussions facilitated by program faculty will document the student experiences.

Potential Impact/Lessons Learned: This program is designed to improve students' understanding of, and abilities to collaboratively work with other professions and will also engage interprofessional faculty in the dialogue and action needed to continuously improve upon interprofessional education initiatives.

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Interprofessional Education: Nursing Students Guide Medical Students to Administer Vaccines

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Idea/Problem Statement: Medical students learn to administer influenza vaccine under the supervision of nursing students while fulfilling a medical school competency.

Rationale/Need: A need for interprofessional education (IPE) exists, as future physicians need to work in an environment fostering collaborative relationships with other medical disciplines. All Medical College of Wisconsin (MCW) students are required to receive influenza vaccines annually, as well as demonstrating competency administering an injection. An innovative idea of teaching medical students' administration of, the influenza vaccine using nursing students as preceptors was implemented in the Bench to Bedside course for second year medical students at the Medical College of Wisconsin. By utilizing the expertise of nursing students experienced in administering injections to patients as preceptors for medical students with little to no experience, the Bench to Bedside course was able to foster collaborative interprofessional activity, while at the same time promote competency in medical student vaccine administration.

Methods: Two hundred second year medical students and four fourth year nursing students participated in the influenza immunization interprofessional education session. Medical students were divided into four groups of 50 students per session. The four nursing students were present during each of the four medical student sessions. All participants listened to a lecture on influenza vaccination injection procedures. With the guidance of the nursing students, the medical students applied newly acquired knowledge to administration of influenza vaccines to their colleagues. Nursing students moved from group to group, guiding the medical students through this process and providing them with assistance, tips, and answers to their questions. Observations provided that medical students sought out assistance from the nursing students more often than asking questions of their instructors.

Evaluation Plan: A debriefing session followed the vaccine administrations involving the faculty, the four nursing students and medical students that volunteered to attend. Feedback revealed that students valued the opportunity to collaborate with other disciplines and increased the awareness of another disciplines' roles, responsibilities, teamwork, and knowledge. A feedback form utilizing three questions using the Likert-type scale was distributed to all medical and nursing students. Sixty-seven responses were returned including four from nursing students. Seventy-three percent of students felt the activity was an excellent or very good way to foster a climate of respect and trust, while 80% felt the session was an excellent or very good way to help motivate them to reach out to another profession to promote quality patient care. Of the medical and nursing students responding, 67% thought the session was an excellent, very good or good way to learn something new about a different medical discipline.

Potential Impact/Lessons Learned: Development of IPE skills early in medical education is important. Our session demonstrated to medical students that other professional disciplines have expertise and competence that is complementary to physician skillsets and these types of collaboration benefit their education and patient care.

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Shadowing RNs: Improving interdisciplinary communication and understanding of CSHCN

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Idea/Problem Statement: MDs have little training about what it is like to be a nurse or care for a child with special healthcare needs. Would shadowing RNs help?

Rationale/Need: As medicine advances, children with special healthcare needs (CSHCN) are living longer and requiring more interdisciplinary care. ACGME requirements include exposure to a medical home model but residents have varying experiences and many attendings still express discomfort with caring for CSHCN. A few programs have used preschool and home visits with positive results, but no published studies have attempted similar experiential learning in an inpatient setting, which could be easier to coordinate. The ACGME also expects residents to work effectively as a member or leader of a healthcare team and work in interprofessional teams to enhance patient safety and improve patient care quality. Thus, a secondary goal is to give residents an appreciation for how nurses balance clinical care with family centered rounds. By involving RNs as educators, they can build closer connections with the residents. Some internal medicine programs have used RN shadowing to improve satisfaction rates of RN-MD communication and competence in systems-based practice, but there is no literature about such efforts among pediatric residents. Currently, our residents gain plenty of experience in acute care and discharge planning for CSHCN, as well as daily interaction with nurses. There is also a second year "safe home" visit. However, there are few formal didactics addressing care needs for CSHCN or specific tips about working with nurses, and the home visit is usually with a healthy toddler.

Methods: Our target learners are pediatric residents at a large tertiary freestanding children's hospital. A 32-bed general pediatric ward at was selected as the pilot because this unit generally has a high percentage of CSHCN and all residents will see patients on this floor. All interns (n=32) will spend one morning with an experienced bedside RN from morning signout through family-centered rounds. The charge nurse ensures that the assigned RN has at least one patient (up to four) that can be classified as CSHCN. The interns can choose to observe the nurse at work or participate more directly in care tasks such as hanging gastric tube feeds, suctioning, or giving medications. They also have the opportunity to spend more time with patients' families compared to being an intern on service. At this time, the interns do not receive any specific materials in preparation. The nurses receive guidelines instructing them to treat the intern as they might a nursing student rather than an MD, even if the intern may be familiar with the patients.

Evaluation Plan: All interns will complete pre and post-shadowing surveys including self-assessment of level of comfort in caring for CSHCN, attitudes toward CSHCN and their caretakers, and how they understand nurses' roles in caring for such patients. Current second-year residents will be asked to complete a version of the post-shadowing survey as a historical control group. Nurses who are being shadowed have the option of providing informal feedback, but it is not required since they are not officially evaluating the intern. At the end of the academic year, all ward bedside nurses will be asked to participate in a survey to assess whether MD-RN communication has improved and whether this program played a significant role. If the program is deemed useful, it will be incorporated into the standard resident curriculum. Evaluating impact on quality of care and families' perception of their care may be reviewed in the future once the program has been more established.

Potential Impact/Lessons Learned: This model for pediatric residents learning from inpatient nurses could be applicable to any training program seeking to improve interdisciplinary communication and care for patients with special healthcare needs.

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A Multidisciplinary Communication Boot Camp

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Idea/Problem Statement: To develop a communication boot camp to teach pediatric interns and nurses novel approaches to conflict resolution.

Rationale/Need: The IOM found that >60% of medical errors were related to communication difficulties among patients, doctors and nurses. In an effort to address this issue in our residency we undertook an effort to develop a communication boot camp for all of our PL-1s. While we found that this was helpful, we felt a better approach would be to match each intern with a nurse from the hospital where they did most of their clinical work. The workshop uses case based scenarios from real cases at our hospital to teach both interns and nurses to deal with communication challenges. / We teach a number of techniques including Normalizing, Affect Labeling, Managing expectations, Mirroring and modeling to name a few. Functional MRI studies have shown that when these tools are used, specifically Affect labeling the brain shifts from the "hot" emotional zone to the rational zone. Many of the problems that interns and nurses have at our hospital and likely nationwide involve misunderstanding and not hearing each others point of view. The rationale for our joint workshop is to teach listening skills as well as verbal and non-verbal skills.

Methods: Each workshop is an 8-hour session held outside of the hospital. We split the 37 pediatric, medicine-pediatric and pediatric neurology interns into 3 groups and match them with 37 nurses. Each session has 12-13 pairs. Using didactics and videos, the concepts are presented to the large group. After presentation of each set of skills the pairs role-play using cases developed from actual cases in our hospital. Each case has two characters with distinct information that the other is unaware of. After each case there is a debrief to discuss the participants views of the cases, how they were handled and what tools were used. The pairs switch partners after each case. Participants play numerous roles. Nurses play interns and vice versa. All participants play parents. Throughout the workshop there is much time to practice techniques and provide feedback. Several facilitators/observers are present to observe and give real-time suggestions during exercises. At the conclusion of the workshop participants are invited to care a difficult communication problem that they have experienced and how they might have approached it if they had known of the tools used in the workshop.

Evaluation Plan: Before each workshop the participants are given a pretest which contains a number of scenarios involving communication issues and they are asked how they would address them. Our current plan is to follow up with the same test 6 months to a year after to see if the techniques learned had changed the answers. Also we will survey tall participants to determine which skills have been used in real life situations.

Potential Impact/Lessons Learned:

References:

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Hospitalized Patient Perception of Medical Students, Residents and Attendings

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Idea/Problem Statement: We want to find out if physicians at training institutions explain their roles to patients and does that make them feel more comfortable?

Rationale/Need: Medical students and resident trainees often do a poor job explaining the different roles of the medical team to their hospitalized patients. Therefore, patients often struggle to know that their care is being supervised and directed by a faculty attending physician. Studies have shown that patient satisfaction is high when they know that their care is being delivered by trusted, experienced physicians. We will seek out to explain to patients of varying socioeconomic and educational backgrounds the varying roles of the medical students, residents and attending physicians at an urban public hospital and urban private teaching hospital and determine if explicitly telling the patients that their care is being directed by an attending physician improves their perception of their care. If there is a significant improvement in patient perception we will work to build a curriculum to teach residents to explain the roles of the different health care providers.

Methods: Patients pending discharge from the LAC+USC inpatient medicine wards and the Keck Hospital inpatient wards will be asked to participate in this study. Patients will be explained the differences between a medical student, a resident and an attending physician. A survey will then be administered asking the following questions: 1. Do you know who the attending, medical student and resident were during your hospital stay? 2. Which of these people was responsible for your care during your stay? 3. Are you comfortable with this provider at this level of training? 4. Did the team explain the different roles of each of the team members? 5. Did you team explain that the attending physician oversees and supervises your care and all decisions being made? 6. Does know that make you fell more comfortable with the resident or medical student providing your care? This study currently has IRB approval. We plan to survey 250 patients at Keck Hospital and 250 patients at the LAC+USC Medical Center.

Evaluation Plan: We will determine if patient satisfaction with their health care providers is improved when they receive an explanation of the different team members at a training institution. We will analyze the results of the survey and stratify them comparing results at Keck Hospital versus LAC+USC Medical Center. We will also determine if socioeconomic status, sex, education, martial status or income affect the survey results.

Potential Impact/Lessons Learned: If patient satisfaction is improved when patients are given an explanation of the roles of the various medical team members we will create a curriculum encouraging graduate medical education programs to help residents better communicate medicine team roles to patients.

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Uncovering Perceived and Unperceived Learning Needs to Improve Continuing Medical Education

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Idea/Problem Statement: Can challenging cases provide insight into unperceived learning needs within the context of local CME programs?

Rationale: Continuing Medical Education (CME) must tailor educational activities to meet not only perceived learning needs, but also unperceived learning needs. The present study examined whether challenging cases, as reported by practicing clinicians, can provide insight into both perceived and unperceived learning needs. Physicians tend to choose CME events based on their own perceived learning needs; yet CME providers must develop activities that also address unperceived needs. Various methods have been used to assess unperceived needs including information from registration forms, statistics on group participation and course evaluations, as well as knowledge tests, simulations and expert advisory groups. What has not been explored thus far in learning needs assessment is using "challenging cases" as frameworks for improving medical education. This method may tap into "objective" needs without the influence of perception, judgement and self-bias.

Methods: To perform the needs assessment, a 39-question survey was emailed to practicing healthcare providers, and answers were collected over a 3-month period. The questionnaire consisted of a combination of structured and open-ended questions examining reasons for choosing specific CME activities, barriers preventing participation, and factors that changed learning needs. To assess perceived needs, participants were asked to identify areas in which they would like to receive educational activities in. To examine unperceived learning needs, participants were asked to describe three challenging cases encountered in practice. Clinicians' descriptions of challenging cases allowed comparison of unperceived learning needs across different healthcare practitioners. We received responses from 2659 participants from the regions of Hamilton, Halton and Niagara. This project only focuses on responses by participants that identified themselves as "Specialists", narrowing the responses down to 417 clinicians (15.68 % of the total respondents). The data analysis was conducted in three parts: coding, tabulation and comparing. The coding was conducted independently by a physician and a medical student. The codes were then tabulated to convert qualitative data into quantitative data for comparison and pattern identification. In our study, we identified the top 10 challenging cases and top 10 learning needs, and discuss other findings related to study significance in developing CME activities.

Results: 1141 physicians responded to the survey. Reasons for choosing CME events included problems encountered in practice (24% of respondents), assessment of own learning needs (19%) and overall enjoyment of content (16%). Barriers to participation included time away from work, cost and timing. Participants identified factors that have changed their learning needs as technological changes (65%), changes in patients' knowledge (48%), and changes in scope of practice (50%). With regards to specific learning needs identified by participants, most were within the medical expert domain (75%), followed by scholar, manager, health advocate, professional, communicator and collaborator. When asked to describe their most challenging cases, the majority of responses fell within the medical expert domain (85%), other responses were as follows: advocate, communicator and collaborator; other CanMEDs roles constituted <1% of responses. The top 10 identified challenging cases from greatest to lowest count were: oncology, communication, mental health, hematology, neurology, infectious disease, pediatric, cardiology, surgery and critical care. The top 10 learning needs as identified by respondents were cardiology, neurology, oncology, pharmacology, hematology, manager role, surgery, mental health, critical care and pediatric. In this study, we discuss the overlap and discrepancy of challenging cases and learning needs, as well as other findings elicited from code tabulation and comparison.

Potential Impact/Lessons Learned: If challenging cases provide insight into unperceived learning needs, differences between top ten learning needs and top ten challenging cases highlight differences in perceived knowledge gaps and unperceived learning needs arising in practice.

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When Students Become Teachers: Upperclassmen Serving as Near-Pear Educators

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Idea/Problem Statement: Incorporating senior medical students in curricular development and implementation of Clinical Skills sessions.

Rationale/Need: SUNY Downstate College of Medicine recently introduced the Integrated Pathways Curriculum (IPC), an innovative, competency based preclinical foundations program. With the advent of the IPC, students pressed faculty to develop a Medical Educator Pathway (MEP). A pathway grounded on a philosophy of combining the IPC with the opportunity for teaching experiences, student leadership, and the development of educational techniques for those aspiring to pursue academic medicine. Through the MEP, a medical student designed the Near-Peer Educator Program (NPEP) in order to establish co-facilitation between senior students and institution faculty for all clinical skills sessions. The NPEP was founded upon three ideals: fundamental proficiency in clinical practice, establishing the educator role, and curricular development. With this in mind, when students become teachers, the goal is to improve junior student outcomes and provide senior medical students with the necessary professional development for residency. Furthermore, using students as program coordinators provides the unique opportunity to equip them with the tools for future medical education development. The ultimate goal of this presentation is to provide insight into how other medical institutions can recreate a student run near-peer education program as a component of their curricula.

Methods: After recruiting interested second, third and fourth year medical students, we created a program in which upperclassmen serve as co-facilitators in clinical skills labs. The focus was on constructing a standardized approach that provides senior medical students with appropriate “faculty” development and junior medical students with consistent longitudinal education in their preclinical years. By utilizing senior medical students, we relied on the property of cognitive congruence, by which a similar education level allows greater ability to convey information due to comparable knowledge base. In these clinical skills sessions, senior students participate in demonstrating and explaining physical exam maneuvers and their relevance to diagnostic scenarios. Moreover, by having motivated student coordinators serve as liaisons between the clinical skills faculty and upperclassmen, a more streamlined process was created.

Evaluation Plan: Through a survey-based method, student feedback provides an assessment of the efficacy of having Near-Peer Educators (NPE) alongside institutional faculty in clinical skills sessions. This feedback provides us with insight on how junior students correlate the level of NPE involvement with their perception, comprehension and implementation of the materials provided. In addition, with the transition to the IPC, institutional faculty have had the opportunity to see the direct impact of the NPEP on the structure of clinical skills sessions. With a questionnaire, faculty input highlighted the significant improvement in the efficiency and efficacy of the reorganization of the sessions that occurred with the integration of the NPEP.

Potential Impact/Lessons Learned: Implementing a student run NPEP at other medical institutions will provide their students with the opportunity to grow as both learners and educators. Placing students as coordinators streamlines student-faculty communication, as well as provides a method for the coordinators to practice pedagogy.

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Keck Anatomy Mentorship Program

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Idea/Problem Statement: A near-peer program designed to promote community-building and improve gross anatomy exam performance of at-risk MS1s through mentorship from MS2s.

Rationale/Need: Anatomy-based skills were ranked as being of high importance in clinical practice, but recently the anatomical knowledge of medical graduates has been criticized by anatomists and surgeons. Our program addresses this problem by providing a platform for face-to-face, small group cadaveric teaching, an anatomy learning method strongly preferred over self-direction. Peer teaching has been widely recognized as a valuable approach to learning and allows for deeper understanding of concepts. Students and mentors both benefit from peer teaching experiences; students by obtaining tips, advice, and insight in a non-threatening environment, and mentors by honing their teaching skills. Teaching is a significant part of the role of the physician, as is the development of leadership, professional, and interpersonal skills, all of which can be gained by a student mentor in our program.

Methods: The mentorship program will take place weekly over one year to correspond with MS1 gross anatomy laboratory workshops. Twenty MS1 students defined as “at-risk” by the administration based on admitting GPA and MCAT scores will be paired with ten MS2 student mentors identified based on exemplary performance on their first-year gross anatomy exams and interpersonal and communication skills (two students per one mentor). MS2 mentors will be trained in a 1-hour training session by the academic support faculty and gross anatomy faculty. In addition to the two-hour anatomy lab session each week, MS2 mentors will provide MS1 mentees with tips, advice, and a weekly review packet outlining the associated lecture material. MS1 mentees will be asked to submit questions pertaining to their lab two days before their meeting with their MS2 mentor. This will require them to go over the material once, critically assess their own understanding, and ask detailed and educated questions to help their mentor prepare. MS1 mentees will have the opportunity to learn in a non-judgmental environment, and MS2 mentors will accrue effective teaching skills, confidence in their own mastery of gross anatomy, and professional leadership skills. MS2 mentors will be available after-hours for questions. MS1 mentees will be encouraged to assist their peers that are not in the anatomy program with difficult topics and distribute learning materials provided by MS2 mentors.

Evaluation Plan: This program will be studied using a longitudinal design that leverages objective and subjective quantitative data from student mentors and mentees. Data include gross anatomy exam scores, a standardized measure of test anxiety, and a survey of student confidence and feelings of community among classmates. This data will be collected at three time points: prior to the first anatomy class, following the first anatomy practical exam, and at the end of the academic year. Inferential and descriptive statistical analyses will be conducted to determine potential changes in student outcomes over time. Mentors will log their hours as an accountability measure.

Potential Impact/Lessons Learned: This program will provide a model for how to best augment a rigorous medical school gross anatomy curriculum with student-led, near-peer instruction in an effort to decrease test anxiety and utilize community interaction to drive learning.

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Developing a curriculum for residents and medical students on a Pediatric Gastroenterology elective

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Idea/Problem Statement: Develop a structured, self-paced curriculum to facilitate learning, diagnosing and managing common pediatric gastroenterology & hepatology conditions.

Rationale/Need: Medical education for medical students and pediatric residents, especially on sub-specialty rotations with duration of 4 weeks, is a difficult task given the resident-duty hour restrictions, time constraints and willingness of individual faculty members and fellows to teach (1). Fourth year medical students and pediatric residents who rotate through the Pediatric Gastroenterology, Hepatology and Nutrition elective choose the rotation because of their interest and it may be the only exposure they have to this specialized field. Thus, it is the responsibility of medical faculty and staff to plan and provide educational experiences. Prior to implementation of the curriculum, rotation-specific learning was sporadic and dependent upon the cases seen during the rotation and the individual faculty member or fellow. Our objective is to improve the knowledge base of rotating medical students and residents in the diagnosis and management of the most common pediatric gastroenterology, hepatology and nutrition topics through a self-paced learning curriculum over the 4-weeks. This curriculum fosters lifelong individual learning benefitting their future career as a pediatrician.

Methods: Kern's six-step approach to curriculum development was utilized to create this curriculum (2). We reviewed the American Board of Pediatrics certifying exam content specifications to determine high-yield topics and created a list of 22 topics including abdominal pain, constipation, failure to thrive, pediatric liver transplantation, short bowel syndrome, etc (3). We then compiled an online repository of 4 required and 18 recommended reading articles from prominent General Pediatric and Pediatric Gastroenterology journals correlating with each topic. Upon starting the rotation, each pediatric resident and fourth year medical student receives a welcome packet detailing their rotation and starting October 2016 also receives access to the online repository of articles. The residents and medical students are encouraged to read one required article per week prior to the beginning of the week. The recommended articles can be reviewed in correlation with the cases seen during inpatient or outpatient service.

Evaluation Plan: The curriculum was instituted in October 2016. It will be assessed using two methods: a pre- and post-test to evaluate individual learning in addition to an elective evaluation survey at the end of the rotation. The pre- and post-test will directly assess the improvement in learning with the curriculum in place. The elective evaluation will provide an overall assessment of the rotation and include a counter-balance measure of whether rotators had enough time to read the articles while balancing their other clinical responsibilities.

Potential Impact/Lessons Learned: The structured and self-paced curriculum will enhance resident and medical student learning during the rotation, despite the time constraints and willingness of individual faculty members and/or fellows to provide education.

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Enhancing an elective for medical students and residents with spaced repetition on smartphones

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Idea/Problem Statement: Use a spaced repetition smartphone flashcard app to increase medical student and resident engagement and knowledge retention on rheumatology elective.

Rationale/Need: Medical students have improved engagement if they use active rather than passive learning.1 The flipped classroom is a way to teach higher level interactive concepts face to face by requiring study of foundational material prior to the live session.2 These interactive sessions are incorporated into the clinical experience on our rheumatology rotation for internal medicine residents and medical students. After the learner presents a patient, we probe their understanding of the subject by asking questions with variations on the patient's presentation. This is very effective when the student is prepared, but less so when a student has not studied beforehand. Many ways of distributing information to study on clinical elective lead to passive learning at home and lack a way to ensure completion of the work prior to the interactive session. These challenges are common to every clinical rotation from third year of medical school through graduation of residency and/or fellowship. Spaced repetition is an active recall tool that targets effort on the items that are most difficult for the learner while maintaining retention of earlier concepts. It has been used successfully in Urology residents with excellent short and long term retention as well as favorable learner impressions of the experience.3 When the study in Urology was done, it was performed on the desktop and has had limited subsequent adoption. Smartphones make this tool markedly more accessible.

Methods: After giving informed consent, medical students and internal medicine residents rotating on our two-week rheumatology elective will install a free spaced repetition app called AnkiDroid on their Android smartphone. If they do not have one, they can access the online version on their iOS device, other smartphone, or (least preferred) desktop. They will be given access to the sets of cards developed by the course director to study. Topics of the cards will include rheumatoid arthritis, the seronegative spondyloarthropathies, osteoarthritis, crystal arthritis, lupus and the connective tissue diseases, and medications. The app will show students the front of a flashcard, prompting them to think of the answer. When they have their response, they flip the card which shows the answer. The learner then indicates whether they would like to see the card 'Again' within the next minute, or whether it was 'Hard,' 'Good,' or 'Easy.' If they reply that it was 'Hard,' they will be shown the card again in a short interval. However, if they said it was 'Easy,' they will be shown that card again in a longer interval. As the student gains confidence with their answers, the intervals expand. This allows students to spend most of their time focusing on cards that are challenging while continuing to see the easier cards every now and then to keep old topics fresh. They will be given the expectation to use the app to study all cards suggested by the app once each day at least five days per week.

Evaluation Plan: Learners will take a pre-test online prior to starting the rotation. At the end of the rotation, they will take a post-test. A survey on perceptions of the app and rotation experience will be administered. At the end of the rotation, Anki usage stats will be captured with a screenshot and submitted as part of the survey. From the usage stats, we will gather data on number of days the app was used during the rotation, number of cards reviewed per day, time spent reviewing cards per day, percent correct (number of correct responses defined as total questions minus questions that were selected for immediate review). Any correlation between usage and difference in score on pre/post tests will be noted. A subsequent test of retention will be administered six months after completion of the rotation. Correlations between usage and score at six months will also be noted. The pre-test, post-test, 6-month post-test, and survey will all be administered through Qualtrics.

Potential Impact/Lessons Learned: Spaced repetition smartphone apps can increase knowledge retention, improve engagement, and provide accountability on preparation before class. The portability, low time commitment, targeted focus on weakest areas, and ease of content development by the educator make this a high yield intervention.

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An updated peer tutoring program focuses on tutor leadership and providing class-wide resources

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Idea/Problem Statement: Our updated tutoring program focuses on tutor development and leadership and aims to provide resources for students at all stages of learning.

Rationale/Need: Many students entering medical school report finding it challenging to adjust to the rigor, volume and pace of the curriculum [1]. Peer tutoring is effective at supporting these students both academically and more broadly, since peer tutors provide a unique type of mentorship from faculty and administrators. At the same time, tutors gain teaching and leadership experience and an opportunity to strengthen their own knowledge of the material. Still, there is relatively little research on how tutoring programs can be structured to maximize these benefits. The DGSOM peer tutoring program has been providing support to students experiencing academic difficulty at all stages of the curriculum for many years but has not developed a research-grounded method of self-evaluation. Several new programs have been introduced in the past three years, with a particular focus on ways to provide resources and support to all students. To this end, this year, we enacted a large restructuring of our program by elevating tutors to new leadership and curriculum development positions within the program and focusing new programming on events accessible to all students, not just those in acute need.

Methods: The UCLA peer tutoring program currently consists of 41 tutors in total and serves students in every year of the standard curriculum. Preclinical curriculum is divided into nine blocks by organ system, while in the third year, students complete core clinical clerkships. Previously, the DGSOM peer tutoring program matched students facing academic difficulty with an individual tutor on an as-needed basis. In 2015-16, to address increasing demand, small-group sessions of 4-6 students per tutor were set up in which the tutor solicited questions and developed a lesson plan prior to the session. However, there was little standardization between groups and no feedback mechanism to assess efficacy. This year, a novel tutoring program structure has been created to address these areas. Tutors are now assigned to run weekly group sessions in specific blocks, denoted "Block Tutors," and serve the rest of the year as individual "Floating Tutors" on an as-needed basis. Block Tutors are overseen by two veteran "Lead Block Tutors." Lead Block Tutors develop standard materials for use in group sessions, coordinate tutor schedules, liaise with faculty block chairs, sit in on sessions to evaluate tutors, and coordinate workshops on study skills and resources open to the class at large. Feedback surveys are sent to all students at the end of each block and training sessions focus on continued tutor development throughout the year.

Evaluation Plan: This marks the first year our program is engaging in regular, active self-evaluation. Surveys are distributed to the entire student body to assess efficacy of tutoring as well as to increase class engagement in services. Surveys include both quantitative ratings of session structure and content and tutor efficacy, but also allow ample chance for free-response questions. These responses are analyzed using Atlas.ti software to identify trends both within and across blocks, providing a living record of tutoring program success. In addition to student surveys, tutors are evaluated by Lead Block Tutors at least once each block and provided feedback directly; and evaluations are assessed by tutoring program coordinators to identify areas for tutor-wide training. Evaluation is still ongoing, but services offered in the first blocks of the year are accessed at maximum capacity, and we have worked to increase the number and type of sessions offered to accommodate demand.

Potential Impact/Lessons Learned: This study explores a novel tutoring program structure that empowers tutors and expands the scope to consider the needs of the class as a whole. If successful, it could provide one model for other interested in developing similar tutoring programs focused on student-driven mentorship.

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Step 1 preparation over the years: Insights and lessons learned from seven years of student surveys

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Idea/Problem Statement: The USMLE Step 1 exam is a capstone of preclinical education, but student approaches toward the exam and level of institutional guidance vary widely.

Rationale: The USMLE Step 1 exam is central to both medical licensure and the residency match process [1]. Many schools, such as the David Geffen School of Medicine at UCLA (DGSOM) provide general guidelines for preparation and set aside a dedicated study period for students to prepare for the exam. Students are encouraged to focus on the school curriculum until the dedicated study period, though many medical students – up to two-thirds in a recent survey at the UCLA David Geffen School of Medicine (DGSOM) – begin studying for the exam during their second year. Students vary widely in their approach to studying, and better understanding what strategies are successful for which students would greatly enhance efforts to develop stronger curricular support for Step 1. Here, we report on trends among student advice over the past six years, focusing on study timelines, resource usage, and anxiety. We end with our approach to presenting these data to current second year students.

Methods: Surveys were distributed to all second year students after the deadline to sit for the exam. In most cases, students were surveyed after receiving their score (2011-13 and 2016), but for two years, surveys were conducted before students received scores but after they took the exam (2014-15) as part of a larger study on separate Step 1 interventions. Data were analyzed using SPSS for quantitative data, using either Chi-square, independent t-test, paired t-test, and one-way ANOVA where appropriate. Pearson correlations were performed to assess relationships between pertinent variables. Qualitative data, including open-ended questions, were analyzed using Atlas.ti software to identify common themes and habits across various subgroupings of students. For example, students were grouped into three categories by self-reported perceived preparation just before the exam, of "not well prepared," "moderately prepared," or "very well prepared," to identify study habits unique to each group. When available, students were also grouped by goal score, actual score, time spent studying, etc. Specific topics mentioned in student comments were coded with keywords, and trends were analyzed by group. These were used to create four presentations for MS2s from August to January, prior to their exam in May. Presentations began with aggregate survey data, summaries of student comments, and specific examples of feedback. Upperclassmen students were also invited to sit on panels at each session.

Results: A total of 535 students from 2011-2016 completed surveys within 3 months after their Step 1 exam. Since 2013, an average of 92 students per year completed surveys within 1 month after taking their exam. Surveys focused on several key areas. Students were asked about their study plan both during the second year and in the dedicated period of Step 1 study; detailed ratings of common resources; and a variety of anxiety metrics to assess well-being during study. Analyzing these results based on time spent studying during the year, as well as anxiety level, revealed several core tenants. First, students who began studying in January or earlier found that time most valuable insofar as it familiarized them with the resources available. Understanding the time required to complete a full block of practice questions, for example, allowed them to more accurately schedule intensive study time later. Students that began studying earlier in the year reported feeling more prepared to take the exam, although their scores did not significantly differ from their colleagues who did not study for Step 1 during the second year. Conversely, a crucial pitfall among students was inclusion of too many resources into their study plan. Based on these results, we put together four presentations for the current MS2s based on the following topics: introduction to Step 1 and resources; how to structure year-long study; how to plan and interpret practice exams; and how to structure dedicated study.

Potential Impact/Lessons Learned: Whereas previous Step 1 support focused on panels with anecdotal evidence, our new strategies highlight several core themes of successful study, particularly in understanding the resources available. This insight allows us to provide students with practical advice to students of all learning styles.

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Rates of enrollment in commercial MCAT preparation courses and the perceived effectiveness

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Idea/Problem Statement: Are free online MCAT resources able to provide a comparable level of preparations to the Major Test Prep Companies?

Rationale/Need: The MCAT (Medical College Admissions Test) is a requirement for most medical schools in the United States and Canada. In fact, the MCAT can be a major determining factor for admissions considerations. How did most medical students prepare for the exam? A study involving over 18,000 test re-takers from 1977-1981 showed that 20% of students took a commercial test prep company in order to improve their scores on the MCAT. 1 The coaching group showed twice the improvement over the un-coached group1,2, 3 A further study conducted in 1994 grouped retest takers by ethnicity rather than an intervention of a commercial test prep enrollment. 4 African American re-test takers showed a smaller improvement than Caucasian re-test takers. 4 A study involving 383 first year medical students from a Midwest medical school from 1999-2000 revealed that 72% of students reported enrollment in a commercial MCAT preparation course. 5 This is a stark increase from test re-takes 20 years prior. It is not clear whether admitted students are more likely to have used a commercial test prep course or test prep courses have increased in popularity over time. There is a huge monetary factor in test preparation courses. Major Test Prep companies tout the "higher/better score guarantee", but at a price tag of $1,500 to $7,500 these classes are out of reach for some students. Even the AAMC offers test preparation materials for a fee.

Methods: There is relatively minimal (and out dated for the new MCAT exam) research to say whether the effect of test preparation companies show significant difference on MCAT examinees performance. Marketing claims by test prep companies for a "higher/better score guarantee" are not backed by evidence based research. 6 A needs assessment survey was created to determine the frequency of commercial MCAT course enrollment in a large southeast medical school, and the factors students look for most in an MCAT course. The results from this survey were be used to design a website dedicated to Free MCAT prep (www.FreeMCATClass.com)

Evaluation Plan: A second survey is planned to be implemented voluntarily to website patrons to determine effectiveness and use. Advising and marketing to reach a larger audience is vital to the evaluation step.

Potential Impact/Lessons Learned: This research has the potential to uncover serious roadblocks to under represented minorities and students from low socioeconomic backgrounds from entering medical schools. This project also proposes a free solution to increase the diversity and level the playing field of the medical application pro

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A New Model for Measuring and Responding to the Campus Climate

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Idea/Problem Statement: Commonly used methods for measuring the campus climate for medical schools are both arduous and ineffective for responding to demonstrated needs.

Rationale: The LCME has mandates for increasing the headcount of underrepresented students, faculty, and senior administrative staff. For many, this means a redoubling of effort in recruitment activities. While often overlooked, potentially one of the most powerful tools for increasing presence of underrepresented people is proper consideration of the climate (how it feels to be in the space). This study of the climate relies upon critical pedagogy (critical race, critical queer, critical feminism, etc.) in order to develop questions and analysis tools that uncover that lived experiences of marginalized populations. This data is best used to inform decision makers, and create policies and practices that seek to remedy disparities, and ultimately build spaces of liberation and equality. This careful consideration of the climate can potentially be one of the strongest recruitment tools, as the experiences of underrepresented people will provide actual evidence of a commitment to diversity.

Methods: In traditional climate assessment, there is a large instrument deployed once every two or three years, which yields a great deal of data on a variety of identity based issues. Unfortunately, few schools actually utilize this data because there is so much, it is difficult to know where to begin. Further, the results are almost never shared broadly with the community, which leads to issues of mistrust, and diminished response rates in the future. This project launched multiple very short assessments (8-15 questions) on a single identity issue. As a result, analysis was able to happen very rapidly, and results could be communicated back to the community. Further, following the analysis, we communicated with the community what the medical school would do to remediate any issues that were uncovered. As a result, there was increased participation in subsequent assessments and trust was built among faculty, staff, and students with the administration, and in particular with marginalized populations.

Results: The results were dramatic. The response rate for typical climate assessments is around 15-20%. For our short assessments, we had 35-45% response rates. Further, by communicating our results to the community, we were able to built trust, which enabled focus groups and qualitative data gathering (a critical step since quantitative data only provides answers to the What questions, but does not help understand the Why or How questions). Further, since assessments were being deployed 3-4 times per year, there was always a climate activity ongoing and it was always part of the larger ethos of the medical school. Data-informed findings and the subsequent action taken by the institution, provides the medical school with information and activities that can become part of the LCME accreditation package, as well as part of recruitment activities for faculty, students, and senior administrators.

Potential Impact: This method has been successfully deployed at 1 med school, and is being piloted at a 2nd med school. This method is transferrable, provides excellent data, and the opportunity for a data-driven process that involves multiple constituents (such as diversity committees), to drive impactful change.

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Decreasing the Morbidity of Retained Ureteral Stents Through Incorporation of Stent Stracking

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Cook County Health and Hospital System

Idea/Problem Statement: Urologic stent placement is one of the most common urologic procedures. We plan to implement a stent tracking system to reduce retained stents.

Rationale/Need: Ureteral stenting is integral to urologic practice and, without proper follow up, can result in post procedural complications. The maximum recommended dwell time for ureteral stents is 3 months. Studies have been done to identify patients potentially at risk for poor follow up after stent placement. Of patients with forgotten stents, 93% were uninsured, 82% were unemployed, 64% were minorities, and 39% were non English speaking. Patients without health insurance were six times more likely to have forgotten stents than patients with insurance. The complications of retained stents are numerous. In order to remove retained stents, multiple treatment approaches including extracorporeal shock wave lithotripsy, endourological and percutaneous surgical techniques are often required. Potential complications of forgotten or retained stents include pain, urinary tract infections, and encrustation. These complications can ultimately lead to renal failure, sepsis, and death. In addition to increased patient morbidity and mortality, retained stents place a high cost burden on the health care system. The financial burden of retained stents runs parallel to the duration of stent retention, with an average cost of treatment estimated to be 6.9 times higher than average timely stent extraction. Forgotten stents are time consuming, difficult, complicated, risky and costly. The implications need to be considered and efforts directed at reducing occurrence of retained stents.

Methods: Several methods have been evaluated for reducing the number of forgotten stents. One method was utilization of stent cards to keep track of placed stents however a 5 year retrospective analysis found that of 203 patients studied, 11 had overdue stents and 51 had no record of stent removal and the stent card was rendered ineffective. / This project will use integration of the EMR with Boston Scientific's application to track every ureteral stent. Once opened, the ureteral stent's individual bar code will be scanned by nursing in the OR and scanned into the medical record. The stent will be "attached" the to the patient's record with a reminder to providers viewing that patient's record. This will alert every provider that the patient 1) has a ureteral stent and 2) needs to verify follow up to exchange or remove the patient's stent.

Evaluation Plan: We plan to use Boston Scientific's smart phone application "Stent Tracker" and incorporate it into Cook County Hospital's EMR. Use of this application allows every stent to be scanned into the patient's medical record with an automated and timed reminder for stent removal or exchange. This integration will allow automated reminders to be sent to the patient's home, phone or family preferred contact. Additionally, reminders can be sent to providers and attached to the patient's medical record so that anybody that views the patient's medical record is able to see that follow up is necessary to exchange or remove the ureteral stent.

Potential Impact/Lessons Learned: The impact of this study could potentially decrease the amount of retained stents at Cook County Hospital and Health System. This idea could readily be transferred to other institutions to further reduce the morbidity of retained stents elsewhere.

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Electronic Medical Record System Impact on Physician-patient interaction in an Orthopaedic Clinic

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Idea/Problem Statement: This study aims to better understand the impact that EMR has on physician-patient interaction in a large teaching hospital.

Rationale/Need: Transition from paper charts to electronic medical records (EMR) has vastly increased in the healthcare setting in an attempt to improve efficiency and reduce medical errors. Few studies have attempted to assess resident physician perceptions of EMR in Orthopaedic practice.The goal of this exploratory study is to assess the strength of correlation between resident and patient perceptions of EMR impact on doctor-patient communication. The purpose of this study is to compare information on patient and physician perceptions via surveys.

Methods: This study will utilize a cross-sectional cluster design. The Principal Investigator will identify 10-15 residents who will participate in the study. Participation will be voluntary for both residents and patients. Patients under the age of 18 years will be exempt from the study. Residents and patients interested in participating will be given a short introductory form to read prior to filling out the survey. General demographic information will be obtained from patients, but subject anonymity will be maintained. Since resident physicians will be completing multiple surveys, they will be given a general survey pre-visit that they will not have to complete again. The other surveys will be given to patients and physicians post-visit, and will not affect patient standard of care in any way or be used to evaluate physician performance. The physician post-visit survey will consist of only 3 questions, and will be specific to that patient visit.The patient and physician surveys contain 8-10 similar items that assess patient and resident satisfaction, as well as the perceived impact that EMR has on doctor-patient interaction. No more than 500 total surveys will be collected, but we aim for a minimum of 300. A standard 5-point Likert scale will be used, with possible responses ranging from “very positive” to “very negative” (“no effect” response in the middle). Each survey should take about 3 minutes to complete.

Evaluation Plan: Subject identification numbers will be assigned to both physicians and patients, but will not be linked to information that can be used to identify participants. All data sheets will be de-identified and entered into a master data bank. REDCap (Research Electronic Data Capture), a web-based application designed for developing databases, will be used to store our data. Each patient in the study will only be allowed to complete one survey. The data collection process will be the same for all study subjects. For purposes of data analysis, subjects’ responses to the survey will be aligned with the Orthopaedic residents’ responses whom they interacted with. Patients and residents will be given a subject identification number. Patient subject identification number will be matched to the physician subject identification number who treated that patient.

Potential Impact/Lessons Learned: Assessing perceptions of both resident physicians and patients is important to evaluating clinical efficiency. This could lead to further studies that assess impact of EMR in clinic. Potential policy changes to improve patient and satisfaction and clinical efficiency may result.

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Conceptual Learning through Hands-on Teaching

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USC Norris Medical Library

Idea/Problem Statement: Teach research data management to undergraduate medical students through hands on exercises.

Rationale/Need: Research data management (RDM) is a complex topic that has become critical to the research process with funding agencies, including the National Institutes of Health and the Department of Education, requiring data management plans and data sharing as part of their public access policies. In addition, RDM is fundamental to evidence-based medicine. Application of RDM practices to the research workflow improves research transparency, data reproducibility, and data reuse. These three factors contribute to evidence based medicine by providing the clinician or researcher with the tools necessary to appraise published research before applying it to patient care. Providing training to undergraduate medical students will provide them with the fundamentals of best practices in research data management, which will improve their research experiences both as students and later on in their careers.

Methods: The learning objectives for this session are: 1. Describe the research date life cycle. 2. Define different data types / 3. List three reasons data management is important. 4. Create a basic data capture form. The session will be built around hands-on exercises designed to illustrate the learning objectives, with minimal lecture. The exercises will be developed around a sample research project developed for this session. Students will be able to construct their understanding of research data management through the exercises and associated in-class discussion. Information and further reading materials will be cached on a subject guide developed specifically for the topic of research data management providing a resource for students to refer back to as they work through any research projects.

Evaluation Plan: Learners will complete a pre-test and post-test to assess comfort with the basics of research data management. Use of materials will be tracked by assessing usage of the subject guide through site visits and clicks on provided links.

Potential Impact/Lessons Learned: Training in this area will improve student understanding of the research process and will aid them later in their careers with future research projects and application of evidence-based medicine.

References

Communication Workshop: Resident Physicians as Public Speakers

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Idea/Problem Statement: 90-minute session on public speaking to develop communication skills of 2nd- and 3rd-year pediatric residents in preparation for oral presentations.

Rationale/Need: The Accreditation Council for Graduate Medical Education (ACGME) has identified 'Interpersonal and Communication Skills' as one of their core competencies required of all residents. According to a study completed by Tejwanie et al., 17% of surveyed residents reported having anxiety when speaking in front of others. This is similar to the reported prevalence of 15-30% reported in the general population per their study. Furthermore, Menzel and Carrel have shown that anxiety about a speech given by a public speaking student was inversely correlated with the quality of performance. Given that residents at our program present almost daily on family-centered rounds, give 1-2 oral presentations a year and are asked to lead a group discussion about an academic journal article about once a year, our pediatric residency program felt it was important to equip our residents with public speaking tools to improve the quality of oral presentations and decrease the anxiety related to public speaking that is often expressed.

Methods: The intervention involves 32 second-year residents and 25 third-year residents at our hospital during the 2016-2017 academic year. We held two 90-minute workshops at the annual class retreats held during the fall. Through our academic affiliation, three faculty members from the University of Southern California (USC) Annenberg School of Communication collaborated with our residency program to help create and facilitate the workshops. The 90 minutes were divided into a 45-minute didactic session and a 45-minute breakout session. We structured our workshop and timeline based on the principle that learners benefit from being able to hear the information, then to participate in a breakout session with trained facilitators, and then to practice their skills at a session on the clinical topic of their choice. The 45-minute didactic sessions focused on how identifying the core elements of storytelling can enhance oral presentations. Woven throughout this session were tools to increase comfort with public speaking and strategies to encourage listening. For example, teaching residents to create their oral presentations around a structured narratives with a beginning, middle and end, as these are easier to recall then facts. Two breakout sessions on the following topics were prepared for each group of residents: 1) handling nerves prior to, during, and after a presentation, and 2) capturing the "essence" of your story.

Evaluation Plan: Comments by second-year residents suggested that they enjoyed this session during their retreat. Second-year residents who had oral case presentations in the weeks following the workshop have commented that they had an opportunity to practice the skills they learned and had made changes in their body language. Many were observed to walk away from the podium and into the audience. Presentations by residents in the future will continue to be monitored for improvement in presentation skills, organization and comfort. Feedback is provided via an evaluation form filled out by two attending physicians and a fellow co-resident during each clinical case presentation, as well an evaluation of the resident done during the bi-annual, Clinical Competency Committee meeting to review achievement of ACGME milestones by the resident.

Potential Impact/Lessons Learned: Implementation of public speaking workshops by trained facilitators would be helpful for residency programs, especially those tied to an academic institution. Our workshop highlights the importance of acquiring and practicing these skills to help facilitate effective communication across settings.

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Medicolegal Elective: Psychiatrists and Lawyers Working Together

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Idea/Problem Statement: A medicolegal elective jointly taught to psychiatrists and law students in an effort to create the first truly collaborative educational experience in

Rationale/Need: The United States population is aging and by the year 2025 approximately 20% of the population will be over the age of 65. The elderly may be more susceptible to abuse and neglect, scams, and fraud and they often face issues of decisional capacity as they age. Mental health issues or impaired capacity may affect one's ability to contract, make medical decisions and resist undue influence. Psychiatrists, and especially Geriatric Psychiatrists, may have to navigate the probate or mental health court system in matters of conservatorship on behalf of older adults. Unfortunately, there is no specific training addressing this facet of work which includes addressing issues of testamentary capacity, medical and legal decision-making, and autonomy. This elective was developed not only to address this issue but also to sensitize psychiatrists and lawyers-in-training when working with the elderly.

Methods: The elective ran for a cumulative 14 hours which was spread over 4 days. Law students from SouthWestern School of Law (SLS) and geriatric psychiatrists were taught this course together.It was preceded by a pre-elective course for the psychiatrists to aid their understanding of capacity especially testamentary capacity as well as elements determining undue influence and vulnerability.The following objectives were proposed:1.An overview of key issues in elder law from the perspective of physicians and lawyers 2.Recognition of capacity issues through the use of a case file and video of a testator who is the subject of a will contest 3.Preparation and analysis of a Medical Declaration of Capacity 4.Development of trial skills for the law student and greater expertise in testifying as an expert witness by the psychiatrists.The course was taught by a geriatrician, a senior attorney specializing in elder law and abuse, a will and trust litigator, 2 geriatric psychiatrists and the former presiding Judge of the LA County probate Court. They learned about communication barriers and differences in the fields of law and medicine, while exploring issues of abuse, ethnicity and language. A real-life elder case was recreated using an actual closed case video for a unique learning experience. Seven psychiatrists volunteered to serve as expert witnesses while law students represented each side. The interactions included both direct and cross examinations.A state of the art courtroom was used.

Evaluation Plan: The law students and psychiatrists (DMH and fellows) were asked to rate their experience after the course was completed. 1. Upon conclusion of the class, 100% of the students gave the professors and Subject Matter Experts (psychiatrists) "excellent" reviews. The average satisfaction score for the professors of the course was 4.88/5 and for the course itself was 4.63/5. 2. The feedback by retired Judge Bobb was educational, enlightening and was rated "outstanding." 3. The Geriatric Psychiatry fellows and DMH Psychiatrists participating in the course were equally enthusiastic and submitted 100% excellent reviews. Since there was a significant aspect of examination of expert witness involved, Southwestern law highly recommends that law students complete a course on trial advocacy prior to completing this elective. This elective will be offered again in early 2017 and the geriatric psychiatry fellows from UCLA and LAC DMH psychiatrists are scheduled to attend it.

Potential Impact/Lessons Learned: Addresses a critical educational need of two professional groups. Psychiatrists reported greater ease navigating the probate court system.SLS is offering an eldercare class in the SCALE program and is planning an Elder Law track An attendee geriatrician is developing a similar course at Stanford

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Business In Medicine: Preparing the Next Generation of Physicians for a New Healthcare Landscape

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Idea/Problem Statement: An integrated business program for medical students devised to improve post-grad financial decisions, systemic healthcare knowledge, and patient care.

Rationale/Need: Currently, there is no curriculum in place to teach future physicians how to manage the increasing debt commonly associated with a medical education. This lack of basic business knowledge has several possible consequences including increased physician burnout, faulty financial decisions, and ill-advised employment decisions. Ideally, physicians should understand how to manage their debt in order to put themselves, and their families, in the best financial position as soon as possible after their years of training. In order to efficiently prepare physicians for this endeavor, education must begin before they are exposed to it in the real world. This is a primary need this curriculum addresses. Furthermore, the landscape of healthcare and the business surrounding it is dramatically changing as a result of the Affordable Care Act and the efforts to reign in proliferating healthcare expenditure, which is estimated to reach 20% of the GDP by 2020. With new models of physician payment and new financial incentives within healthcare influencing the way many physicians are allowed to practice, knowledge of how hospitals and healthcare finances operate will enable physicians to advocate for the best treatment of their patient in a system that is becoming more and more focused on the financial impact of their decisions.

Methods: This course (Business in Medicine) has been implemented as an elective for first and second year medical students at UC San Diego School of Medicine. In the future, this course will be implemented into the standard curriculum via a "course thread" that meets for 2 sessions per month throughout the first 2 years. Sessions will consist of didactics, discussion, case reviews, and presentations from leaders in the field of healthcare administration, leadership, and innovation. The course will explore topics such as personal finance, contract and negotiations, physician payment, entrepreneurship and more. After the first 2 years, 3rd and 4th year undergraduates on rotation will meet once per month with leaders in their department to discuss the operational finances and leadership skills necessary for and/or unique to that department and how they effect the clinical practice of the physicians.

Evaluation Plan: Evaluation of the course will be done via questionnaires at the end of each year of the course for the first 2 years, and at the end of each rotation for the 3rd and 4th year. Questionnaires will assess overall understanding of operational finances and how they effect the physician personally, as well as how they effect the care of the patient. Course evaluations will also be done to assess the effectiveness of the teaching techniques being employed. Overall improvement in knowledge, attitudes and skills will be measured by an exit survey of graduating seniors assessing their confidence in both their capacity to manage their post-graduate personal finances and understanding of how healthcare finances effect patient care.

Potential Impact/Lessons Learned: This curriculum will enable future physicians to make better financial decisions after undergraduate medical training and better discern the factors that effect the care of their patients at varying institutions. These factors have the potential to decrease future rates of physician burnout.

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Forensic Medical Photography for Forensic Nurse Examiners (FNEs): from Foundations to Proficiency

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University of Alabama Birmingham/Children's of Alabama

Idea/Problem Statement: A two-part forensic medical photography workshop for pediatric FNEs to improve photo quality, problem-solving skills, and evidentiary use

Rationale/Need: Photodocumentation is a key element of the medical evaluation of sexual assault, utilized for care documentation, peer review, and courtroom testimony. Pediatric Forensic Nurse Examiners (PFNE) are experts in this highly specialized field, but despite the importance of forensic imaging, they typically receive minimal training in how to produce photos that are useful and meet the standards of the rules of evidence. Also lacking is specific training in selection of and presentation of images at trial. The few available forensic photography workshops typically focus on non-medical crime scene photography or autopsy, not on the specialized crime scene of the living survivor's body. There is no published data on PFNE training, knowledge or performance of photodocumentation. Current content specifications (1) and best practices recommendations are quite limited (2,3). Anecdotally however, this integral area of practice is one in which these devoted nurses often report feeling inadequate and wanting more formal training. This intervention has two steps: 1) conduct a formal needs assessment for our target group, 2) followed by development and delivery of a two-part workshop utilizing a flipped classroom model. This model has been shown to work well for busy professionals on 24/7 schedules, and will combine initial online asynchronous training with an on-site hands-on workshop. /

Methods: The learners will be 18 PFNEs at the Children's Hospital of Alabama and will take place over 6 weeks. Using semi-structured interviews we will explore the forensic photographic experience of 6 experienced PFNEs, and use a set of criteria to evaluate samples of their prior photodocumentation. A questionnaire will be used to survey all 18 participants regarding previous training and experience with all forms of photography. Utilizing these data, we will develop and implement four online modules: 1) basics of image capture 2) medical photography 3) forensic photography concepts, and 4) photographs in the courtroom. Each module will include 40 minutes of interactive content followed by a structured independent photography project and quiz. The subsequent 4-hour hands-on workshop will focus on practice with feedback, and will be implemented in 3 groups of 6 nurses each. This intervention will include: 1) a Jeopardy style game reviewing photographic knowledge 2) a review of key concepts from the modules and introduction to photo critique and troubleshooting 3) small groups to practice photographic critique 4) photographic exercises using human subjects enhanced with moulage, courtesy of our disaster and simulation colleagues 5) use of three life-like silicone models for anogenital photodocumentation practice 6) mock court assisted by local prosecutors of child and sex crimes, 7) a final class exercise critiquing photographs produced by participants during the workshop.

Evaluation Plan: We will document module and workshop completion for each participant. Via questionnaire the participants will assess each module, the workshop and the overall intervention for 1) quality (of objectives, materials, instruction and activities) 2) applicability to their work; 3) ease of completion (modules) and 4) learner confidence. Quizzes during the online modules and at the end of the hands-on workshop will be used to assess knowledge. To assess skills, rubrics (to be shared with the learners in advance) will be utilized to evaluate the structured projects and final photos taken in the workshop. Participant skills in utilizing the rubrics will be assessed by comparing peer assessments in the workshop to expert assessments. To begin to examine photographic product from post-intervention patient care, we will, as part of our routine peer review process, review photodocumentation submitted by our learners over the next 3 months using the same criteria used in the needs assessment.

Potential Impact/Lessons Learned: Forensic medical images are pivotal in investigation and prosecution, but workshops are very rarely offered. In addition to improving care, this curriculum would be of interest to child abuse pediatricians, emergency physicians, forensic pathologists, and with modification, to medical educators.

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Core skills curriculum for PGY1 Anesthesiology Residents

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Idea/Problem Statement: Complementing a core didactic curriculum for PGY1 anesthesiology residents with simulation and OSCE assessments to build key skills.

Rationale/Need: In 2018, the Anesthesia board certification exam will be expanded to include a new OSCE component to assess skills, professionalism, ICS and medical knowledge. However, residency programs are not preparing trainees for this high-stakes, summative assessment. (1) Residents have requested more opportunities for simulation. Task training approaches have been helpful in directing a novice or even an advanced beginner to effectively acquire skills (3). Simulation is proven to be an efficient and effective way to meet these needs by: teaching and assessing learner competence and confidence, reinforcing didactic content, teaching and practicing skills in the context of clinical scenarios, providing real-time practice with feedback, accelerating skill acquisition, and reducing the extinction of skills (3). In turn, an increase in trainees' confidence and competence may translate to improved patient care, more timely care, greater patient satisfaction, and better patient outcomes (2). Our plan is to design and implement a curriculum for anesthesiology trainees that incorporates didactics, simulation and OSCE assessments. To determine the effectiveness of this multi-modal curriculum, we will conduct pre and post assessment of resident performance. Upon completion of this program, the residents should be better prepared for their clinical responsibilities and future high-stakes summative evaluations such as new national OSCE.

Methods: The learners will be 18 PGY1 residents at Los Angles County/University of Southern California Medical center. Currently the students participate in bi-monthly didactic curriculum. The plan is to supplement this with skill session using simulation technology. The intervention will include the following: six simulation exercises over the course of one year: airway, arterial line placement, sterile gown/glove, transesophageal echocardiography, central line insertion, epidural placement. Each simulation will include: 1) pre-briefing on the task and expectations; 2) conduct of the task with direct observation and feedback; and 3) debriefing of the simulation. Each of the PGY1 resident rotates through many sites within the hospital with only one month of formal anesthesiology training. However, they will be able to practice some of the skills (e.g., airway management) in other rotations. At the end of the year the learners will participate in a six-station skills exam where they will be assessed on each of the six skills taught in the simulation exercises.

Evaluation Plan: Accountability: tracking. Reaction: Residents will complete a standard rating form for each session and for the overall curriculum to assess quality and usefulness. Learning: A standard rating form will be used for each skill (both during observation within the simulations and in the multi-station examination). Behavior: Once a month learners will complete a short form to record their experience with each key skill and the level of engagement (observed, completed).

Potential Impact/Lessons Learned: This model, if effective, could be used by any of the 142 anesthesiology residency programs and modified for any training program where technical skills are a key element.

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Efficacy of Ultrasound Education for Foreign Physicians Taught by First Year Medical Students

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Idea/Problem Statement: Evaluate whether medical students are able to effectively teach ultrasound practical skills and theoretical knowledge in an international setting.

Rationale: Ultrasound education programs established by foreign physicians in developing countries have been proven to be successful and sustainable; evidencing that ultrasound is a teachable skill that may be sufficiently mastered within the course of a short-term intensive training. However, given the limited availability of skilled physicians able to conduct such ultrasound education programs abroad, it is worth evaluating if first-year medical students are able to effectively teach ultrasound practical skills and theoretical knowledge. We hypothesized that medical students could efficaciously lead a short-term, intensive ultrasonography course for Indonesian physicians with long-term goals for sustainability. The aim of this study was to assess the short-term efficacy of a 3-week ultrasound curriculum taught by University of California, Irvine first-year medical students to general practitioners working in public health care clinics in Bandung, Indonesia.

Methods: The short-term ultrasonography course was conducted at Dinas Kesehatan, the government-run health office that overseesthe public clinics in Bandung, Indonesia. It was three weeks long and was divided into one session per topic. During the first session, the subjects were administered a pre-course survey and pre-test. The course was taught in English, but subjects were given an Indonesian version to enhance comprehension. The ultrasound course curriculum was structured to begin each session with a lecture presentation on the given topic (30 mins), followed by hands-on ultrasound training (2 hours), followed by a short multiple choice quiz (10 minutes). Lessons were focused to address the following systems: 1) Ultrasound basics and pulmonary, 2) cardiac, 3) abdominal, 4) obstetrical/pelvic, and 5) FAST/FASH. During the final session of the course, the students were given the post-test, which was identical to the pre-test. They also took a practical exam, a post-course survey, as well as an Intent to Use survey. The practical exam required the subjects to perform certain scans from each teaching session and was graded by the UCISOM medical student course directors for accuracy. For each question, the students could earn up to 3 points - 1 point for correct probe orientation and indicator positioning, 1 point for placing the probe in the correct anatomical position, and 1 point for producing the correct image and correctly identifying the structures on the image.

Results: The ultrasound curriculum had 52 physicians enrolled, with 41 completing the course, resulting in a 78.9% retention rate. Out of the 41 physicians who completed the course, 38 had attended all 6 class sessions. A majority of those physicians who completed the course reported minimal prior ultrasound exposure. The average practical score was 83.2% (SD=0.145) with 82.9% of the class passing (score above 70.0%). The average pre-course final exam score was 35.2% with a 2.4% pass rate, whereas the average post-course final exam score was 82.0% with a 92.7% pass rate. Assuming equal variance, a two-tailed t-test was utilized, finding a highly significant difference in the scores between the pre-course final exam scores (M=0.352, SD=0.141) and post-course final exam scores (M=0.820, SD=0.117); t(80)= -16.4, p=2.83E-27. Post-survey feedback indicated that the physicians found that watching the scans being performed was most helpful (M=4.60, SD=0.63), followed by practicing the scans (M=4.28, SD=1.21), attending class lecture (M=4.23, SD=0.80), studying online materials (M=3.54, SD=0.98), using other study tools (M=3.50, SD=0.92), and using the study guides (M=3.42, SD=1.36). On average, the physicians independently studied 2.57+/- 3.37 hours per week, and spent 0.66+/-1.49 hours per week in office hours.

Potential Impact/Lessons Learned: Utilizing a well-informed medical student population to teach ultrasonography may address deficits in healthcare ultrasound training. Additional analyses of a larger size may be done to assess whether teaching ultrasound improves and/or strengthens medical student familiarity with ultrasonography.

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A longitudinal simulation curriculum to build laparoscopic proficiency in general surgery residents

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Idea/Problem Statement: Create a longitudinal, monthly simulation curriculum to build basic and advanced laparoscopic skills for third year general surgery residents.

Rationale/Need: As residents advance into the senior years of residency, the expected laparoscopic skill level increases dramatically. However, residents do not have a sufficient laparoscopic caseload to develop adequate skills in their junior years of training, with most 3rd year residents averaging 30-60 laparoscopic cases at our institution. This has been observed outside our institution as well, with concerns that minimally invasive procedures require a specific set of skills with a steep learning curve that has shifted to the latter years of residency (1,2). In a survey of residents at two institutions, Shetty et al. found that a comprehensive laparoscopic simulation curriculum is useful in developing skills (3). Our idea is to institute a mandatory, longitudinal laparoscopic simulation curriculum that will help junior residents develop and increase their skills prior to their senior years of residency where they experience a demanding caseload. In addition, increased independence in patient care limits their ability to acquire and practice these skills outside of the operating room. This curriculum will also expose residents to the field of minimally invasive surgery at an earlier date allowing them to explore this career path.

Methods: This simulation curriculum (2 hours per month) will be implemented for the seven categorical general surgery residents in post-graduate year three at the University of Alabama at Birmingham for the academic year 2017-2018. The curriculum will focus on trocar placement, instrument usage, basic and advanced laparoscopic skills, and implementing these skills in the clinical setting. The instruction will be carried out monthly in the simulation lab using guided instruction, low and high fidelity laparoscopic simulators, live animal labs, and a cadaver lab. The surgical skills lab coordinator, education chief resident, and designated staff surgeons at our institution will implement the sessions. Each session will include the following: 1) group discussion to reflect on practice and performance since prior session; 2) pre-briefing to the topic and skills for the day including performance expectations, 3) the simulation activity with one-on-one training and feedback by faculty, 4) debriefing of the activity, and 5) development of practice plans by the resident for the upcoming month. Repeated practice towards proficiency is expected of all residents during their duty hours outside of guided instruction times.

Evaluation Plan: 1) Accountability: The longitudinal curriculum will be scheduled a year in advance; implementation will be overseen by the residency program director. Attendance will be monitored. 2) Reaction: Residents will be surveyed after each session to gain feedback. End of year resident evaluations of the third year will be compared between pre- and post-intervention resident classes. 3) Learning: a pre-test and post-test of skills will be conducted using multiple stations in the skills lab. A comparison will be made between the prior fourth year resident class versus the pilot group to evaluate the impact of the curriculum. 4) Behavior: Each session will open with a brief questionnaire where each resident will record how they practiced and incorporated new skills, as well as any barriers/issues faced. Faculty will also be polled on resident preparedness for conducting laparoscopic procedures early during their fourth year; this will be compared to pre-intervention resident classes.

Potential Impact/Lessons Learned: The results of this curriculum will add to the body of literature regarding simulation in surgical education; with enough evidence, simulation curriculums for laparoscopic surgery could become a cornerstone of general surgery residency training.

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Implementation of a Simulation Curriculum at a Pediatric Residency Training Program

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Idea/Problem Statement: Develop and implement a simulation curriculum at the pediatric residency program that is common across all the sites that residents rotate at.

Rationale/Need: Simulation education has been documented to be a effective way of providing trainees with a risk free environment to acquire and practice new skills.(1) It can be a useful tool to help residents gain confidence in the management of common and rare, simple and complex Pediatric diagnoses. (2) It has been demonstrated that retention of information is better with the use of simulation than in a lecture format (3)Residents at the University of Minnesota rotate at four primary training sites at the University of Minnesota. They experience simulations at each of these sites during inpatient rotations. Procedure skills are practiced during actual patient encounters, emergency department rotations and occasionally during simulations. There is currently no simulation curriculum in place. The objective was to develop and implement a simulation curriculum to improve the resident simulation experience, standardize it across all four sites and focus on topic areas that the residents find most challenging. To improve resident confidence in performing procedures, skill sessions would be added to each simulation encounter, to provide more opportunities for residents to practice.

Methods: November – December 2015: Residents completed an anonymous baseline survey describing their current simulation experience, areas of practice they feel least comfortable addressing and feedback to improve their current experience. The response rate of 37% (n =26) was obtained. Data regarding procedure skills was obtained from the annual Accreditation Council of Graduate Medical Education (ACGME) survey conducted for the year 2014 – 2015. The response rate for this survey was 96% (n= 66) Simulation case data for the year 2015 was collected from the four primary rotation sites. January – June 2016: Based on the data that was obtained a simulation curriculum was developed and finalized after discussion and input from the residency program director and simulation faculty at the rotation sites. This curriculum was implemented starting July 2016 across all four sites. July – December 2016: Simulation and corresponding skill sessions conducted across the four primary residency sites.

Evaluation Plan: December 2016: A post implementation survey will be sent out to gather feedback from the residents regarding their experience with the new curriculum and make changes to it as needed.

Potential Impact/Lessons Learned: Most large residency programs have residents rotating at different sites. Developing a curriculum for simulation allows residents to experience a range of topic areas without repetition. Adding skill sessions to simulations, helps offer frequent practice opportunities.

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Implementation of Simulation Debriefing Education in a University Pediatrics Residency Program

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Idea/Problem Statement: We plan to implement a standardized debriefing education to improve the quality of residency mock code simulation debriefing sessions.

Rationale/Need: Standardized debriefing in simulation is a growing trend in pediatrics education, which provides a controlled and emotionally safe environment to facilitate active and meaningful clinical learning opportunities [1,2,3]. At our University pediatrics residency program in the United States, mock code simulation training has been part of the residency education for the past several years. Yet, across four hospital rotation sites where training occurs, simulation content and debriefing structure varies widely, without standardized debriefing practices. By introducing a standard debriefing education across two of our residency sites, we hope to accomplish the following: 1. Improve the quality of simulation debriefing sessions. 2. Describe the experience of implementation of standardized simulation debriefing education through a resident quality improvement project. 3. Improve learner and instructor satisfaction with debriefing sessions.

Methods: Our residency quality improvement project involves implementation of a structured feedback and debriefing education [1,3] at two University pediatrics residency simulation sites. Two chief residents were recruited for directing simulations and facilitating post-simulation debriefing sessions. Primary learners include rotating pediatrics residents and University medical students. Simulation exercises take place 1-2 times per month at each hospital site over a one-hour block. / / The debriefing tool includes the following: 1. A one-day debriefing training for chief resident debriefers. Training included the following topics: High fidelity case based simulations, how to create a good learning environment, and debriefing theory and technique. 2. Implementation of a standardized debriefing pre-prompt notecard for use during debriefing sessions. 3. A post debriefing DASH IV short version assessment for debriefers and peer evaluators. 4. PDSA cycle every 3-6 months. Modifications in debriefing practice will be made as identified in PDSA cycle.

Evaluation Plan: The project will utilize the DASH IV short version to evaluate the effectiveness of the standardized debriefing education. DASH assessments will be filled out following each simulation session by the debriefer and by a trained peer observer. Debriefing sessions will be filmed and evaluated by peer observers in 30% of debriefing sessions and analyzed for concordance. Responses will be evaluated at the 6, 9, and 12-month mark for consideration of PDSA modifications.

Potential Impact/Lessons Learned: The potential impact of our project is two fold. Not only do we believe this project will improve our residency simulation education, it will also empower our chief residents to engage and develop skills as simulation debrief educators.

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Disaster Preparedness Curriculum: Creating a Mass Casualty Simulation for Interprofessional Teams

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Idea/Problem Statement: The MS-3 MD/MPH and Senior nursing class will develop the skills to manage patient care during a mass casualty incident through the use of simulation.

Rationale: The medical response to major disasters is a significant field within public health. A tool utilized in disaster preparation is simulation-based training, where learners are able to transfer the lessons learned into real-life medical emergencies (Gardner 2016). There has been a student lead effort to create a disaster preparedness component within the MD/MPH curriculum for the first two years, involving didactic lessons and an interactive tabletop session. This year, to create a culminating experience for the MS-3 MD/MPH class, we created a mass casualty simulation involving senior nursing students to foster interprofessionalism. This training exercise will become part of the MD/MPH program going forward as the culminating experience for the disaster response curriculum. A simulation was chosen as the teaching method as it allows medical professionals to clarify existing procedures, to experiment and fail in a reduced-risk environment, and to improve decision making (D'Andrea, 2013).

Methods: The simulation is a mass casualty incident scenario for both MD/MPH medical students and nursing students. This will be an all-day training event at the Clinical Research Building at the medical campus on October 29th, 2016. This will be a multi-agency, functional excise focus on the competencies stemming from the Disaster Medicine and Public Health Emergency Course Curriculum. The simulation will occur in two one-hour scenarios. Scenario 1 will deal with an explosive mass casualty incident that will cause medical surge within the ER. The objectives of the student doctors and nurses will be to triage and prioritize patients along with moving existing patients within the hospital. Scenario 2 will have an active shooter in play, which will then test to see if the students are able to appropriately move and care for their patients during an emergency. This will involve using the first two floors of the Clinical Research Building as the hospital and appropriate medical equipment, such as gurneys and tourniquets. During these scenarios, medical and nursing staff will evaluate the students on certain objectives created. At the end, the students will be debriefed on the different incidents and talk through different choices that were made.

Results: Currently there are no results as the project is ongoing. Assessment will be broken up into two parts, debriefing and evaluation. Debriefing will consist of a one-hour post-exercise meeting that will allow players to discuss strengths and areas for improvement, and to seek clarification regarding player actions and decisions-making processes. Additionally, controllers and evaluators will give an overview of their observed functional areas and discuss strengths and areas for improvement. There will be a chance for participants to give open and candid feedback with using anonymous forms. Evaluation will occur both during and after the simulation. Exercise Evaluation Guides (EEG) will assist evaluators in collecting relevant exercise observations. EEGs document exercise objectives and aligned core capabilities, capability targets, and critical tasks. Each EEG provides evaluators with information on what they should expect to see demonstrated in their functional area. The EEGs, coupled with Participant Feedback Forms and Debriefing notes, are used to evaluate the exercise and compile the After-Action Report (AAR). The AAR will assist the process of improvement planning as the observations recorded in the AAR are resolved through development of concrete corrective actions, which are prioritized and tracked as a part of a continuous corrective action program.

Potential Impact/Lessons Learned: In a time when events such as Orlando Nightclub Massacre, the Boston Bombings, and the Paris Attacks occur and result in medical surge, it is imperative to have health care workers trained in disaster preparation as it could reduce mortality during a real mass causality situation.

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Helicopter Simulation for Emergency Medical Services Flight Crew

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Idea/Problem Statement: Use of helicopter simulation with emergency medical services flight crews to build competence in the initial in-flight stabilization of patients.

Rationale/Need: New crew members on an emergency medical services flight team desire experience in managing critical medical and trauma patients while transporting them in the helicopter. It has been shown that medical students at a similar time in their training benefit from high-fidelity simulation in learning Advanced Cardiac Life Support skills when compared to low-fidelity simulation with limited realism(1). However, a recent survey of crew members of an emergency medical services flight team found that less than two thirds of them had any experience with high-fidelity simulation as a training tool(2). With this in mind, we plan to implement a simulation curriculum into training for various new members of a Mercy Air helicopter crew in July of 2017, using ideas that have been shown to work with learners of a similar level. Team members will participate in a high-fidelity simulation on a helicopter that will include assessment, feedback and debriefing with two commonly encountered patient complaints. Our hope is that flight crews will increase confidence and skill in managing these complaints when faced with them in real life.

Methods: A pilot of this workshop was conducted in July 2016 with the enhanced workshop scheduled for July 2017. The intervention will focus on 30 members of emergency medical services flight crews from a single company in San Bernardino County, California. Physicians, nurses, and paramedics will participate in a three-hour session on a single day. At the beginning of the session, the learners will be divided into five six-person groups to realistically simulate flight team composition on an actual helicopter. They will then spend 30 minutes at each of five stations: 1) PowerPoint presentation of updated American Heart Association guidelines on Advanced Cardiac Life Support; 2) Advanced Airway Techniques using task trainers; 3) Radio Communication simulation; 4) Two high-fidelity simulation cases in the helicopter itself, one involving the transport of a patient suffering from an ST-segment elevation myocardial infarction that will decompensate into ventricular fibrillation arrest, and a second patient suffering from a traumatic tension pneumothorax that will worsen with elevation change; 5) Debriefing session after simulation. Since no team can start in station five, one team can do another activity prior to beginning their rotation. During the simulations each participant will have the opportunity to play their actual role of physician/nurse and paramedic (working in groups of three with observation and feedback).

Evaluation Plan: 1) Accountability - Attendance will be taken at each station during the session to ensure complete participation. 2) Reaction/learning - at the end of the session, each learner will complete a) retrospective pre-post assessment to gain insight into their perceived skills and confidence with each of the tasks completed during the 3-hour session (radio communication, advanced life-support and patient stabilization) and b) a standard session evaluation form for quality and usefulness of each station. 3) Learning - direct observation of performance (using a checklist) during the high-fidelity simulation session and during the airway task trainer station by a supervisor and a peer observer. 4) Behavior - one-month follow-up survey to determine how many "runs" in a helicopter each participant has done, and how each person has been able to utilize the skills/experience gained in the workshop when in actual on-the-job situations.

Potential Impact/Lessons Learned: This workshop can provide a model for programs that train emergency responders nationwide. It can also highlight the utility of high-fidelity simulation in improving the confidence and skills of emergency medical services flight crews when treating both medical and trauma patients in the air.

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Improving Medical Student Ophthalmology Teaching with Virtual Patients

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Idea/Problem Statement: The purpose of this study was to determine the impact of Virtual Ophthalmology Clinic on medical students' learning.

Rationale: The Virtual Ophthalmology Clinic is an interactive web-based resource on which students can practice formulating a diagnosis and treatment plan on virtual patients, with special emphasis on history taking and reasoning skills.

Methods: A randomised controlled trial (RCT) was conducted with medical students from the University of Sydney (n=188) who were randomly assigned into either an experimental (n=93) or a control group (n=95). A pre- and post-test and student satisfaction questionnaire were administered. Twelve months later a follow-up test was conducted to determine the long-term retention rate of graduates.

Results: There was a statistically significant ($P<0.001$) within-subject improvement pre- to post rotation in the number of correctly answered questions for both the control and experimental groups (mean improvement for control 10%, 95% CI 1.3-2.6, and for experimental 17.5%, 95% CI 3.0-4.0). The improvement was significantly greater in the experimental group (mean difference in improvement between groups 7.5%, 95% CI 0.8-2.3, $P<0.001$). At 12 months follow-up testing, the experimental group scored on average 8% (95%CI 0.4 to 2.7, $P=0.007$) higher than the controls.

Potential Impact/Lessons Learned: On the basis of a statistically significant improvement in academic performance and highly positive student feedback, the implementation of the Virtual Ophthalmology Clinic may provide a means to address educational challenges in undergraduate ophthalmology teaching.

References:

The impact of an exemplar-based teaching model in an online Master of Medicine program

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Idea/Problem Statement: To date no study has explored the use of exemplars in either ophthalmic education or an online learning environment.

Rationale: Assessment plays a vital role in medical education in both assuring students' knowledge and skills, and motivating students to learn. We believe that students learn and prepare for their assessments more effectively when they understand the quality of performance that professors expect of students in assessments. Within medical education there is growing evidence that when professors engage students before a written assessment task in marking exemplars of this task, and explain why the exemplars were graded the way they were, students develop their understanding of what is expected of them. Students' level of performance in their subsequent assessment is enhanced. Exemplars are typical examples of past students' work of different levels of quality produced on a different topic area to students' current task.

Methods: To evaluate the educational effectiveness of an exemplar-based teaching model for an online Master of Medicine (Ophthalmic Science) program. A mixed methods study design was implemented to explore students' perceptions of their experience of marking and discussing exam answer exemplars through focus groups and evaluation questionnaires.

Results: All students self reported spending time and effort in individually marking the exemplar exam answers, and the majority of students (89%) thought that the overall process of marking, discussing and receiving the professor's explanation of the exemplar answers led them to think about the quality of answers they wanted to achieve in their exam. Two main themes from the focus group data were identified: (1) clarifying expectations for exam preparation, and (2) improving valuable online discussion. Students valued the online discussion with peers about the qualities of the exemplar exam answers, because it engaged them in thinking about the professor's expectations.

Potential Impact/Lessons Learned: Overall students found the intervention helpful for their exam preparation because it helped them to develop understanding about the 'structure' of a good answer and levels of knowledge expected. We recommend that professors should implement an exemplar-based model well in advance of an exam.

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An Outcomes-Based Approach to Improving the Clinical Training Environment through Spaced Learning

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Idea/Problem Statement: Using a mobile spaced learning platform to disseminate a curriculum for non-clinical competencies essential to medical education and clinical practice.

Rationale/Need: The Clinical Learning Environment Review (CLER) is a new component of accreditation introduced by the Accreditation Council for Graduate Medical Education (ACGME) as a component of the Next Accreditation System (NAS). Recognizing the correlation between a competent physician workforce and safe, effective health care, the program addresses a perceived deficiency among newly-trained doctors in areas including systems-based practice, teamwork, communication, and healthcare quality. Toward this goal, ACGME introduced a body of knowledge that spans six domains -- Healthcare Quality, Patient Safety, Care Transitions, Fatigue Management, Professionalism, and Supervision -- to complement clinical training in residency. The specific measures evaluate housestaff perceptions of the training environment as well as practical, knowledge-driven competencies such as reporting a patient safety incident or performing a safe patient hand-off. To inform subsequent interventions, we conducted an assessment of over 250 residents based at Olive View-UCLA Medical Center (OVMC), an affiliated hospital, representing programs in Internal Medicine, Pediatrics, Surgery, Ob/Gyn, Emergency Medicine, and Psychiatry, and spanning all years of clinical training. The assessment identified knowledge gaps in critical areas –for example, only a quarter of residents indicated familiarity with patient safety event reporting systems, priorities for quality improvement, and policies for change-of-duty handoffs.

Methods: Pre-Intervention Assessment: Prior to intervention, we conducted a survey of housestaff at OVMC, with an eye toward identifying potential knowledge gaps, and evaluating housestaff perceptions of the clinical learning environment. Spaced Learning Curriculum: Leveraging QStream, a spaced learning platform, we developed a curriculum of knowledge-based questions that align directly with the specific measures of the ACGME CLER. Recognizing the benefit of a spaced learning approach in clinical training, the platform promotes learner retention, tracks individual progress, and promotes participation by delivering mobile content directly to clinical trainees. As learners progress through the curriculum, the platform tracks performance and adapts to the specific needs of each learner, enabling program leadership to identify knowledge gaps and opportunities for remediation. Each question and answer set includes full annotations that incorporate not only evidence in the literature, but also practical workflows and site-specific processes to enable residents to apply their acquired knowledge. These institution specific quick reference guides will also be available on the hospital intranet and will include information such as a step-by-step guide on reporting patient safety incidents, among others. This serves to expand the depth and breadth of the curriculum and provides a way for residents to reference topics covered and apply knowledge to their day-to-day practice.

Evaluation Plan: Using QStream, residents will receive 2 questions per week for a period of 4 months, enabling one complete cycle of the training curriculum. Founded on an adaptive, spaced learning model, questions are repeated as determined by participant performance until mastery is achieved 3To encourage broad participation, learners may receive questions directly on their personal mobile devices or through the Internet. To evaluate improvement (if any) in resident knowledge of CLER focus areas and knowledge gaps highlighted by the pre-intervention assessment, we will conduct a follow-up survey at the conclusion of this first cycle of the training curriculum.

Potential Impact/Lessons Learned: Through this novel and engaging training modality, we hope to improve resident knowledge of the critical, non-clinical aspects of professional practice addressed by CLER and the preparation of graduates to apply these principles in the workforce following completion of training.

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A real-time competency-based survey to improve the quality & quantity of continuity clinic feedback

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CHLA; USC

Idea/Problem Statement: Use of a mobile accessible online evaluation system to provide instantaneous feedback for residents in continuity clinic.

Rationale/Need: Accurate and timely feedback is necessary for on-going improvement in a resident's education1. In 1999 the ACGME created the competencies to shift the paradigm of how we view a resident's mastery of skills to practice independently. The Pediatric Milestones2 defined how programs measured residents' progress in each competency and are now mandatory assessment tools. The main source of this feedback has been from the inpatient setting where residents work with a set attending over a defined length of time. Despite the fact that many residents practice in clinic after residency, feedback about their skills in continuity clinic is often lacking. Since continuity clinic is a longitudinal experience it offers a unique experience for residents to continue to build on skills and knowledge in response to clinic evaluations. At our institution residents are assigned to clinic days based on their call schedule and can precept with any available faculty. Due to this variability, continuity clinic has relied on an ad-hoc feedback provided by a few proactive faculty or triggered by the best or worst cases. Inconvenient method to give feedback and lack of guidance also contributed to infrequent evaluations. / The unstructured feedback was often about the resident's personality and not useful for formative evaluation. Clinic feedback was difficult to use to track a resident's progress or assist development. To address these issues we developed a rolling competency based online evaluation

Methods: In 2016 the prior ad hoc feedback method for residents in continuity clinic was changed to a competency-based survey. To address content of evaluations provided, surveys cycle through 5 ACGME competencies; Practice Based Learning & Improvement, Patient Care, Medical Knowledge, Interpersonal Communication & Skills, and System Based Practice and summarized the pediatric milestones to guide preceptor evaluation, with Professionalism included in all surveys. The online survey can be taken via computer or on mobile phone to offer preceptors multiple avenues of evaluation.The survey link is emailed to the faculty for those who prefer to use computers or have email access on their phone. Additionally, a QR code assigned to the survey is located to clinic for mobile access. Preceptors are encouraged to give immediate feedback but can also access the survey later while reviewing notes. Every month a summary of the last 3 months of clinic evaluations is sent to the resident and their faculty clinic mentor. Programs directors are sent an email with the evaluation immediately when a preceptor indicates that a resident has performed "marginally" or "poorly" based on criteria listed in the evaluation. This allows the program directors to quickly address concerns. A summary of the resident's overall clinic evaluations can also be generated over a longer period of time to provide the resident and mentor with a broader evaluation assist in determining areas of strengths and weaknesses.

Evaluation Plan: To assess attitudes, a survey will be given to clinic preceptors 6 months into the new system to evaluate the competency based questions, scoring guidelines and modality preference. The Clinic Mentors and Clinical Competency Committee members will also be surveyed on whether the competency based evaluation summaries have improved the feedback of the residents in the continuity clinic and if this feedback has been more useful. The residents will also be surveyed to evaluate if the new feedback system has been more helpful in their clinic self-directed learning. A sample of de-identified feedback will be evaluated for internal validity of the competency based questions. Meta data from surveys taken will also provide information on the methods used to take the survey: QR code vs webpage link and mobile phone vs computer to further characterize the modalities used to take surveys. Based on these survey results the evaluation will be adjusted to improve usability and feedback.

Potential Impact/Lessons Learned: This clinic evaluation will create a complete formative assessment to assure that residents are developing into independent practitioners. The evaluation can be shared with other pediatric continuity and specialty clinics or pediatric clerkships that have difficulty assessing outpatient care.

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Use of Slack app to improve multidisciplinary collaboration for medical technology innovation

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Idea/Problem Statement: Use of the Slack group messaging app to improve collaboration and ideation on health technology projects among students from various disciplines.

Rationale/Need: Nationally, there is a need for physicians to lead the way in medical innovation. Physicians are often the first to encounter a clinical need to improve patient care. Additionally, their involvement can propel both project development and implementation forward. This is especially true in specialized areas that may be neglected by industry (1). The problem is that physicians are not trained to be innovators. Exposure to the medical innovation process as a medical student is an important step in fostering these skills. By collaborating with students from a variety of disciplines (e.g. engineering, business, etc.), medical students can learn the additional skills necessary to bring an idea to fruition. However, this process can be hindered because the interested parties lack a forum in which to collaborate. Students of different backgrounds are typically separated physically; they do not share the same workspaces, laboratories, or classrooms. The Slack app provides a simple forum for students from a variety of disciplines, including medicine, to collaboratively solve problems in healthcare. Improving multidisciplinary collaboration in this way may help foster an institutional culture in which ideas can spread, teams are formed, and healthcare problems are solved.

Methods: Intervention will focus on 111 students who have registered with the Slack app after expressing interest in working on a medical technology project during the academic year. Involved students are from a variety of backgrounds, including but not limited to medicine, dentistry, law, engineering, computer science, and business. Slack is a messaging platform created specifically for group project communication. Conversations are housed in different threads called channels, which are named for the topic of discussion (e.g. cardiology-related projects). Any user can create a new channel to introduce a new topic of conversation. In the "General" channel students can introduce themselves, advertise that they are looking for a team, or pitch an idea to gauge interest. Slack allows students to input background, interests, and contact information into their personal profiles. Students are able to send direct messages. Once a team is formed, the team can create a private channel that is visible only to invited group members. Slack is searchable, customizable, free to use, and has both file sharing and wifi-calling capabilities. Additionally, Slack's security and privacy policies keep intellectual property safe; Slack does not own any content shared on its platform. The intervention will take place between the months of September and November 2016. This time period encompasses the team-forming and ideation phases for projects to be completed during the 2016-2017 academic year.

Evaluation Plan: Slack provides a limited amount of user data to its users for free, including number of users, number of messages sent, percent of these messages that were posted on public channels, private channels, or as a direct message. As of September 28th 2016, a total of 926 messages have been sent among the 111 users. 44% of these messages have been posted to public channels, 4% have been posted to private channels, and 52% have been sent as direct messages. These statistics will be followed through November 2016. User satisfaction will be evaluated with a survey following the intervention period. Survey questions will gauge the ability of the Slack platform to help users achieve their goals of team building and ideation, the ease of its use, and the demographics of its users.

Potential Impact/Lessons Learned: The Slack messaging app can be a useful tool for not only student collaboration, but professionals also. The Slack app can connect physicians and other professionals across disciplines and institutions for project planning, leadership teams, or research collaboration.

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Using mobile device technology and spaced-education adaptive algorithms to teach ECG interpretation

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Idea/Problem Statement: Using Mobile Device Technology and spaced-education adaptive learning algorithms to teach ECG Interpretation.

Rationale/Need: Traditional approaches for teaching ECG interpretation and cardiac arrhythmia management are lecture driven and non-adaptive. These teaching methods are based on didactic lectures or seminars which are time consuming and offer limited learner engagement and feedback. ECG interpretation is an essential part of the ACGME internal medicine and cardiology curricula, however, national benchmarks for ECG education and competency are lacking. This creates a need to create a dynamic, digitally delivered ECG curriculum that can provide real-time user feedback and help correlate ECG interpretation ability with level of medical training. With the advent of mobile device apps, Android and iPhone devices provide a unique vehicle for delivering a dynamic digital curriculum. The mobile device platform provides dynamic active learning and greater user engagement than passive forms of didactic teaching. Medical educators have applied spaced-education theory to improve acquisition and retention of knowledge. Spaced-education is a structure of repeated and interactive educational encounters, which has been used for quality improvement and clinical teaching in a range of clinical specialties. We have subsequently employed a mobile device application to deliver an ECG curriculum in an adaptive fashion with dynamic user feedback in accordance with spaced-education theory. In addition, we have embedded features of gaming theory to improve user engagement and motivation.

Methods: We have employed a mobile device application which supports rich digital media and delivers ECG content in an adaptive spaced-education format. Enrolled trainees participate in a completely digital format. Content is delivered via mobile device app and/or email. ECG content is focused on arrhythmia interpretation and management. Baseline ECG interpretation competency is performed utilizing an assessment tool. Users receive real-time feedback regarding correct or incorrect answers with an explanation. Overall scores are displayed to users in a leaderboard fashion to allow for competitive user engagement. Subsequent content delivered to the user is based upon the learner's prior correct/incorrect answers. Content is adaptive in that incorrectly answered questions are driven to the learner in a spaced-educational format. The type/level of difficulty of subsequent questions and the timing of delivery is included in this algorithm. Concepts in ECG interpretation that pose difficulty to the learner (i.e. incorrect answers) are identified and appropriate content designed to improve knowledge gaps is delivered to the learner. ECG tracings have been tagged with identifiers reflecting level of difficulty. This data set allows for ECG interpretation ability to be correlated with level of medical training. We have employed this mobile delivered spaced-education based ECG curriculum to medical students, residents and fellows at the Warren Alpert School of Medicine, Brown University.

Evaluation Plan: The primary endpoint will be learner test scores. These raw test scores will be correlated to the learner's level of medical training. A secondary endpoint will assess improvement in test scores based upon comparison of pre/post course test scores using an interactive testing tool. A tertiary endpoint will include the learner completion rate. The learner completion rate reflects the number of cycles required for a correct response to be achieved. The spaced-education algorithm is designed to continue to deliver a question until a correct response is received (e.g. an incorrect response question may be re-delivered to the user after 48 hours). The timing of the delivery of this question is designed to improve knowledge retention. A study by Kerfoot et al. showed a 71% completion rate after the third cycle of question repetition. The percentage of correct answers after cycle of repetition will be assessed as a component of knowledge acquisition.

Potential Impact/Lessons Learned: This mobile delivered spaced-education based adaptive ECG curriculum allows for creation of a database to correlate ECG interpretation ability with level of training. This work seeks to provide a greater understanding of the challenges that exist in achieving competency in ECG interpretation.

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OASIS: An Emergency Medicine GME Curriculum utilizing Curated, Topic-Specific FOAM resources

Grock, Andy

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Idea/Problem Statement: Implementing an Emergency medicine GME Curriculum featuring Curated, Topic-Specific FOAM resources to prepare for small-group learning activity.

Rationale/Need: Disrupting the traditional education options of textbooks and the primary literature, the recent creation of free open-access medical education (FOAM) has resulted in 356 sites in 2016 from 3 blogs and podcasts in 2002!1,2 Residents prefer and are increasingly utilizing FOAM over traditional resources.3 Of concern, FOAM generally lacks the traditional peer review process is entirely decentralized, and more exciting topics such as procedures, the newest published data, and critical care dominate its content. Residents report struggling with digital resource curation, specifically expressing difficulties in assessing content accuracy and impact, as well as finding topic specific resources. Educators anecdotally report that FOAM resources may be erroneous or biased, and should be evaluated in the areas of credibility, content, and design. A need exists for a curriculum that includes topic specific, quality assessed FOAM resources is needed. Lastly, little evidence exists actually demonstrating that residents can learn from FOAM. This series proposes to curate topic specific FOAM content and structure it in a curriculum designed according to adult learning theories. In evaluating the efficacy of this curriculum, needed investigations into proving resident ability to learn from FOAM will be performed.

Methods: Emergency medicine residents at an urban academic center complete the module asynchronously and then participate in a flipped classroom, problem-solving 1 hour exercise at the department's weekly grand rounds conference. The module content is selected from an adjusted list of FOAM resources deemed highly impactful by the Social Media Index or being agreed upon as high quality by three FOAM experts. A simple, self-made evaluative tool was used to curate content. Topics were determined by FOAM experts to be under-represented or inaccurate in the textbooks. A search was performed for any relevant content from this newly formed list of resources for the first topic chosen – hyperkalemia. The content was structured into novel, google surveyTM format, which, in line with adult learning theory, enables learners to self-direct their own education. Resident knowledge and confidence for this topic as well as FOAM related usability will be assessed prior to and after the module assignment. Residents are expected to be able to apply their knowledge of ECG changes and the evidence behind the various hyperkalemic therapies to practice cases.

Evaluation Plan: To evaluate into this innovative curriculum, a survey, designed and reviewed by medical educators, will be given to participating residents prior to any intervention as well as at the start of class. It will do the following: assess pre and post intervention knowledge for hyperkalemia, assess pre and post intervention confidence in knowledge for hyperkalemia, assess resource preferences, and, lastly, collect data on resident opinion, change in practice, and impact on patient care. Resident participation is automatically documented by google surveyTM.

Potential Impact/Lessons Learned: This is the first content specific curriculum consisting of curated FOAM and will be used to demonstrate resident learning from FOAM for the first time. Its curriculum will also be released on Academic Life in Emergency Medicine (www.aliem.com), a leading FOAM resource, and thus, will be available for learners across the world.

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Top20MedicalSchool: A Preclinical Learning Resource for Medical Students with a Global Perspective

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Idea/Problem Statement: A curated, open access directory to supplement preclinical medical education, USMLE Step 1 exam preparation, and global deficits in medical education.

Rationale/Need: During the preclinical years of medical school, students must remain intently focused on studying in order to prepare for and pass the USMLE Step 1 exam and to qualify for a more competitive residency position [1]. Although the internet has revolutionized the dissemination of digital information, students are now consistently faced with the issue of an overabundance of information [2]. This requires that students exert significant effort in searching and filtering out "high yield" material. Top20MedicalSchool addresses this concern via its curation, and additionally prides itself on a global perspective of enhancing medical education by ensuring open access content. With online data caches continually expanding, so too is the gap between the United States and other world regions that are in dire need of healthcare education assistance for students and professionals [3].

Methods: Top20MedicalSchool is an open access directory that will target preclinical medical students. Addressing the issue of information overload facing medical students, Top20MedicalSchool offers a one-stop location for specific videos, websites, general resources, and study aids. The included content is continuously hand-selected by medical students and professionals from major search engines and educational resources. This ensures that the curated materials are updated and oriented towards the specifications of the USMLE Step 1 exam. Instead of sifting through the plethora of resource materials available both online and in print, students will be able to quickly and efficiently utilize this directory to find reliable and accurate information. In addition, students will have the ability to access the entire website whenever needed and for however long desired -- there are no restrictions or guidelines of intended use. The information on Top20MedicalSchool is also geared towards the USMLE Step 1 exam; therefore, students using this learning platform will ideally use the provided resources for studying and preparing for the exam.

Evaluation Plan: Top20MedicalSchool is a newly developed resource that is yet to be marketed. Its success will best be judged by the eventual number of users, self-reporting questionnaires, and suggestion opportunities (with an anticipation of inherent recall inaccuracies). Ultimately, Top20MedicalSchool is confident in the quality of resources that will be provided to medical students. The website will continuously evolve its content and appearance, and medical students and professionals will remain integral to the curation process. Top20MedicalSchool will always be committed to a globally-applicable approach to open access content.

Potential Impact/Lessons Learned: Top20MedicalSchool is an open access website that will help prepare students for the USMLE Step 1 exam and positively impact medical education across the globe.

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A Mixed Methods Study to Explore the Impact of Web-based Technology to BOOST Preceptor Recruitment

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Idea/Problem Statement: A web-based recruitment tool targeting potential preceptors for PA students,and assess its impact on clinician attitudes toward teaching students.

Rationale/Need: The recent rapid expansion of existing medical programs, opening of new allopathic and osteopathic medical schools, and larger class sizes, along with explosion in the number of training programs for nurse practitioners (NPs) and physician assistants (PAs), will meet the need for future primary care providers and address gaps in healthcare access. However, this trend has created an escalating shortage of clinical training sites to accommodate many of those learners. There is an acute need to recruit more clinicians as preceptors. Studies suggest that significant barriers to precepting medical students include the lack of organizational support, negative perceptions about quality of students and need for faculty development. Conversely, motivators to teach include 'giving back to the profession', CME credit, and university incentives. There is limited evidence for effective interventions to increase the preceptor pool for medical education. There are multiple challenges to recruitment of practicing clinicians to precept physician assistant students. New recruitment tools are needed to enhance these efforts. We examined the impact of a web-based recruitment tool on clinician attitude about precepting physician assistant students. The web-based platform created would serve as a model that could be replicated by other schools, and be generalized for other health profession students.

Methods: This is a mixed-method study using a survey and focus groups. A 12-minute web-based video was developed and shown at 3 presentations to potential community preceptors. We sent out invitations to approximately 80-100 providers;32 eligible providers responded and 23 attended the 3 presentations. Our final participants consisted of 23 primary care providers (22 physicians and 1 nurse practitioner). The video was part of a brief, user-accessible and web-based educational program called BOOST (Bring Out Our Stellar Teachers) targeting potential clinician preceptors. We collected clinician self-reported knowledge of and attitudes towards precepting PA students using a pre/post-survey study design. The first 2 questions assessed current willingness to accept a PA student and perceived benefit to the practice. The second component (3 questions) addressed knowledge and awareness of the roles and scope of PA practice. The third (4 questions) addressed comfort with teaching and evaluating PA students. The fourth (1 question) asked about comfort precepting an interprofessional group of students. All these questions reflected the content presented in the BOOST video. Participants for the survey study were invited to participate in the focus groups (FG) before the video presentation (N=19). The script/question guide explored motivators and barriers to teaching PA students and asked for ways to improve the video presentation.

Evaluation Plan: Responses were de-identified and entered into SPSS system. Demographic information was analyzed by descriptive statistics. We used dependent samples t-test to examine change in attitudes based on our 10-question survey. Using the computer program G*Power (11), a power analysis indicated that a total sample of 34 participants would be needed to detect a medium-large effect (d = 0.67) with 80% power and alpha at .05. A total sample of 20 participants would be needed to detect a medium effect (d= .50). The data analysis of results in progress at this time. The FG transcripts were independently read by 3 researchers, who then met to derive major themes. We used constant comparison analysis to identify patterns in participants' perspectives and to develop a coding schema. The coding schema was developed from the first two sets of transcripts and then applied to the third and fourth transcripts with new themes added as identified. The theme tables are in progress at this time.

Potential Impact/Lessons Learned: The impact from our hypothesis would be that the brief multimedia intervention delivered in preceptor practice sites will increase receptivity to accepting PA students in the future. This recruitment tool and additional strategies could be expanded to medical and nurse practitioner school programs.

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MedicMatch-An online resource that finds your study partner, so you don't have to.

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Idea/Problem Statement: An online resource for medical students worldwide that allows them to match with others based on study needs in order to find the ideal study partner.

Rationale/Need: We have all been there as students: sleepless nights, focusing on that one subject that we just can't get to the bottom of. But what if we had our own personal tutor to help us, guide us and share with us how they've managed to master that subject? And what if in return we could just teach him/her about our most beloved topic? The medical school curriculum covers a multitude of clinical subjects and most students struggle with at least one or two along the way, while liking and perfecting others. But finals exams do not spare anyone across the globe- so if Ben, the third year medical student and aspiring cardiologist from London teaches Alain, a medical student from Paris, all he knows about EKGs, and Alain (like the dermatology enthusiast he is) shows Ben his poster on different skin conditions, surely they will both pass their exams with flying colours? That's what I hope anyway. With this online resource, you will be able to collaborate, study and share ideas with fellow peers around the world.

Methods: Methods will include creating an online application/website which would enable medical students to register with a valid university affiliated e-mail address. Once registered, users would be able to select subject areas that they are willing to help others learn, and also select areas that they would like some help with themselves. Once the user's profile is created, they will be "matched" accordingly to those students who are willing to share the knowledge that the user wishes to gain. Each student will also have the option to be matched according to languages spoken. Once the pairing process is complete, users can jointly choose the methods in which they want to proceed with their newly founded study partnership- be it sharing materials, video conferencing or Q&As, it is up to them how they want to share and gain knowledge best. This website can initially be trialled on a regional level (for example, universities in one state or geographical region), and gain feedback at this stage before proceeding to expanding this idea internationally.

Evaluation Plan: In order to assess the compliance between my "cool idea" and the real world, I am planning on first trialling MedicMatch at regional level- to be more specific, my own medical students at the University of Glasgow Medical School will be the first to try and provide feedback on this innovative learning website. If this initial impact is a positive one, then I would ask other medical schools if they would be interested in signing up their students to such an agenda; medical school by medical school and country by country I am hoping to bring MedicMatch worldwide!

Potential Impact/Lessons Learned: The impact that such a resource would have could potentially revolutionize how medical students collaborate, network, and study with each other whilst also providing an online database of peer to peer resources for future undergraduates. This could be expanded later to postgraduates as well.

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Assessing the User Experience of Medical Students using the educational application HepAPPtology.

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University of Calgary

Idea/Problem Statement: To establish the efficacy of the iPad based educational application HepAPPtology and gather user feedback for use in the second iteration of the app.

Rationale: The aim of HepAPPtology is to improve the quality of medical education using the flipped classroom revolution in pedagogy. The flipped classroom consists of private individual study outside of classroom hours accompanied with small group projects during scheduled lecture. The app was designed to educate first year medical students about the liver and hepatocellular carcinoma. It is a multimedia tool including texts, video, downloadable podcasts, and a discussion forum. Preliminary results indicate some successes regarding learner outcomes students did not enjoy using it and use rates were low for the first iteration of the app. The effectiveness of such an educational intervention is rooted in its use. In order to understand the low adherence rates it is necessary to understand the user experience of the students. This information will be directly fed back into a second iteration of the app with the expectation that user experience will improve.

Methods: Preceding the proposed focus group discussion, a survey will be sent to all members of the inaugural (2015) class asking them to rate various features of the app on a Likert Scale regarding various aspects of how it was used, ease of use, and the effectiveness of the educational tool. The survey will be sent via email to all members of the 2015 cohort. The email will also include an invitation to participate in this proposed focus group. Included in the survey will be questions regarding academic history prior to an undergraduate medical education. Recruitment shall proportionally target the demographics of medical students and capture how different backgrounds could potentially influence how a person experiences the technology. The goal of this research is to include medical students in a participatory design approach. It is by working in co-operation with the students and learning from their experiences that this research can be used to improve the education of future students and ultimately lead to the release of the app more broadly.

Results: Our preliminary results show that despite an improvement in grades (for students who used the app, compared to those who did not) there was expressed a general dissatisfaction in with use of the app, which warrants further investigation.

Potential Impact/Lessons Learned: Beyond improving the quality of medical education at University of Calgary the platform of HepAPPtology can be modified to adapt to other curriculum, it has the potential to be implemented in other medical schools, thus broadening the possibilities for advancement of medical education.

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Web-Based Education Concerning Health Insurance Purchasing for Student Physicians

Koh, Danny Ju Yong

Campbell University School of Osteopathic Medicine

Idea/Problem Statement: Implementing online education modules to help medical students at Campbell University with navigating the health insurance platform prior to purchase.

Rationale/Need: Based on preliminary data from 232 medical students at Campbell University, many were not well-informed (64.5%) and had a difficult time (60.6%) with the process of obtaining health insurance. Some students (24.3%) even reconsidered their future medical specialty, most of whom reported their insurance purchasing experience to have been "moderately difficult." These findings lead us to speculate upon the potential implications of the 113,079 students enrolled in U.S. medical schools. [1,2] In order for future physicians to make informed decisions when purchasing health insurance, and to prevent their negative experience purchasing insurance from impacting their specialty choice, medical students must be well-informed about the process. Since students are required to purchase health insurance prior to the start of the school year, online education modules would be the ideal mode of training as they can be completed remotely. [3]

Methods: The target audience for our online education modules is medical students of all ages at the Campbell University School of Osteopathic Medicine (CUSOM). Completion of the modules would be mandatory prior to the start of each academic year. The course will offer a step-by-step interactive approach covering different aspects of health insurance landscape, such as introduction to health care policy in the U.S., how to navigate healthcare.gov, which variables to consider when purchasing insurance, various insurance options, and key provisions of the Affordable Care Act. The course content would assist students in their decision-making process and prevent negative experience of purchasing insurance from impacting their specialty choice. / / Prior to starting the course, students would fill out a survey concerning their level of knowledge on health insurance platform. Then, they would complete the modules, which could be stopped and started as needed. Students would take a short survey on the last page to assess their comprehension of the information. Students would then provide proof of completion by submitting the final screen via email to the course administrator at CUSOM. Finally, students would be asked to complete an additional survey after purchasing insurance to assess their level of difficulty in completing the process.

Evaluation Plan: To assess the efficacy of the modules, data from all three surveys would be gathered: pre-training, post-training, and post-purchasing insurance. The online survey platform would automatically extract the responses to a secured account. Subsequently, our team would use statistical analysis to gain insight as to how the training impacted students' health insurance purchasing experiences. Further analysis of the modules' efficacy could be done by asking those students who had completed the survey prior to the availability of the online course to complete the modules prior to purchasing insurance or extending their coverage for the next academic year. We could then compare their results longitudinally.

Potential Impact/Lessons Learned: The online education modules will educate student physicians to confidently navigate the health insurance landscape and prevent negative experience of purchasing insurance from impacting their specialty choice.

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The MedStart Healthcare Innovation Challenge: A Student-Driven Hackathon on Medical Education

Lazar, Damien J.; Stadecker, Monica; Dossabhoy, Shernaz; Vijayaraghavan, Mahima; Yap, S. Paran; Scanlon, Courtney; Tybor, David; Blanco, Maria; Snydman, Laura; Beninger, Paul; Jotwani, Rohan

Tufts University School of Medicine

Idea/Problem Statement: Student-driven innovation challenge designed to apply emerging technologies to medical education while nurturing multidisciplinary teamwork skills.

Rationale/Need: Given the rapidly changing medical environment, there is an urgency to foster, integrate, and evaluate the implementation of new innovations and technologies to advance medical education. Furthermore, the current team-based medicine requires multidisciplinary collaboration, where communication, leadership and problem-solving skills are paramount. Our student-driven MedStart model was designed to apply emerging technologies to medical education while nurturing multidisciplinary teamwork skills.

Methods: We designed and implemented a 3-day student-driven Innovation Challenge ("Hackathon"). During this event, multidisciplinary teams designed solutions to problems in medical education using innovative technologies. Participants were recruited via emails and social media websites. 88 students and professionals completed a pre-event survey prior to participating in the MedStart Innovation Challenge at Tufts University School of Medicine. These 88 participants included 21 medical students, 21 professionals in technology, computer science or engineering, 17 students from different disciplines at the college or graduate levels, 15 professionals in business, 6 professionals in health sciences, 5 physicians, and 3 professionals in design. Participants self-selected themselves into teams of 3-7 based on their topic of common interest. Each team was tasked with developing a solution to a problem in medical education through a minimally-viable business proposal over the course of three days. Participants then delivered a final pitch presentation to a panel of five judges and all attendees on the final day. Judges represented backgrounds in venture capitalism, academic medicine and healthcare technology. The event also offered short didactic presentations, as well as mentorship from experts and professionals in business, medicine, technology, and other relevant fields. Three top teams were selected by the judges; the selected projects involved UGME, GME and CME.

Evaluation Plan: Participants completed a survey before and after the event which asked participants to rate each component of the event, as well as their level of confidence in the following skills: multidisciplinary team building, communication, leadership, and problem-oriented solution design. 35% (38) of the participants completed both the pre and post-event surveys. Scores from each skill area were summed to yield a composite confidence score; post-event composite scores were subtracted from pre-event scores to yield a change index, which was analyzed for reporting frequencies of change and using linear regression across subgroups. 79% (30) reported an increase in confidence in at least one skill: 45% (17) in multidisciplinary team building, 36% (14) in communication, 51% (20) in leadership, and 31% (12) in problem-oriented solution design. 77% (27) of respondents reported mentorship as an effective component of the event, and 82% (46) of respondents rated the speakers' presentations as effective.

Potential Impact/Lessons Learned: The MedStart model provided a forum for the direct application of new technologies to medical education and fostered multidisciplinary collaboration while nurturing skills that are vital to promote innovative interventions in medical education.

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Mobile Application for Resident Evaluation in Competence Based Surgical Foundations Curricula

Simo, Kelly

University of Saskatchewan

Idea/Problem Statement: Competency-based education is growing in medical education. One component is frequent evaluation. A mobile application will assist this effort.

Rationale/Need: The Royal College of Physicians and Surgeons of Canada has initiated the process of transitioning residency programs into a competency-based education (CBE) model. The Surgical Foundations Training Program at the University of Saskatchewan, is serving as a pilot program for the institution of CBE. This study involves the development and deployment of a mobile application to assess residents on their performance of two entrustable performance activities (EPAs), as developed by the Royal College and Surgical Programs across Canada. Several concerns about the feasibility of CBE have been identified by the Royal College. Assessment of residents has been of particular concern. Bullock et al. discussed possible solutions, including: increased in-training assessment; operational definitions of competence; assessment being learner driven and formative; timely feedback; improved assessment methodologies; multi-observer assessments; increased qualitative and narrative data in assessment; and integrative assessment within training (2014). Our mobile application tool aims to fulfill all of these solutions. In addition, it allows for ease of data collection and decreasing administrative work loads.

Methods: First year residents in Surgical Foundations at the University of Saskatchewan, are automatically enrolled in the study. In addition, four second year residents undergoing their trauma surgery rotation are also included. Residents will be assessed on Surgical Foundations competencies through the new mobile application assessment tool. Following mobile application use, standardized questionnaires will be provided to all residents as well as staff physicians utilizing the application. In addition, focus groups will also be run with both groups. The mode of assessment, information collected, usability of assessment tool, and usability of data will be analyzed and reported.

Evaluation Plan: Pilot completion period for assessment using the mobile application will be in November, 2016. Following this period a standardized questionnaire will be provided to residents and staff physicians. In addition, separate focus groups will be run with residents and staff physicians. These will take place during Surgical Foundations teachings and staff required meetings. Information from these groups will be recorded and used to improve mobile application use.

Potential Impact/Lessons Learned: Information collected may have broad implications as residency programs across Canada change their models to CBE. There is also a growing trend to use CBE in all levels of medical education. Educators are looking for means to improve assessment within this model without increasing workload.

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Presenters' Bios

Afifi, Mustafa
Dr. Afifi held his MBChB, MMed, 3 PG diplomas, a then a Doctorate in Public Health and a Masters in Medical Education. He worked as a Consultant for the Ministry of Health in Oman and UAE. Now, he is an Associate Professor in RAK Medical University. He has many publications in non- communicable diseases, mental health, and medical education.

Amani, Pedram
Dr. Pedram Amani has returned to UCLA to do his Geriatric Psychiatry fellowship after a stint in Arizona, working in private practice. He enjoys spending time with his two children and wife, running and reading.

Angove, Rebekah S.M.
Rebekah Angove, PhD, serves as the Associate Director of Health Services Research at the Louisiana Public Health Institute (LPHI) where she provides leadership in the area of community and stakeholder engagement in research. Dr. Angove is the Director of Engagement for Research Action for Health Network (REACHnet, PCORnet CDRN, and PI on a PCORI funded Engagement Award to develop medical student trainings in patient engagement and patient centered outcomes research (PCOR). With formal training and experiential expertise in Community Engaged Research, she has worked closely with health systems to develop strategies that integrate principles of patient engagement into clinic-based research and care. She serves on the PCORnet Engagement committee and contributes her expertise to a number of other community-based and clinical research projects and advisory groups.

Arif, Ayesha
Ayesha Arif is a fourth year medical student at SUNY Downstate College of Medicine. She is a 2013 graduate of Brooklyn College of the City University of New York, where she completed the Combined B.A.-M.D. Program, part of the Brooklyn College Honors Academy. She graduated Summa Cum Laude with a major in Biology and a minor in Psychology. At SUNY Downstate, Ayesha founded and heads the SUNY Downstate Near-Peer Educator Program, which stemmed from the Medical Educator Pathway, a longitudinal experience that allows students to combine the standard curriculum with teaching experiences and educational scholarship. Through the program, Ayesha has pioneered the integration of her fellow classmates and faculty in co-facilitating clinical skill sessions for junior medical students in their pre-clinical years. This program has been incorporated into the curriculum and run successfully for the past two years. Her future career pursuits are in the field of anesthesiology and academic medicine.

Barron, Stacy
Stacy Barron, MD holds an academic appointment as a Clinical Instructor of Pediatrics through the David Geffen School of Medicine at UCLA, and serves as the Director of Clinical Quality for the Department of Pediatrics at Olive View-UCLA Medical Center. In addition to her clinical responsibilities, Dr. Barron is an active contributor to the Department's educational mission, and an enthusiastic participant in resident and medical student education. Her clinical interests include adolescent medicine, obesity and nutrition, and the unique concerns and challenges faced by children in foster care. Dr. Barron graduated Phi Beta Kappa from Emory University with a degree in Biology prior to completing her medical training at the Lewis Katz School of Medicine at Temple University. She completed her residency training in pediatrics at the University of California Los Angeles, including serving as Chief Resident prior to joining the faculty of Olive View in 2015. In her free time, she enjoys running, baking, and hiking.

Bartos Specht, Rebekah
Rebekah Bartos Specht was working on the internal medicine unit with one of the respected physicians, who asked her if she would be interested in teaching medical students. She developed an enthusiasm for medical education and has progressed as an educator at Loma Linda University for the last 30 years, starting as an instructor in medicine and currently in the role as an assistant professor. Her

perspective is that every encounter and experience with medical students provides an opportunity for teaching and learning. After watching a variety of healthcare providers during her nursing years, she recognized a need to address the importance of interactions with patients, and understand the patient's perspectives and concerns. For Rebekah, medical education became a way to influence the environment and future physicians. A valuable goal for her has been to provide medical students and patients with sensitive, kind, caring and high quality healthcare. She has used a number of innovative techniques to teach the medical interview, which has included: interactions between students and standardized patients, hospitalized patients and other students acting as patients. The Loma Linda University motto "to make man whole" has provided an important perspective to Rebekah,which includes caring and focusing on patient's and student's needs. She encourages students to use critical thinking and to be lifelong independent learners. Rebekah has found that working with medical students through

Beam, Michelle

Michelle Beam is a fourth year MD candidate at Oregon Health & Science University in Portland, OR. She earned her bachelor's degree in Microbiology from California Polytechnic State University, San Luis Obispo in 2010. Volunteering with harm reduction programs and coursework in feminist/ethnic studies critiques of STEM inspired her interest in public health, medical anthropology, and facilitative leadership. She earned an MPH in Infectious Disease and Vaccinology from University of California, Berkeley in 2013 before beginning her medical education at OHSU. Her current research interests include structural competency, the public understanding of science, models of scientific-capacity building, and applied community-organizing to improve population health. Michelle hopes to become a Primary Care physician and public health practitioner working with underserved bilingual communities inside and outside of the clinic. She was inducted into the Gold Humanism Honor Society in 2016 and is currently completing at Fogarty-Fulbright fellowship investigating how to socialize epidemiologic evidence for participatory community action in cysticercosis endemic rural communities in Northern Peru.

Becker, Davida

Davida Becker is currently Residency Research Director at Kaiser Permanente Southern California. She received her PhD in public health at Johns Hopkins Bloomberg School of Public Health, her MS from the Harvard School of Public Health, and her BA from the University of California at Berkeley. She also completed post-doctoral fellowships at the University of California San Francisco and at the University of Southern California. She has conducted applied research on health topics in the U.S. and Latin America for the past 16 years using quantitative and qualitative research methodologies. Her research interests include health services, health disparities, socio-cultural influences on health, health promotion and research capacity-building. She has co-authored over 30 publications in peer-reviewed journals and has presented research findings at numerous national and international conferences.

Ben-Isaac, Eyal

Eyal Ben-Isaac, MD is an Associate Professor in Clinical Pediatrics (Educational Scholar) at the Keck School of Medicine of the University of Southern California, and has been the Pediatric Residency Program Director at Children's Hospital Los Angeles (CHLA) since 1994. He is a general pediatrician in the Division of General Pediatrics at CHLA, where he attends on the inpatient wards, precepts housestaff in the continuity clinic, and has a clinical practice of his own. Dr. Ben- Isaac graduated from the UCLA School of Medicine and then completed a pediatric residency and chief residency at Children's Hospital Los Angeles. He has a long standing interest in education of all trainees and has several related responsibilities and appointments within the medical school, Department of Pediatrics, and the hospital. He has developed several educational tools used by the residency program including Objective Structured Clinical Exams, a Pediatric Board Review course, a general pediatric educational CD-Rom, a web portal, a Cultural Competency learning module, a Nutrition learning module, and General Pediatric competency exams. He also lectures on a variety of general and subspecialty pediatric topics throughout the year.

Bennett, Ashley

Ashley Bennett is an Assistant Professor of Clinical Education at Children's Hospital of Los Angeles (CHLA) and the Keck School of Medicine at the University of Southern California (USC). Dr. Bennett

graduated from the University of Oklahoma College of Community Medicine in Tulsa Oklahoma where she also completed her residency training. Dr. Bennett completed a fellowship in Community and Societal Pediatrics at the University of Florida College of Medicine in Jacksonville, Florida,Through this fellowship she gained expertise in global health and adult education. She continues to promote health equity in Los Angeles by integrating the principles of social justice in clinical practice and graduate education.

Benning, Lauren

Lauren Benning is a second year medical student at Campbell University School of Osteopathic Medicine (CUSOM). She is the author of a popular diabetic-friendly cookbook (The Healthy Indulgences Cookbook) and recipe blog, and is passionate about preventive medicine. She teaches nutrition classes to medical students and residents of the local community through the Preventive Medicine and Health Education Club at CUSOM. Her other interests include promoting health literacy among medical students and exploring the intersection of health and technology. She hopes to research the utility of mobile health technology-based interventions for patients managing chronic diseases. Lauren currently serves as Vice Chair for the Communication and Engagement Committee in the American Medical Association Medical Student Section. As Vice Chair, she has organized social media advocacy campaigns, and sponsored a talk to educate medical students on how physicians are using mobile-app based technology at the national AMA Interim meeting in November 2016. Through her AMA involvement, she is learning how health policy and advocacy are shaped at the national level. She also participates in domestic mission work in rural North Carolina, and volunteers at the CUSOM free clinic in order to gain hands-on clinical experience and identify the obstacles faced by patients of low socioeconomic status.

Bhatia, Parul

Dr. Parul Bhatia is an Associate Professor of Pediatrics at Keck School of Medicine of USC , an Attending Physician and General Pediatrician at Childrens Hospital Los Angeles/AltaMed General Pediatrics and Fellow of the American Academy of Pediatrics. Most recently, Dr. Bhatia has taken on the role of Co- Director of the Year III Pediatric Core Clerkship in Undergraduate Medical Education at Keck School of Medicine. Dr. Bhatia is actively involved in Graduate Medical Education at Childrens' Hospital, providing both didactic and clinical education in the Residency Program. She is the Founder and Director of the Infant Toddler Hearing Screening Program where she conducts clinical research in the area of early identification of hearing loss in young children. She has mentored scores of students during her tenure as an assistant professor and ICM instructor and is the recipient of the Year III Faculty Teaching Award, Keck School of Medicine of the University of Southern California.

Boselovic, Joseph L.

Joseph L. Boselovic, MSEd, is a Curriculum Manager at the Louisiana Public Health Institute (LPHI) where he oversees the development of a medical school curriculum based on the principles of patient-centered outcomes research. Joseph previously served as the Associate Director of the Institute for Quality & Equity in Education at Loyola University New Orleans and is the co-editor of a volume on education reform in post-Katrina New Orleans and the author of scholarly and public writing about issues in education and inequality. In addition to these areas of interest, Joseph has expertise and worked to develop various initiatives related to university-community partnerships, community-based participatory research, and parent and family engagement in K-12 education.

Brass, Bernard

Bernard Brass, MD is a PGY3 Family Medicine Resident at White Memorial Medical Center. He received his medical doctorate from Keck School of Medicine in 2014.

Brown, Mitch

Mitch Brown is a third-year medical student at the Keck School of Medicine of USC. He is currently the Research Coordinator for the Keck Online Learning Initiative (KOLI), a collaboration of medical students and Keck faculty aiming to provide innovative new study resources to Keck medical students. Last year he worked as a content creator and coordinator for KOLI, creating study content as well as overseeing the work by other content creators, ensuring quality and consistency of study materials. He graduated

from the University of California, Los Angeles with a B.S. in Psychobiology in 2012. Before attending medical school he worked as a Kaplan MCAT instructor and has since remained passionate about education and utilizing the findings from educational research to improve the quality of medical education. Email: mitchelb@usc.edu

Bruning, Madeleine D.

Dr. Bruning holds dual academic and clinical appointments as an Associate Professor of Nursing at Mount St. Mary's University and Assistant Professor of Clinical Pediatrics at the Keck School of Medicine of USC. She is an advanced practice, nationally certified pediatric nurse practitioner in primary pediatrics with expertise in caring for underserved, medically marginalized children and families with a focus on special needs of children of veteran families. Prior to entering the academe, she was the director of acute and critical care pediatric services at Cedars Sinai Medical Center. Dr. Bruning has extensive knowledge in the area curriculum development and during the past decade, has developed re-entry programs for veterans transitioning from the military to college. She works closely with the University Park Campus of USC in developing strategies and "best practices" for re-integration of veteran students into higher education. Her interest in inter-professional education as it relates to the healthcare needs of veteran families has led to collaborate with USC's Center for Innovations and Research on Veterans and Military Families and the School of Social Work to provide training among the medical, nursing and social work students. She is a member of the Los Angeles Veterans' Collaborative work groups in both Families and Children and Higher Education. Her most recent work on building interdisciplinary discourse moral injury will be presented at an in France, 2016.

Bruzik, James

James Bruzik, Ph.D. 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 Wellcome 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.

Bugnitz, Mark

Mark Bugnitz is a pediatric intensive care physician and pediatric program director . He has been program director for the University of TN Dept of Pediatrics in Memphis since 1999. He is the 2010 winner of the ACGME Parker Palmer Courage to Teach Award given to program directors who have been innovative in teaching residents. He has taught numerous workshops to residents faculty and nursing staff both locally and recently at the ATS national meeting in San Fransisco in 2016.

Bukstein, Don

Don A. Bukstein, MD, is an allergist-immunologist, pediatric pulmonologist, and director of allergy and asthma research at Allergy Asthma Sinus center of Milwaukee,Wisconsin. Dr. Bukstein is certified by the American Board of Pediatrics, the American Board of Allergy and Immunology, the American Board of Pediatric Pulmonary Disease, and the National Board of Medical Examiners. His research is focused on allergic diseases, apnea, and infant and childhood asthma, and he also has interest in computerized medical records, outcomes research, patient and physician education, and pediatric bronchoscopy. Dr. Bukstein is the author or co-author of scientific articles published in journals such as the American Journal of Managed Care, the American Journal of Integrated Healthcare, and Allergy. He was the principal investigator on over 75 studies related to allergy and asthma.

Callahan, Kelly
Kelly Callahan, MD, MPT is currently the medical director of the Harbor-UCLA K.I.D.S (Kids in the dependency system) Hub which provides medical care to children involved with DCFS (Department of Children and Family Services) as well as forensic evaluations for children with suspected abuse allegations. Dr. Callahan resided in New Mexico until 2005. During this time she received her bachelor's degree in Biology from New Mexico State University in 1996 and a masters of physical therapy at the University of Texas-El Paso in 2001. While practicing as a physical therapist she obtained her medical doctorate degree from the University of New Mexico in 2005. In 2005 she relocated to Los Angeles, California where she began her residency at Harbor-UCLA in pediatrics. She completed a fellowship in Child Abuse Pediatrics at Harbor-UCLA in 2011 and subsequently joined the pediatric faculty at Harbor-UCLA as an assistant professor. Dr. Callahan is working on several research endeavors and clinical programs, some of which include expanding services available to foster children at the Harbor-UCLA K.I.D.S Hub. Currently, Dr. Callahan is expanding her skills in education and educational research by participating in the Academic Pediatric Association Educational Scholars Program with planned graduation in May of 2017.

Campbell, Patricia
Patricia was born in Thailand and moved to the United States at 9. She grew up in Los Angeles, CA, and moved to Northern California to attend college at the University of California, Berkeley. After college, she volunteered at a non- governmental organization in Bangkok, Thailand working with victims of sexual and domestic violence and HIV and AIDS patients. She went on to attend medical school at New York Medical College, and was inducted to the Golden Humanism Honor Society. She is currently a 3rd year Pediatric Resident at Children's Hospital Los Angeles, and plans to continue her career as a general pediatrician serving the underserved population of Los Angeles. She is also interested in global health medicine, and plans to do volunteer medical works in Southeast Asia. Patricia is passionate about healthcare disparities. She is a member of the Diversity and Inclusion Committee, and joined the Education Track with a goal to improve culturally sensitive healthcare training at Children's Hospital Los Angeles.

Carapetian, Armen
Armen Carapetian is the Chief Administrative Officer for the David Geffen School of Medicine at Olive View-UCLA Medical Center. In this role, he is responsible for the financial administration and oversight of the Medical School Operating Agreement between the University and the County of Los Angeles. He has been an active participant in medical education, clinical quality management, and performance improvement, and previously served as the Program Director for Olive View's implementation of the 1115 Medicare Waiver. Prior to joining Medical Administration in 2011, he founded and served as the principal for a successful management consulting practice based in Los Angeles, delivering strategic planning, business development, and project management services for a diversity of clients, including Fortune 100 corporations, state and municipal governments, and not-for-profit organizations. He completed his undergraduate degree in Political Science at Johns Hopkins University.

Carter, Misti H.
Misti H. Carter is a Clinical Assistant Professor at Texas A&M Health Science's College of Medicine. Dr. Carter earned her law degree from the University of Texas in 2003. She has taught at four universities, including The University of Texas' McCombs School of Business and Texas A&M University's Mays Business School. Dr. Carter completed her Ph.D. in Communication Studies with a focus on healthcare in December 2015. Dr. Carter has worked with the College of Medicine's Department of Humanities since 2012 where she strives to combine her interests in law, communication, and healthcare. Dr. Carter is also the Director of Research at the Texas A&M Rural and Community Health Institute (RCHI).

Chang, Todd
Todd P. Chang, MD MACM 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).

Chen, Jennifer

Jennifer K. Chen, MD, is a third-year pediatric resident at Children's Hospital Los Angeles. She obtained her bachelor's degree at Yale University, then spent a year teaching English in Macau before attending medical school at New York University. She has been interested in medical education ever since her class was the "guinea pig" for a completely new curriculum. At CHLA, she has served on multiple committees and editor of the "Blue Book" resident survival guide. Current research interests include improving interdisciplinary communication and care of children with special health care needs.

Cheung, Andrew

Dr. Cheung is currently a fellow at McMaster University. He previously completed his MD at the University of Ottawa, and his residency training at the University of Toronto. He is responsible for leading 2 Minute Medicine's Classics Series and serves as a managing editor. Andrew's main areas of interest are improving access to primary care, health systems innovation, and medical education.

Christman, Grant

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 a longitudinal inpatient curriculum for pediatric interns based on the Pediatric Hospital Medicine Core Competencies.

Chu, Anthony

Antony Chu, MD is the Director of Cardiac Complex Ablation and Program Director of the Clinical Cardiac Electrophysiology Fellowship-Arrhythmia Services Section of the Cardiovascular Institute at the Warren Alpert Medical School of Brown University. Dr. Chu is a clinical cardiac electrophysiologist specializing in complex cardiac ablation. He is actively involved in basic and clinical arrhythmia research and is a former Howard Hughes Medical Institute Research Fellow. Dr. Chu is interested in advancing medical education using technology and simulation. He is a 2016 Harvard- Macy Faculty Scholar and recipient of numerous teaching awards including the Beckwith award for outstanding Faculty Teaching and the Dean's Award for Outstanding Faculty Teaching at the Warren Alpert Medical School, Brown University.

Chu, Yun

Yun Chu is a MD-PhD student at Harvard Medical School. She grew up in St. Louis, Missouri and attended Stanford University where she majored in chemistry and biological sciences. After graduation, she became a Fulbright Scholar to Germany where she conducted research for one year at the Max Planck Institute for Biophysical Chemistry. Since starting at Harvard Medical School, she has been an active member of USMLE-Rx, where she is now currently helping to develop and lead a nationwide team to create a curriculum project that aims to improve the design and accessibility of medical curricula.

Clifton, Maurice

Maurice Clifton, M.D., MSEd, M.B.A., 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.

Cohen, Gary

Dr. Cohen has been a physician in the Department of Pediatrics at the Medical College of Wisconsin (MCW) in Milwaukee, WI since 2003. Dr. Cohen received his Doctor of Medicine and Master of Science in Physiology degrees from MCW and specializes in pediatrics, working with newborns. He is an Associate Professor of Pediatrics and Director of Bench to Bedside course for first and second year medical students. Dr. Cohen has been honored with several teaching awards including the Standing Ovation Award, Ernest O. Henschel Clinical Teaching Award, Teacher Recognition Pin, and numerous other outstanding teaching awards.

Collins, Jolene

Jolene Collins is an Assistant Professor of Clinical Pediatrics at Children's Hospital Los / Angeles and the Keck School of Medicine of USC. For the last 4 years she has worked / as a general outpatient pediatrician dividing practice time between a Federally Qualified Healthcare Center in East LA serving primarily publicly insured patients and the General Pediatrics Clinic at CHLA. She teaches medical students and residents in the ambulatory setting. She is the Director of Newborn Services in the Division of General Pediatrics at CHLA and oversees the Newborn rotation at Hollywood Presbyterian Medical Center. She lead Medical Assistant training within the AltaMed General Pediatrics Clinic. She sits on the residency program Diversity Committee. Her primary research interest is in curriculum development in the community and outpatient settings and widening the pipeline to develop more physicians who go on to work in underserved areas and improve healthcare inequities. She mentors residents on the the Medical Education Track and is currently a member of the Division of General Pediatrics' Education Committee working to increase scholarly work in the area of medical education.

Corey, Britney

After completing residency and a Minimally Invasive GI Surgery fellowship at the University of Alabama at Birmingham School of Medicine, Britney joined the faculty there specializing in foregut and anti-reflux operations, abdominal wall hernias, and bariatric surgery. Her academic focus is on surgical education; this interest developed after her experiences as an administrative chief resident exposed her to the unique challenge of transitioning a medical student into a skilled surgeon. She is specifically interested in developing curriculum in surgical simulation. Outside of her interest in education, Britney enjoys spending time with her family, preferably baking, hiking, or camping.

Crapanzano, Kathleen

Kathleen A. Crapanzano, M.D.. MACM is an Associate Professor of Clinical Psychiatry with Louisiana State University Health Sciences Center (LSUHSC), Department of Psychiatry, and program director of the LSU-Our Lady of the Lake (OLOL) Psychiatry Residency program in Baton Rouge, Louisiana. She obtained her MD from LSU Health Sciences Center in New Orleans; did her psychiatric training at the Medical College of Georgia and recently completed her Masters in Academic Medicine from the University of Southern California. She previously served as the medical director of the Louisiana Office of Mental Health in the challenging years after Hurricane Katrina. Her research interests are in issues of professionalism in the education of residents and medical students, particularly as it relates to stigma.

Crispen, Patrick
Patrick Crispen, is the Director of Educational Technology for the University of Southern California's (USC) Keck School of Medicine where he also holds a faculty appointment as an Assistant Professor of Clinical Medical Education. He is also an Assistant Professor (adjunct) in USC's Rossier School of Education where he teaches face-to-face and online masters- and doctoral-level education classes. Between 2009 and 2014, Crispen served as a manager in USC's Information Technology Services where he managed USC's enterprise-level learning management system and ancillary course technologies budgeting, staffing, and support services. Crispen has 25 years of experience in the field of educational technology and has assisted higher education institutions, K-12 schools and districts, state departments of education, regional and national educational consortia, and corporations with the creation and deployment of effective academic technology methodology and curriculum. Crispen has also authored four titles for the lynda.com online training library and has co-authored two classroom technology textbooks. Crispen sat for a doctorate in educational leadership under Richard Clark at USC in 2010, a master's degree in educational technology (online) from Pepperdine University in 2001, and a bachelor's degree in economics from the University of Alabama in 1998.

Danialifar, Tanaz
Dr. Tanaz Danialifar is an Adjunct Assistant Professor of Clinical Pediatrics, Department of Pediatrics, Division of Pediatric Gastroenterology, Hepatology and Nutrition at University of Southern California/Keck School of Medicine. She completed her medical training at Yale School of Medicine and then went on to complete pediatric residency and pediatric gastroenterology fellowship at Children's Hospital of Los Angeles. During her residency, she was awarded the Francis Nunnaly Windsor Resident Award in 2011. During her pediatric gastroenterology fellowship, she presented multiple lectures during noon conference for resident learning on topics such as Pediatric Nutrition and Inflammatory Bowel Disease and the IBD panel. Her research interests include intestinal motility disorders, resident and medical student education.

D'Aquila, Mitzi
Mitzi D'Aquila, MACM, PA-C is an Instructor of Clinical Family Medicine at the Division of Physician Assistant Studies, University of Southern California Keck School of Medicine. She has been a Clinical Coordinator since 2010. 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 or invited presentations. She is currently heading a team conducting PAEA- sponsored research on multimedia web-based technology to enhance preceptor recruitment.

Dedousis, Demitri
Demitri Dedousis is an M.D. candidate at SUNY Downstate College of Medicine. His academic interests include genetic and internal medicine. He graduated magna cum laude from Cornell University where he received a B.S. in biological sciences with a concentration in genetics and a distinction in research. At Cornell Demitri studied yeast genetics in the Huffaker Lab, completing an Honors thesis.

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 at 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.

Dinalo, Jennifer E.
Jennifer E. Dinalo is the library liaison for the Keck School of Medicine at the University of Southern

California. She provides support for students and faculty in the medical school, physician assistant program and other departments in Keck. Prior to becoming a librarian, Jennifer earned a PhD in molecular microbiology at the University of Texas Southwestern Medical Center in 2007. She then moved to a postdoctoral fellowship at Stanford University investigating the effects of antibiotics on the human microbiome.

DiTullio, David
David DiTullio is a sixth-year MD/PhD student at UCLA. He is the senior tutor of the DGSOM Peer Tutoring program, with which he has worked for the past four years. The peer tutoring program works to support medical students at all levels of education, including both preclinical and clinical years, with one-on-one, small group, and large group tutoring programs. David is particularly interested in Step 1 support and anxiety reduction strategies.

Domes, Trustin
Dr. T. Domes, MD, FRCPC Urology. Dr. Trustin Domes has been a Urologist in Saskatoon, Saskatchewan since 2011. He completed his BSc at the University of Saskatchewan, and his Medical Degree at the University of Alberta. Following a urology residency at Western University, he specialized in Male Reproductive Medicine and Surgery at the University of Toronto. Trustin is an adjunct professor at the University of Saskatchewan. He is currently director of the Undergraduate Surgery Education. Furthermore, Trustin has recently completed his Masters Degree in Educational Administration from the University of Saskatchewan, and a Postgraduate Certificate in Program Development in Academic Medicine from the University of New England.

Donthi, Rajesh
Rajesh Donthi, MD is the Associate Division Head, Division of Hospital Medicine in the Department of Pediatrics at Children's Hospital Los Angeles and is the Director of Faculty Development who has had an ongoing interest in the contribution of communication skills and attitudes to patient safety and quality outcomes. He has performed unpublished evaluation of pediatric resident handover communication completeness and quality.

Dotzler, Steven
Steven Dotzler is a second year medical student at Mayo Clinic's MD-PhD program in Rochester, MN. He grew up in the rural town of Foley, MN and pursued chemistry and biology at Concordia College in Moorhead, MN. Outside of science, he toured with the nationally renowned Concordia Choir and sparked a broad interest in mentorship and education through an elementary outreach program called Science Academy, tutoring, being a TA, and mostly by always being around to offer academic help. In his time at Mayo Clinic, Steven has become involved with Pre-Med Insight to continue assisting the next generation of physicians and scientists to reach their goals. For his own upcoming training, he will complete his PhD in pharmacology, studying the genetic forms of the cardiac disease, Long QT syndrome. Clinically, he is interested in pursuing anesthesiology.

Echaniz, Marisa
Marisa Echaniz is an academic hospitalist at Denver Health, a safety net hospital. She has a major interest in medical education, and finding ways to enhance education that are pragmatic and efficient, applicable to both public and private worlds. She is the co-director of the nocturnalist service, and loves hospital admitting, so she engages in projects related to patient flow through, in addition to hospitalist interaction with the emergency department. When she is not working, she enjoys hiking, visiting national parks, playing make believe with her 4 year old son, and cooking with her husband.

Edmondson, Nelly
Nelly Edmondson is a graduate of Columbia University's Master's Program in Narrative Medicine. She is also an expressive writing workshop facilitator with an extensive background as a professional writer and editor, specializing in health and medicine.

Eisner, Shirley
Dr. Eisner is an Associate Professor of Cell Biology at SUNY Downstate College of Medicine in

Brooklyn, NY. She is also Associate and Subunit Director of Infection and Host Defense (and Head and Neck) Unit 3, Co-Discipline Director of Gross Anatomy, and Discipline Director of Developmental Anatomy and Embryology. She serves as Program Co-Director of the Medical Educator Pathway, Chair of the Curriculum and Educational Policy Committee, a member of the Dean's Council on Education, Student Assessment Committee, and Student Appeals Committee, Faculty Representative for SUNY Downstate College of Medicine to the AAMC Council of Faculty and Academic Societies (CFAS), and previously served as Chair of the LCME Self-Study Committee on Educational Program. She has received numerous awards and honors during her career, including the Inaugural Award for Excellence in Education at SUNY Downstate College of Medicine, NEGEA Best Short RIME Oral Presentation, Iatros Award- Yearbook Dedication and Teaching Award by Class of 2014 of SUNY Downstate COM, Pre-Clinical Educator of the Year, and Outstanding Educator of the Year Award, both also by SUNY Downstate College of Medicine.

Enciso, Josephine M.

Josephine M. Enciso, MD is an Associate Clinical Professor, Department of Pediatrics, Division of Neonatology and Developmental Biology, David Geffen School of Medicine at UCLA. She received her MD at the University of Arizona College of Medicine, Tucson, AZ, in 1996, completed her residency in Pediatrics in 1999 at Tufts University School of Medicine/New England Medical Center-Floating Hospital for Children, Boston, MA, and completed a fellowship in Neonatal-Perinatal Medicine at Yale University School of Medicine/Yale-New Haven Hospital, New Haven, CT, in 2003. In November 2007, she joined the Division of Neonatology at David Geffen School of Medicine at UCLA and is the Program Director of the Neonatal-Perinatal Medicine fellowship at UCLA. Dr. Enciso is currently a student in the Master of Academic Medicine Program at USC. Email: jenciso@mednet.ucla.edu.

Essary, Alison

Dr. Essary serves as Director of Strategic Academic Initiatives for the College of Health Solutions, and Associate Director and Clinical Associate Professor in the School for the Science of Health Care Delivery at Arizona State University (ASU). Her teaching interests encompass leadership and professionalism, historical and contemporary issues in health, and primary care and prevention strategies. She conducts health services research, with a focus on workforce development. In 2011, she served as PI for the HRSA Primary Care Training and Enhancement Program, Addressing PA Primary Care Workforce Shortages through Community Outreach and Faculty Development. In 2014, she served as a committee member to develop Health Resources and Services Administration (HRSA), Integration of Oral Health and Primary Care Practice recommendations. She currently serves as the ASU PI for the NIH-funded BUILDing SCHOLARS program (Building Infrastructure Leading to Diversity: Southwest Consortium of Health-Oriented education Leaders and Research Scholars). In 2013, she was granted the Breitman-Dorn Fellowship in recognition of her research efforts. Dr. Essary serves as Chair, General Studies Council at Arizona State University. On a national level, she serves as a scientific reviewer for the Patient-Centered Outcomes Research Institute (PCORI), and grant review committee member for HRSA. Prior to joining ASU, she was Director of the Midwestern University Physician Assistant Program where she deve

Essig, Michelle

Michelle Essig, MD, FAAP, is an Assistant Professor of Clinical Pediatrics at University of Southern California and a pediatric hospitalist at Children's Hospital Los Angeles. She graduated medical school from University of California, Davis and completed her post-graduate training in pediatrics at Children's Hospital Los Angeles. Her academic interests include curriculum development, resident education and faculty development. She is currently a facilitator for the pediatric resident PEDS curriculum and is assisting in curriculum development for the second year pediatric resident cardiovascular acute unit at CHLA.

Falahati, Saam

My name is Dr. Saam Falahati and I am currently a Clinical Teaching Fellow in Cardiology and Cardiothoracic Surgery in Scotland, as well as an Honorary Clinical Lecturer at the University of Glasgow Medical School. My responsibility is to organise and deliver the clinical aspects of cardiology and cardiothoracic surgery present in the curriculum for final year medical students at the University of

Glasgow. I have a strong passion for Medical Education and I am currently undertaking a Postgraduate Certificate in Medical Education for General Practitioners at the University of Dundee. At this present moment in time I am at the initial stages of an innovative idea which will hopefully revolutionize peer-to-peer online medical education across the globe.

Farb, Heather
Heather Farb, MPH, is an Evaluation Manager at the Louisiana Public Health Institute (LPHI). At LPHI, Heather has managed and coordinated a number of research and evaluation projects involving health impact assessment, community health needs assessment, behavioral health integration, clinical transformation, patient-centered outcomes research, and population health. Heather has a strong background in qualitative data collection and analysis. Heather holds a MPH in Global Health Systems and Development with a concentration in Program Design and Implementation from Tulane University School of Public Health and Tropical Medicine. Prior to joining LPHI, Heather worked in public health research and projects involving migrant health, HIV, sexual health, and access to health care.

Feltes, Michelle
Michelle Feltes is a global health fellow in the department of Emergency Medicine at Stanford University Hospital. Her focus during fellowship is on further development of emergency medicine education internationally. She also teaches medical students and residents at Stanford University Hospital as well as practices clinically in the Emergency Department. She graduated medical school in 2012 from Washington University in St Louis. She completed her residency training in Emergency Medicine at George Washington University in 2016. She travelled to India in 2014 and 2016 to teach emergency medicine trainees during residency. During fellowship, she has begun working with trainees in Emergency Medicine in Myanmar. She grew up in central Illinois as an only child on a small farm and moved to St Louis for college and medical school. She then moved to Washington DC for residency and just moved to California for fellowship.

Flora, Monica
Monica Kaur Flora MD is a third year resident in the Department of Family Medicine at Mercy St. Vincent's Toledo, OH. She completed her medical education at M.S. Ramaiah Medical College in Bangalore, India. She is active in research activities and has worked under physicians at David Geffen School of Medicine and Keck School of Medicine. She had been published in CHEST and EULAR. She has an interest in women's health and actively participates in quality improvement projects to promote the health and wellbeing of women. In her free time, she is an ACLS, BLS, and PALS instructor. She was a former EKG instructor. Outside of the medical field, her interests include traveling to her hometown of Los Angeles, being a mother to her yorkie, and spending time with her family and friends. After completing her residency, she hopes to pursue a career in academic medicine.

Forest, Christopher
Christopher Forest, MSHS, DFAAPA, PA-C, is Assistant Professor of Clinical Family Medicine and Director of Research at the Primary Care Physician Assistant Program, Keck School of Medicine of the USC. He serves as Chair of the USC Interprofessional Education Collaborative and is certified through the EHPIC at the University of Toronto. He oversees the Behavioral Sciences and Research curriculum and precepts interprofessional teams of students in a student-run primary care clinic. His prior clinical practice areas include Family Medicine, Urgent Care, and Urology. He is well published in peer-reviewed medical journals and has extensive experience conducting randomized controlled clinical trials.

Fox, Rachel
Rachel Fox is a first year PhD student and Kroner Family Fellow in Communication and Science Studies at the University of California, San Diego. She received her BA in Biology from Wesleyan University and her MS in Narrative Medicine from Columbia University. She previously held lecturing positions at Rutgers University in the Women's and Gender Studies department and Sarah Lawrence College in the Masters of Health Advocacy program. Rachel's research focuses on the intersection of fatness, disability, medicine, and online activism. In 2014, her essay "Too Fat to Be a Scientist?" was published in The Chronicle of Higher Education, and was later featured on NPR's "Cosmos & Culture" blog. Her presentation "Thickening Fat Temporality: A Queer, De-Colonial Perspective" has been accepted for

presentation at the Popular Culture Association's 2017 conference, and she has previously presented her work at the PCA conference, the International Health Humanities conference, and the Association for Size Diversity and Health conference. She also appeared in the recently released documentary The Sixty-Six Percent, directed by Natalie Abruzzo.

Fung, Cha Chi

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 PhD 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 educationto 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.

Gardner, Laura

Laura Gardner is an MD/MS student at the University of Utah School of Medicine and University of Utah Department of Bioengineering. Her background is in biochemistry, and she enjoys exploring the interface between biotechnology and healthcare. Laura currently serves as national student conference co-chair and social media chair for the American Medical Women's Association. She also manages 4th Street Dermatology Clinic for the Homeless in Salt Lake City.

Guerrero, Emma

Emma Guerrero is a Licensed Clinical Social Worker in California and Hawaii. She graduated from the University of California, Los Angeles for her undergraduate and graduate education. She has a wide-ranging career working with culturally diverse populations of all ages and has worked with special populations specializing in Personal Safety, Sexual Abuse Prevention Education, Trauma Treatment and Family counseling. She has served as faculty and counselor at the high school, junior college and college levels. Presently she serves as Behavior Medicine Faculty for the White Memorial Medical Center Family Medicine Residency Program.

Green, Gordon

Gordon Green. M.Ed., M.D., received undergraduate degrees in Business Administration from Simon Fraser University and Life Sciences from Queen's University, Kingston. He then completed medical school and residency at the University of British Columbia before undertaking fellowship/scholars training in medical education at UBC and West Virginia University. He practiced Pediatric Emergency Medicine at Charleston Area Medical Center (CAMC) in Charleston, WV and while there was the Director for Medical Education, Emergency Medicine and Senior Research Scientist. He completed his Master's in Education with a focus on Distance Education and is currently working towards a doctorate in educational technology at the University of Calgary. Dr. Green was the Medical Director of the Human Patient Simulation Center at CAMC where he designed, implemented and evaluated complex simulation activities for medical students, residents and fellows, as well as students from nursing, pharmacy, respiratory therapy and emergency medical services. Dr. Green has over 15 years experience in curricular design and educational innovations in North American and international medical schools. He is currently the Executive Dean at Medical University of the Americas and is located at their administrative offices in Massachusetts.

Grimaldi, Lisa M.

Lisa Grimaldi is a pediatric intensive care physician at Phoenix Children's Hospital in Phoenix, AZ. Dr.

Grimaldi received her undergraduate degree from New York University and her medical degree from the University of Medicine and Dentistry of New Jersey – New Jersey Medical School. Her residency in pediatrics and fellowship in pediatric critical care medicine were completed at Columbia University, Morgan Stanley Children's Hospital of New York Presbyterian. Dr. Grimaldi has a special interest in congenital heart disease and has focused her clinical career in the cardiac intensive care unit setting. She is also interested in graduate medical education and previously served as the Fellowship Director for the Pediatric Cardiac Intensive Care Fellowship at St. Joseph's Hospital in Phoenix and as the Associate Program Director for the Pediatric Critical Care Fellowship at Phoenix Children's Hospital. Dr. Grimaldi has been a member of the faculty at the University of Arizona College of Medicine – Phoenix since 2009 and holds the rank of Associate Professor in the Department of Child Health. She has been actively involved with medical student education since joining the faculty and has participated in curriculum development and teaching in both the pre-clinical and clinical curriculum.

Grindrod-Millar, Kathleen

Kathleen Grindrod-Millar is entering her second year of her MSc in Community Health Sciences at the University of Calgary. She holds a Bachelor of Arts in Art History and Anthropology. From this Kathleen brings a unique perspective to her research, seeking to holistically understand phenomena from a qualitative standpoint. Kathleen aspires to enter the field of academia and professional quality improvement. Her research interests include quality improvement, information design, and cross-cultural communication in health care. Kathleen has presented her work at local and national conferences and is funded by the research and innovation initiative Ward of the 21st century (W21C.org). Her current thesis focuses on the design and evaluation of a Non-Alcoholic Fatty Liver Disease educational tool for both patients and family doctors.

Gu, Ada

Ada Gu grew up in Vancouver, British Columbia, and graduated from the University of California, Berkeley in 2015 with a B.A. Public Health. She is currently a second year medical student at McMaster University School of Medicine, and is interested in pursuing a career in surgery. Ada has a diverse range of interests including medical and healthcare technology, medical education, research and public health. Her past research experiences include working with the iCAPTURE Center in St. Paul's Hospital in Vancouver, the Nicholas C. Petris Center on Health Care Markets and Consumer Welfare at UC Berkeley, and she is currently working with The Program for Educational Research and Development (PERD) in the Department of Health Sciences at McMaster University. In her spare time, Ada enjoys blogging, running, going to hot yoga and spending time with friends. She loves traveling and has been to over 50 countries, on various volunteer, social and work trips. She speaks English, Chinese and French, and has an interest in cultivating greater language and cultural competency to facilitate her future medical practice.

Gupta, Tanya Jain

Tanya Jain Gupta is currently an MSIV student at the Keck School of Medicine of the University of Southern California (USC). Prior to the start of medical school, she graduated summa cum laude from the University of California Los Angeles with a B.A. in World Arts & Cultures: Dance and a B.S. in Physiological Sciences. In 2012, she earned her Master of Science degree in Biokinesiology and a Certified Strength and Conditioning Specialist degree. Since the beginning of medical school, Tanya has been avidly involved in developing wellness and social support programs for the KSOM community. Tanya was an active participant in the USC Medical Mentorship Program for pre-medical students at USC, and has additionally been serving as a personal mentor to over 15 fellow KSOM students as a Keck Peer Support counselor. In her second year of medical school, Tanya founded the Jumpstart event at KSOM, born from her belief that exercise is medicine, and that healthy change for our patients, loved ones, and community as a whole begins with those in the medical profession. Jumpstart is an annual week-long event that challenges and invites the KSOM faculty, residents and students to take the initiative in reshaping the current culture by presenting them with free entry to select fitness classes, studios, and gyms in various regions of Los Angeles. She can be contacted at tanyagup@usc.edu.

Han, Heeyoung

Heeyoung Han, PhD is an Assistant Professor in the Department of Medical Education at Southern

Illinois University School of Medicine. She holds a Master's degree in Educational Technology at Ewha Womans University in South Korea and a PhD in Human Resource Education at University of Illinois at Urbana-Champaign. She has extensive research experience in educational technology, instructional interactions, doctor-patient communication, and educational program evaluation using both qualitative and quantitative research methods. She has numerous scholarly publications and presentations in medical education and recently received a Research Paper Award from the Association for Medical Education in Europe (AMEE) in 2015. She serves as a deputy editor of Teaching and Learning in Medicine.

Harlan, Gregory

Dr. Greg Harlan graduated from Princeton and completed his Pediatrics residency at UCSF, and then received his Masters in Public Health from the University of Utah, where he was Assistant Professor of Pediatrics and a pediatric hospitalist. Greg came to Keck from IPC The Hospitalist Company, where he served as the Director of Medical Affairs for 5 years. In that capacity he worked closely with IPC's 250 Practice Group Leaders and managed the IPC-UCSF Fellowship for Hospitalist Leaders. This joint effort between IPC and UCSF taught physicians deliberate understanding of their personal leadership styles and fostered specific skills on leading change by completing a quality improvement project. As Director of the Introduction to Clinical Medicine course (ICM), Greg is integrating the educational framework for ICM into ongoing CME and ACGME frameworks. He is also working to introduce new elements into first and second year medical students' ICM curricula around optimizing team performance and developing personal leadership styles. He currently serves as the Director of the Business of Medicine course, and faculty lead for the Culinary Medicine Selective. Greg's professional interests center around early formation of professionalism, fostering physician leaders, and innovative methods to teach communication skills among teams. Greg is Associate Professor of Clinical Pediatrics and Medical Education and works clinically at LAC+USC Medical Center Pediatrics Department.

Harris, Orion

Orion Harris, MA, MFTi, is a Marriage and Family Therapist Intern providing inpatient, outpatient and group Expressive Arts Therapy to patients and community members through the Art of Health and Healing Department at Contra Costa Regional Medical Centers and Health Centers. He also works with young men in outdoor settings providing mentorship, ecotherapy and expressive arts interventions. He graduated from California Institute of Integral Studies with a degree in Expressive Arts Therapy: Counseling Psychology in 2014. His previous work includes community mental health settings providing individual and group therapy for clients of all ages with trauma, severe mental illness, and substance abuse issues.

Heine, Nancy

Nancy Heine is Assistant Professor of Medical Education and Director of the Clinical Skills Education Center at Loma Linda University. Her responsibilities include coordinating teaching, assessment and remediation of clinical skills for the School of Medicine, and clinical skills competency assessments for a variety of health professions. She coordinates outcomes analysis and research related to the educational activities of the Clinical Skills Education Center. She has presented at national and international medical education meetings and published several articles and a book chapter related to clinical skills teaching and assessment.

Helf, Scott

Scott Helf, DO, MSIT had always dreamed of becoming an osteopathic physician, and serendipitously discovered a passion for information technology while in medical school. He is currently the CTO, Assistant Dean of Academic Informatics, and Associate Professor of Social Medicine and Healthcare Leadership at WesternU/COMP. He attended UCSD, where he graduated cum laude with a BS in Biochemistry and Cell Biology in three years in 1995, earned a Doctor of Osteopathic Medicine degree from COMP in 1999, and a Master of Science in Information Technology from California State University, Fullerton, in 2007. Dr. Helf co-founded two technology companies and is currently serving as a member of the National Board of Osteopathic Medical Examiners, Innovations in Testing Advisory Committee.

Hendriksz. Tami
Tami Hendriksz, DO, FACOP, FAAP obtained her medical degree from Touro University College of Osteopathic Medicine (TUCOM). She then completed her pediatric residency training at Children's Hospital Los Angeles. Since that time Dr. Hendriksz has returned to alma mater where she currently serves as an Associate Professor and the Assistant Dean of Clinical Integration. Dr. Hendriksz continues to practice primary care pediatrics at the Solano County Clinic, and also serves as the Medical Director for the two Vallejo Unified School District School-Based Clinics. Dr. Hendriksz is committed to medical education, and strives to bring humanity to medical training and practice. At TUCOM she runs the Early Clinical Experiences and Observed Structured Clinical Experiences programs. She also coordinates and presents the Finding Balance in a Medical Life curriculum, and has developed the Clinical Integration curriculum. Clinical Integration strives to bring more clinical perspective to the preclinical years of undergraduate medical education, and reconnect basic science principles during the clinical years. Dr. Hendriksz is enthusiastic about innovative teaching ideas, and has won Teacher of the Year at TUCOM in 5 out of the past 6 years. Patient Perspective sessions (learning sessions where real- life patients present their medical stories and experiences to large groups of first and second year medical students) were an innovative curricular approach designed by Dr. Hendriksz

Heo, Suwoong
Suwoong Heo received his B.S. degree in Electrical and Electronic Engineering from Yonsei University, Seoul, Korea in 2015. He is currently working toward the joint M.S and Ph. D. from 2015. His research interests include image processing, computer graphics, and computer vision.

Herzberger, Kathy
Kathy Herzberger is a RN and Instructor of Medical Education at Loma Linda University, where she is responsible for a variety of clinical skills teaching and assessment activities across all four years of the medical school curriculum. She implements the senior Clinical Skills Enhancement Track, designed to improve senior medical students' clinical skills. In addition she is a Standardized Patient trainer, and participates in OSCE case development and implementation for the School of Medicine as well as GME, Nursing, Physician Assistant and Allied Health programs. She is a member of the Association of Standardized Patient Educators, and has given oral and poster presentations at the annual conferences.

Hoonpongsimanont, Wirachin Ying
I have been involved in undergraduate medical education as the Emergency Medicine (EM Clerkship Director since 2013. I also teach Clinical Foundation for first and second year medical students for four years. I became to realize the gaps in our medical school curriculum. We are teaching medical students in the technology dependent generation therefore we have to adjust our teaching style and incorporate technology to enhance medical student learning experience. This year we implement many new teaching styles including flipped classroom instead of formal lecture and Google Glass recording to provide feedback and improve self-reflective skills. I hope to create an effective EM curriculum for the new generation.

Hsieh, Eric
Eric Hsieh, Assistant Professor of Clinical Medicine, joined the Keck School of Medicine Department of Medicine in 2006. He is Vice Chair for Educational Affairs for the Department of Medicine and Director of the Internal Medicine Residency Training Program. He received his M.D. Degree from the Keck School of Medicine. He completed his residency training at the USC Internal Medicine Residency Training Program. Dr. Hsieh was elected into the Alpha Omega Alpha Honor Society and received Outstanding Teacher Awards by Keck students 2008, 2011, and 2014. His professional interests include faculty and instructional development, problem-based learning, and course design and administration.

Hughes, Hannah R
Hannah R. Hughes earned an undergraduate degree in Biology at University of California, Riverside. She is currently in her final year of a dual MD/MBA program at UCLA, concurrently enrolled in David Geffen School of Medicine (DGSOM) and Anderson School of Management, and applying to

emergency medicine residency. In medical school, she has earned letters of distinction for outstanding clinical and academic performance in 7 of 9 clinical clerkships, was selected for the Gold Humanism Honor Society, and is a recipient of the prestigious DGSOM Dean's Leadership in Health and Human Sciences scholarship. She has held a number of student teaching positions, including DGSOM's tutoring program, medical Spanish elective, and systems based healthcare course. She has participated in research projects spanning areas of global health, healthcare management, and system dynamics. Contact Hannah at hhughes@mednet.ucla.edu.

Humphrey, Tara
Tara L. Humphrey, DO, Clinical Associate Professor of Anesthesia at the Keck Medical Center of the University of Southern California. I am a Cardiac Anesthesiologist, Director of Resident Simulation and Assistant Program Director of the Anesthesia Residency- PGY1. My daily responsibilities are my clinical cases and supervising, instructing and mentoring resident and fellows. I give regular lectures for the residents and fellows. This year I am responsible for the Anesthesia intern educational curriculum which includes lecturing, mentoring and problem solving. I have been involved in Resident Simulation for 5 years and am now the Director of Resident Simulation. I am responsible for organizing the curriculum and leading nine Saturday Sim workshops for all of our residents. I have been on faculty since 2009. I have been married for 5 years. We have a 2.5 year old daughter and a 5 month old baby boy. My hobbies were ballroom dancing, scuba diving, piano, singing and running. Now that I have children, my hobby is picking up toys.

Hwung, Jer-Bin
Jer-Bin Hwung, OTR/L is an Occupational Therapist pursing a clinical doctorate at University of South California (USC). He is currently a trainee in the California Leadership Education in Neurodevelop-mental and Related Disabilities Training Program as part of USC UCEDD to develop leadership potential, participate in research, and collaborate in interdisciplinary teams. Having recently graduated from the USC Occupational Therapy (OT) Master's program, he feels strongly about improving academic and clinical education to better prepare entry-level therapists. His long-time interest has been in education, having taught ESL in South Korean middle schools for two years after graduating from UCLA with a BA in Psychology, before transitioning to OT to teach patients how to live their lives to the fullest. His past research experience includes analyzing outcomes of OT education-based intervention in lifestyle redesign.

Ironside, Kristen
Kristen Ironside is currently the Research Program Manager at the Kaiser Permanente Los Angeles Medical Center. She received her MA in Forensic Psychology at Castelton State College and her BA in Psychology at Western New England University. Her research interests focus on the development and evaluation of intervention programs to address health promotion among underserved populations. She has served as staff therapist on NIH funded behavioral intervention studies with cocaine addicts at the University of Vermont and coordinated multiple government funded randomized controlled trials at Northeastern University investigating the occupational health of construction workers. She has experience leading research teams through multiple aspects of research from study ideation and protocol design to subject recruitment, intervention implementation and data collection and analysis.

Itamura, Kyohei
Kyohei Itamura is currently a second-year medical student at the Keck School of Medicine of USC. He graduated from Brown University with a Bachelor of Science in Chemistry in 2014 where he pursued research in elucidating the molecular basis of metabolic dysfunction in neurons of Alzheimer's Disease. He continued his involvement in the field of neuroscience at UCLA where he spent a year studying biomarkers specific to neurotrauma. Now as a medical student in the Health, Technology, and Engineering @ USC graduate program, his interests are in neurosurgery and developing innovative tools that can enhance surgical education. His hobbies include golfing, hiking, and following professional sports.

Ivanova, Margarita
Margarita Ivanova is a second year medical student at the Keck School of Medicine of USC. Margarita is

originally from Sofia, Bulgaria. She received her Bachelor of Arts degree from the University of California, Berkeley in Molecular & Cell Biology. After graduating college, Margarita joined Teach for America and spent two years teaching high school biology and physiology at a low-income, inner city school in Oakland, CA. After moving to Los Angeles, she joined Dr. Deborah Krakow's skeletal dysplasias lab at the University of California, Los Angeles. At Keck, Margarita is part of the Longitudinal Clinical Community Medicine Experience Program and has a strong interest in primary care. As a 2015-2016 Albert Schweitzer Fellow, she implemented a hands-on nutrition education program at Renaissance Arts Academy (RenArts) - a public K-12 charter school where she spent a year teaching prior to medical school. Currently, Margarita is participating in a yearlong research project at RenArts, as a Dean's Research Scholar. The project entails the creation of a direct mentorship health sciences program for high school students.

Jalali, Omid
Omid Jalali is a second year medical student at the Keck School of Medicine at USC. He grew up in Irvine, California and graduated from UC Berkeley in 2015, with a BS in undergraduate business administration. During his time at Berkeley, he was captain of the division I men's soccer team and became Berkeley's first PAC 12 scholar athlete of the year in 2015. At Keck, Omid has shown interest in teaching gross anatomy, serving as a head and neck anatomy teacher assistant at the Herman Ostrow School of Dentistry of USC. This experience inspired him to co-found the Keck Anatomy Mentorship Program (KAMP) to supplement the existing gross anatomy curriculum. Omid hopes to pursue orthopaedics and sports medicine with the goal of achieving a career in medicine that incorporates his love for athletics.

Jeffreys, Sam
I am a final year medical student on the 4 year Graduate Entry Medicine course at Swansea University. Prior to this I completed an undergraduate degree in Biochemistry at the University of Bath. I have a strong interest in Paediatrics and after graduating I plan on pursuing a career in Paediatric Surgery. When not busy studying I enjoy film, music and keeping fit. I am also involved in caring for my nephew and enjoy the challenges of raising a child with autism. I live on the coast in Wales, and love living near sea.

Johnson, Robert E.
Robert E. Johnson is a Clinical & Research Librarian at the University of Southern California's Norris Medical Library. Prior to working at USC, he was the Research Librarian for Nursing, Allied Health, and Public Health at the University of California, Irvine, Education Services Librarian at Virginia Commonwealth University's Tompkins-McCaw Library for the Health Sciences, and a Library Assistant at the University of Minnesota's Bio-Medical Library.

Joyner, JaNae
JaNae Joyner, PhD, MHA, received her PhD in Molecular Medicine in 2007 from Wake Forest University where her research focused on translational basic science, community programming, and continuing medical education for primary care physicians related to hypertension, dyslipidemia, and diabetes. After receiving her Masters in Healthcare Administration (MHA) in 2014, Dr. Joyner transitioned to a role as Program Director for Academic Affairs at Wake Forest School of Medicine where she holds operational and curricular innovation responsibilities. During Dr. Joyner's tenure she has hired a team of instructional designers to accompany the existing academic affairs team to promote curricular redesign. Dr. Joyner has received numerous early career investigator awards, has published over 10 manuscripts and 40 abstracts at regional, national and international meetings, and has been honored to attend epidemiology and leadership programs at Johns Hopkins and Harvard Business School.

Jung, Christina
Christina Jung is an Assistant Professor of Clinical Pediatrics at Children's Hospital Los Angeles and the Keck School of Medicine of USC. She is a general pediatrician that work as an outpatient general pediatric, newborn nursery attending, and also inpatient ward attending. She is the Associate Director of Outpatient EHR in the Division of General Pediatrics at CHLA. She works on developing and improving the outpatient EHR and other tech resources to align with the needs of pediatrics practitioners. She also

has developed and led the training for faculty and residents in the EHR. She is the Editor of the CHLA Resident Survival Guide and works closely with the residents on how to present useful information effectively in this book. She has an Masters in Public Health in Epidemiology. Her research interests include informatics, system based practices, quality improvement, and medical education from a technology and system based practice standpoint.

Kafilmout, Imad

Imad Kafilmout, MD, DGO, FAAFP. Faculty at San Joaquin General Hospital Family Medicine Residency program. Graduated from University of Baghdad College of Medicine, and did eleven years of post grad training, including four years obstetrics and gynecology residency at UOM, two years obstetric ultrasound and reproductive endocrinology fellowships in London UK, one year internal medicine at MCV and family medicine residency at WVU as well as one year fellowship in maternal child health at WSH. My experience as an educator includes two years as an ICM instructor at West Virginia School of Medicine, Assistant Professor at UNC Department of Family Medicine Faculty at MAHEC (2001- 2008), Obstetric and Ultrasound instructor at KP Fontana residency program (2008-2010) and Faculty at Natividad Medical Center Family Medicine Residency program (2010-2013). My professional interest includes women's health, residency curriculum redesign, and (of course!) teaching.

Kamra, Pallavi

Pallavi Kamra obtained her medical degree at Kasturba Medical College in India. She completed residency and chief residency in Pediatrics at the University of Minnesota. She has a keen interest in medical education and while a chief resident, worked on several innovative projects to improve resident and medical student experiences during pediatric rotations. Pursuing her desire to work with an underserved population, she is currently a community pediatrician at a community clinic in Ventura County, California.

Kazerouni, Kayvan

Kayvan Kazerouni is a second-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. He is currently working 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.

Kelly, Patricia

Patricia Kelly, MD is a PGY-3 Family Medicine Resident at White Memorial Medical Center. Dr. Kelly received her doctorate of medicine from Temple University School of Medicine in 2014. Email: kellyp1@ah.org.

Kestner, Jim

Jim Kestner, MA, is a nationally recognized educator specializing in pedagogy, curriculum development, and leadership. As an Education Specialist at Carle Foundation Hospital, Kestner currently works in curriculum and evaluation with faculty and residents of the General Surgery Resident Program. For 30 years, Kestner has conducted research, delivered keynote speeches and seminars, and delivered programs that empower individuals to realize their potential. He has served as a faculty member, program coordinator, and department chair at the university level, taught students and coached athletes at elementary, middle, and high school levels, and consulted with corporations, organizations, and individuals across the country. Kestner's clients and business associates have included Oprah Winfrey, Warren Buffet, Coretta Scott King, Henry Kissinger, the National Education Association, Horace Mann Insurance Companies, the Abraham Lincoln Institute for Literacy in America, NASA, and several Olympic National Governing Bodies. Kestner is also the author of Program Evaluation for Sport Directors (Human Kinetics Publishers), a resource for secondary and collegiate sport administrators.

Kim, Albert
Albert J Kim, MD, MACM is an Assistant Residency Director for the Emergency Medicine Residency and newly appointed Fellowship Director for Emergency Medicine Education Fellowship at the Washington University in Saint Louis School of Medicine (WUSM). After completing medical school at the Northwestern University Feinberg School of Medicine, he completed his Emergency Medicine Residency at Washington University in Saint Louis, serving as Chief Resident during his PGY-4 year. Upon completion of residency, he was the inaugural EM Education Fellow at the WUSM Division of Emergency Medicine and a student in the Master of Academic Medicine program at USC, graduating in 2015. His academic areas of interest include career planning and mentorship, focused instruction in bedside teaching, residency wellness and recruitment, and procedural training. Outside of the hospital you will likely find him, well, hopefully outside. Most likely running, hiking, or rock climbing with his fiancée and friends in search of that next great view.

Kim, Esther
Esther Kim graduated with a Bachelor's degree in Biological Sciences from UC Irvine in 2014. She went on to continue her education with UCI within the School of Medicine and is projected to graduate in 2019. Her interests range from acute care/emergency medicine to fetal/mother health. She also has a special interest in community advocacy as she is Southern California born and raised. She hopes to contribute to the body of knowledge regarding stigmatizing attitudes and access to care.

Kirou-Mauro, Andrea
Andrea Kirou-Mauro a general pediatrician and resident in the Pediatric Clinician Investigator program pursuing a Master of Science in Health Science Education at McMaster University under the supervision of Lawrence Grierson. She is also a fellow at the Wilson Centre (University of Toronto, Faculty of Medicine and University Health Network) under the supervision of Ryan Brydges. Andrea's research focuses on the acquisition of procedural skills and the impact of objectivist and constructivist approaches on skill acquisition and adaptive expertise. Andrea is the recipient of a 2016 PGME Medical Education Research Grant at McMaster University.

Koethner, Nichole
Nicki Koethner, MA, MFT is a Licensed Marriage and Family Therapist, Clinical Supervisor for the Expressive Arts Therapy Art of Health and Healing 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. 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.

Koh, Danny Ju Yong
Danny Ju Yong Koh is a second year medical student at Campbell University School of Osteopathic Medicine (CUSOM). Danny's goal is to become an altruistic physician like the one he met as a child at a free clinic in Iowa City, IA who surgically repaired his fingers at no cost. Coincidentally, he enjoys volunteering as a student doctor in various local free clinics in Central North Carolina where he can provide quality health care for the underserved in his community. He currently serves as an executive board member for the Global Health Outreach Organization at CUSOM. In this capacity, he organizes multiple outlets for medical outreach in the underserved communities so that others will experience well-being regardless of their socioeconomic status just as he did as a child. / Danny has been very active with conducting research since college and graduate school, and he continues to be active at CUSOM in multiple departments. He has contributed in writing several manuscripts for publications and presented his research at different conferences. Danny gained a unique perspective on conducting research with a collaborative approach after attending the Korean Federation of Science and Technology Societies Forum in South Korea this summer, where he worked with Korean student scientists from various parts of the world. Research experiences stimulate his curious tendencies towards many aspects of medicine, and he looks forward to maintaining this curious attitude throughout his career.

Komlenac, Nikola
After graduating from high school in Vienna (Austria) in 2009 I studied psychology at the University of Vienna. Since my fourth semester until graduation I worked as student assistant at the Faculty of Psychology at the department of Basic Psychological Research and Research Methods. During my studies I earned two performance scholarships and graduated with the degree Mag. rer. nat. in 2014. Since 2015 until present I am a PhD student at the University of Innsbruck (Austria). Since 2015 until present I am working at the Medical University of Innsbruck at the Women's Health Center at Innsbruck Medical University Hospital as university assistant (prae doc).

Kong, Keng-He
Senior Consultant in the Department of Rehabilitation Medicine of Tan Tock Seng Hospital who holds concurrent appointments as Adjunct Associate Professor in the NUS Yong Loo Lin School of Medicine and Visiting Associate Professor for the Master of Science, Biomedical Engineering programme in the Nanyang Technological University.

Konia, Mojca Remskar
Mojca Remskar Konia, MD, PhD, MACM is currently an Associate Professor in the Department of Anesthesiology at the University of Minnesota. She is a fellowship trained cardiac anesthesiologist and pediatric anesthesiology certified anesthesiologist with special interest in adult and pediatric cardiac anesthesia. In 2010 she became the Residency Program Director and in 2014 Vice Chair of Education of the Department of Anesthesiology. She has received several Teacher of the Year awards. She began working with simulation in 2009 and is now Interim Director of SimPORTAL at the University of Minnesota. She is involved with curriculum development of the anesthesiology and surgery residency simulation program and is developing multidisciplinary educational curricula, which utilize high- and low-fidelity simulation. Her special area of interest is translation of clinical skills, medical knowledge and attitudes obtained in the simulation laboratory into the clinical world. Prior to joining University of Minnesota she worked at the University of California, Davis as a cardiac anesthesiologist. She received her doctorate and masters in cardiology from the University of Ljubljana, Slovenia, investigating neo-intimal in-stent re-stenosis and inflammatory involvement in acute coronary syndrome in the laboratory of Dr. Ganz at Cedars Sinai Medical Center, California (UCLA). She has written journal articles and a book chapter in medical and simulation literature.

Kraft, Dianne
My career in academia began with a focus on social psychology and human sexuality. I taught psychology classes at the college and university level, most recently at the U. of Houston-Downtown, one of the most ethnically and racially diverse campuses in the United States. Teaching there inspired me to study adult education with a critical theory lens, with foci ranging from qualitative methodology to feminist sociology and aging studies. Working within the diversity field in student affairs further heightened my awareness of critical race theory and the importance of dialogue, education and support for the students marginalized within higher education. As a chief diversity officer in a medical school I work with faculty, staff, medical students and undergraduate students on issues of access, climate and equity.

Kum, Seon
Dr. Seon Brian Kum, MD trained in general psychiatry at the University of Washington. He is chose to do his fellowship in Geriatric Psychiatry at UCLA largely due to the opportunity to do home visits. He enjoys watching documentaries, lifting weights, biking, and reading autobiographies.

Kysh, Lynn
Lynn Kysh graduated from the University of California at Los Angeles (UCLA) in 2012. Afterwards she promptly started working as an Information Services Librarian at the University of Southern California (USC) Norris Medical Library as the liaison to Keck School of Medicine. Starting in early 2015, she is now the Clinical & Research Librarian and splits her time supporting the students, staff, and faculty on the USC Health Sciences Campus and at Children’s Hospital, Los Angeles (CHLA).

La Rocca, Julieta
Dr. Julieta La Rocca was born in Caracas, Venezuela, and moved to Austin, Texas with her family at the age of 3. Staying close to her roots, she attended the University of Texas at Austin obtaining a Bachelor of Arts in Music, but discovered a passion for science and service along the way. She received her Doctorate of Medicine from the University of Texas Medical Branch in 2014. During her training, Dr. La Rocca was actively involved in the community through countless volunteering and mission trips. She was a student leader and representative through involvement in Student Government Association and multiple committees. She is a leader in wellness and wellbeing, having founded a student organization for burnout prevention and peer-support in medical school, and is now actively involved in the Wellness Committee of her residency program. She also encompasses a strong interest in women's health through her work on intimate partner violence and abuse, and enjoys providing prenatal care to underserved women. Dr. La Rocca is currently in her final year of Family Medicine Residency at White Memorial Medical Center in Los Angeles, California. Future career goals include fellowship in Community Medicine and aspirations for professorship at an academic institution where she may foster her passion for teaching. Dr. La Rocca enjoys reading novels, artistic expression through music and art, frequent visits to California beaches, and playing with her one-year-old daughter.

Lam, Barbara
Barbara Lam is a third-year medical student at the Keck School of Medicine of USC. She graduated from The Johns Hopkins University with a B.A. in Writing. Her research interests include the medical humanities and healthcare technology. Prior to medical school, she worked at Epic as a surgery and anesthesia implementation manager.

Lazar, Damien J.
Damien J. Lazar is current a 3rd year student at Tufts University School of Medicine concurrently pursuing his MD and MBA degrees as part of Tufts' dual degree program. Before going to medical school Damien spent several years at a consulting firm, during which time he developed a tremendous interest in the integration of medicine, technology, and entrepreneurship to improve medical education and, ultimately, clinical practice. Damien became involved with Tufts' Medstart Healthcare Innovation Challenge during his first year of school and subsequently went on to be a director of the MedStart event held in December of 2015. He is excited to continue working towards improving medical education as he advances in his training.

Lee, Debora
Debora Lee is a second year medical student at UC Irvine School of Medicine. Prior to entering medical school, Debora attended UCLA where she was involved in various research experiences studying vocal deficits in Parkinson's disease as well as investigating risk factors associated with deep vein thrombosis in surgical patients. For her efforts, Debora received several honors, including Bruin undergraduate research ambassador, and has multiple publications. During her undergraduate years, Debora also grew interested in assisting the underserved communities, and worked with several clinics serving Asian immigrant populations in Los Angeles. As a medical student now, Debora conducts research on diabetes in Asian immigrants and continues to enjoy volunteering at community clinics throughout north Orange County. Over the past summer, Debora had the privilege of extending this passion by travelling with a group of fellow UCI medical students to teach an introductory ultrasound course to healthcare students in Tanzania, and she hopes to work in continuing this opportunity for future students and trips to come.

Lee, Jonathan
Jon was born and raised in Southern California and received a BS in Psychobiology from UCLA. He is currently a second year medical student from the University of California Irvine School of Medicine. His parents were both immigrants from Jakarta, Indonesia who met in California while working at an Indonesian restaurant together. Jon is passionate about serving local and global underserved communities and has a strong interest in Emergency Medicine and clinical research.

Lee, Justin
Justin Lee is a fourth year MD candidate at Oregon Health & Science University in Portland, OR. He

earned his bachelor's degree in Religion from Davidson College in 2009. He subsequently worked in health policy in Washington D.C., served as a Peace Corps community health volunteer in Peru, and was an adolescent behavioral health counselor. Justin's current interests include structural competency, primary care behavioral health integration and interventions, chronic pain and addiction medicine, medical education, and systems-based practice. He is currently working for the year as a Chronic Pain Care Manager at Old Town Clinic (an FQHC in downtown Portland, OR) and as a Behavioral Health Assistant at OHSU Family Medicine at Richmond Clinic (another FQHC in Portland). Justin plans to become a family practice physician and to work with underserved and possibly rural communities.

Lee, Katrina

Katrina Lee graduated with a Bachelor's of Science degree in Molecular, Cellular, and Developmental Biology from UCLA in 2014. She is currently in her second year of pursuing her medical education at UC Irvine School of Medicine. She looks forward to learning about the different fields of medicine as she continues her time as a student. She has a special interest in learning and practicing whole-person care. She hopes to contribute to the efforts in raising physician and public awareness regarding patient stigma.

Lee, Sanghoon

Sanghoon Lee received the B.S. in E.E. from Yonsei University in 1989 and the M.S. in E.E. from Korea Advanced Institute of Science and Technology (KAIST) in 1991. From 1991 to 1996, he worked for Korea Telecom. He received his Ph.D. in E.E. from the University of Texas at Austin in 2000. From 1999 to 2002, he worked for Lucent Technologies on 3G wireless and multimedia networks. In March 2003, he joined the faculty of the Department of Electrical and Electronics Engineering, Yonsei University, Seoul, Korea, where he is a Full Professor. He was an Associate Editor of the IEEE Trans. Image Processing (2010-2014). He has been an Associate Editor of IEEE Signal Processing Letters (2014-) and Chair of the IEEE P3333.1 Quality Assessment Working Group (2011-). He currently serves on the Technical Committee of the IEEE Multimedia Signal Processing (2016-) and the IEEE IVMSP Technical Committee (2014-), was Technical Program Co-chair of the International Conference on Information Networking (ICOIN) 2014, and of the Global 3D Forum 2012 and 2013, and was General Chair of the 2013 IEEE IVMSP Workshop. He received a 2015 Yonsei Academic Award from Yonsei University, a 2012 Special Service Award from the IEEE Broadcast Technology Society and a 2013 Special Service Award from the IEEE Signal Processing Society. His research interests include medical image processing, image/video quality assessment, computer vision, graphics, cloud computing.

LeMauviel, Louisa

Louisa LeMauviel, MA, MFTi, is a Marriage and Family Therapist Intern providing inpatient, outpatient and group Expressive Arts Therapy to patients and community members through the Art of Health and Healing Department at Contra Costa Regional Medical Centers and Health Centers. Previously, she provided community-based Expressive Arts Therapy for individuals and couples. Louisa is also a jeweler and multi-media artist.

Lewis, Barbara

Barbara Lewis launched a three-decade career first as a journalist writing for numerous national publications from The Wall Street Journal to Modern Healthcare and the British Medical Journal. She worked as an on-camera consumer, health and safety reporter for an ABC television affiliate. After receiving her MBA at the UCLA Anderson School of Management, Barbara set the stage for act two of her career, founding a marketing consulting firm. Act three of Barbara's career began when she wrote Joan's Family Bill of Rights about her sister's experience in the ICU before she died. The document highlights areas of excellent care and offers suggestions for improving the patient experience. Barbara is the author of the book Get a Black Belt in Marketing, based on her black belt in karate. She is Co-chair of the Beryl Institute's Global Patient & Family Advisory Council. Barbara is the Managing Editor of DocCom, an on-line communication skills learning program. She served as a member of Orthopaedic Hospital's Institutional Review Board (IRB) for seven years.

Lie, Desiree
Desiree Lie, MD, MSED, is Clinical Professor of Family Medicine at the Keck School of Medicine, Department of Family Medicine. Her educational research interests include the development and validation of assessment tools and designing, implementing and evaluating innovative approaches to health professions education. Areas of publication include interprofessional education, cultural competency, health literacy, the humanities, communication and complementary and alternative medicine. She has over 70 peer-reviewed publications and is active in grant review, manuscript review for journals and mentoring other faculty in their research projects. She has received numerous grants from the Health Services and Resources Administration, the National Institutes of Health and private endowments and foundations, to pursue best practices and policies in healthcare workforce training, and is the recipient of awards in teaching from medical students and residents.

Liley, Fasha
Fasha Liley is Assistant Professor of Clinical Pediatrics at Children's Hospital of Los Angeles and the Keck School of Medicine of USC. She came to Children's Hospital after completing both her undergraduate and medical school degree at the University of California at Los Angeles. After completing a Pediatric Residency and Fellowship training at CHLA, she was an attending Pediatric Nephrologist in the CHLA Nephrology and Transplant Division particulalry interested in renal disease in under served populations. .After working in the community for several years, she returned to CHLA where she currently is an attending physician at the Altamed Clinic at CHLA interacting with learners at all levels of training. In addition, she has been committed to clinical and educational global health education over the last 6 year. . Dr. Liley is also the Utilization Management Medical Director for the FQHC continuity clinic at CHLA. Current area's of interest include advancing global health education, best practices in utilization management and effective teaching methods in both the in and outpatient settings.

Lin, Sonia
Sonia Lin, MD, is a Chief Resident in the Department of Internal Medicine at the University of Southern California. She earned her medical degree from Saint Louis University School of Medicine, and completed her residency training at USC.

Lu, Andrea
Andrea Lu, MD, is a Chief Resident in the Department of Internal Medicine 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 as well.

Ma, Sae (Sarah) Byul
Sae (Sarah) Byul Ma, PharmD, is Assistant Professor of Pharmacy at the USC School of Pharmacy, Los Angeles, California. She is full time faculty with the Primary Care Physician Assistant Program, where she delivers the Pharmacology curriculum and is heavily involved in Interprofessional Education research. She also works as a clinical pharmacist in the Department of Family Medicine's Interprofessional Geriatric Assessment Program.

Magbegor, Saint (Oghenewemo)
Saint Oghenewemo(Wemo) Magbegor, MD is a Resident Anesthesiologist at The University of Texas Health Science Center at Houston and serves President- Elect for the UT Houston Housestaff. Understanding the stress medical students and residents face, he has made it a priority throughout his career to cultivate an effective medical learning environment. While attending medical school at The University of California (Los Angeles)/Charles Drew University, he co-founded the Cultural Awareness Week, now in its fourth year, to ensure colleagues are well equipped to serve a diverse patient population and collaborate together on various issues. He is continuing his efforts at UT Houston by serving as President- Elect.

Manu Madhok
Manu Madhok is an Assistant Professor of Pediatric Emergency Medicine Fellowship Program at the Children's Hospitals and Clinics of Minnesota and Clinical Assistant Professor, Department of Pediatrics

at University of Minnesota. Dr. Madhok attended medical school at All India Institute of Medical Sciences in New Delhi, India. He completed residency in Pediatrics at Dupont Hospital for Children, Thomas Jefferson University in Philadelphia, PA. He did fellowship in Pediatric Emergency Medicine and Toxicology at Cardinal Glennon Children's Hospital, St. Louis University. He also completed Masters in Public Health at St. Louis University. Dr. Madhok joined as Staff Physician in Emergency Department at Children's Hospitals and Clinics of Minnesota in 2002. He has been actively involved with Fellow and resident education, numerous research and QA/QI projects. He is currently a Board member of American academy of Pediatrics-MN Chapter. He has served on the Board of American College of Emergency Physicians-MN chapter and member of the education committee. He is an active member of the PEM Fellowship Directors committee, PEM-QI (Pediatric Emergency Medicine Quality Improvement) and PEM-CRC (Pediatric Emergency Medicine Collaborative Research Committee). He has presented at National and Local meetings and has many publications. His research interests include pain management, toxicology, minimizing radiation exposure in children, international health and medical simulation.

Martin, Claudia

Claudia Martin, MD is a 3rd-year Family Medicine resident at White Memorial Medical Center in Los Angeles, CA. Her interests include mental health in young adults. She mentors various undergraduate pre-medical clubs. Dr. Martin is co- chair of the Community Medicine committee of the WMMC Family Medicine Residency Program. She graduated from David Geffen School of Medicine at UCLA in 2014.

Massini, John

Dr. Massini is a clinical assistant professor of rheumatology with a joint appointment at the University of Florida and the Malcom Randall VA in Gainesville, Florida. He is the assistant program director of the rheumatology fellowship program and is the co-leader of the rheumatology elective for rotating medical students and internal medicine residents. He also spends time leading a learning community of medical students as they progress through the first three years of medical school. His area of interest in education is using technology to enhance learning.

May, Win

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

McArdle, Brian

Urological surgery resident, PGY4. Interested in increasing healthcare safety and efficiency.

Mcardle, Brian

Resident Physician, Post Graduate Year 4, Department of Surgery, Division of Urology, Cook County Health & Hospitals System.

McDermott, Allyson

Allyson McDermott MD is a 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. Allyson 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. There, she developed a workshop for pediatric residents to learn the skills of peer-debriefing after distressing patient care events. Allyson is currently pursuing graduate coursework in Academic Medicine at the University of Southern California to further her educational and leadership skills. Clinically, she finds satisfaction caring for high-acuity and vulnerable populations within hospital pediatrics. Her current research interests include conscious role- modeling as an educational tool for pediatric residents, teach-back for patient-and-family discharge education, and predicting rapid decompensation of patients transferred from other hospitals.

McGillicuddy, Casey
Casey McGillicuddy is a 2nd year MD/MPH student at the University of Miami Miller School of Medicine. This project has been the cornerstone of her MPH Capstone Project as it involves both Medical Education and Disaster Preparedness. In addition to helping create this simulation, she is currently is in charge of organizing medical student volunteers for the Zika Hotline attached to Florida's Poison Control Center, which involves training students on how to answer the most frequency asked questions on Zika using the most up to date resources. She also is a member of an organization called DOCS Emergency Preparedness that arranges free CPR classes for women experiencing homelessness in Miami and fundraises for hurricane preparedness packages to hand out at health fairs. Casey is also a certified Application Counselor assistant that helps people navigate the health insurance market place created by the Affordable Care Act at both health fairs and legal clinics. An avid fan of musical theater, she is the Chair of Cabaret, the annual medical student talent show that raises money for Camillus House, a non-profit agency that provides services to the homeless in Miami.

Medina, Gilberto Medina
Gilberto Medina, M.D. is a board certified Diplomate of the American Academy of Family Physicians licensed to practice in California. He graduated from New York Medical College, and completed his Family Medicine Residency at White Memorial Medical Center. Dr. Medina holds a teaching faculty member position at White Memorial Medical Center Family Medicine Residency and serves as their Patient Centered Medical Home Champion, and prepared the NCQA application that resulted in PCMH designation.

Memel, Zoe
Zoe Memel graduated from Cornell University with a Bachelors of Science in nutrition in 2015. While at Cornell she conducted research in the psychology of weight gain prevention and 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 in public service and a Cornell Urban scholar, Zoe was interested in better understanding the socioeconomic factors that contribute to poor health. Zoe 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 elementary schools in the Bronx and Ithaca, NY. Currently, Zoe is a second year medical student at the Keck School of Medicine of USC. She is conducting a cross-sectional study of Keck student's baseline attitudes and knowledge in nutrition with the goal of demonstrating a need for more nutrition within the curriculum. In collaboration with other classmates and faculty, she helped create a culinary medicine course at USC and aims to integrate more nutrition education and lifestyle recommendation courses into student's clinical training. Zoe is also the President of Healthy Choices, Healthy Lives, a group that teaches nutrition and sexual health courses at middle schools in East LA and serves as the Keck Student Council ethics chair.

Mills, David
David Mills is a 3rd year pediatrics resident at the University of Minnesota. His research interests include application of simulation in the context of pediatric emergency medicine and global health education.

Molas-Torreblanca, Kira
Kira Molas-Torreblanca, DO, FAAP, 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. She then served as the associate pediatric residency program director there before relocating to California with her family. Currently she is involved in preclinical medical student education as an Introduction to Clinical Medicine-Professionalism Course mentor and supervises pediatric clerkship students at CHLA. She also currently serves as the Associate Program Director for the Pediatric Hospital Medicine Fellowship at CHLA. Her interests include curriculum development and quality improvement with regard to transitions of care. kmtorreblanca@chla.usc.edu.

Mori, Shoko
Shoko Mori is a third year medical student at SUNY Downstate College of Medicine in Brooklyn, NY. She graduated from the University of Michigan in Ann Arbor in 2014 with a degree in Biopsychology, Cognition and Neuroscience. Since starting medical school, she has been involved in the Medical Educator Pathway, through which she started working on the "Guide to Clerkships" Handbook with Dr. Shirley Eisner.

Mowchun, Justin
I am a neurologist at Dartmouth-Hitchcock Medical Center (DHMC) in Lebanon, NH and an Assistant Professor of Neurology at the Geisel School of Medicine at Dartmouth. I completed my residency at DHMC followed by a fellowship in Clinical Neurophysiology in 2009. I practice both general neurology and neuromuscular/EMG. I am board certified in neurology, clinical neurophysiology, and neuromuscular medicine. I became co-director of the medical school second year neurology curriculum in 2012. I became director of the neurology clerkship in 2014. I am also involved in our neurology residency and clinical neurophysiology fellowship programs. I am currently a student in the Masters of Medical Education Leadership Program through the University of New England and I will be graduating in December of this year. I am interested in developing, teaching, and assessing competency based curriculums for medical students and residents.

Mullen, Patrick
Patrick Mullen is a second year medical student from the University of South Florida where he is engaged as part of the Medical Education Scholarly Concentration. Patrick began his journey to medicine as a part of the 7 year BS/MD program. Patrick first became interested in medical education and curriculum design after teaching free MCAT classes for underrepresented students through the USF Honors College. Patrick is now focused on creating a street medicine group for the grater St. Petersburg community and study public health and community education outcomes.

Nahm, Sue
Sue Nahm is the Director of Student Academic Support at UCLA's David Geffen School of Medicine. She oversees the tutoring program, coordinates academic programming for medical students, and coaches individual students on study and test taking strategies. She is passionate about developing resources and tools to help medical students navigate the professional and academic demands of medical school, and helping students succeed in their professional endeavors.

Nance, Andrea
Professional Experience: 2014- present / Academic Affairs, Undergraduate Medical Education (UGME) / Curriculum Development, Management, and Design Specialist / Work collaboratively with educational leadership to oversee curricular planning, mapping of MD curriculum, assure longitudinal integration of content, and manage the collection of curricular process and outcomes data. / Perform ongoing curriculum analyses geared toward identifying gaps and implementing improvements, policies and procedures to ensure a comprehensive longitudinal medical curriculum. / Collaborate with teaching faculty and clinicians by providing instructional design guidance and production assistance in developing online and instructor-led course content. / Make recommendations to course directors in planning, designing, developing and implementing various course elements / / Professional Activities: Using Automated Essay Scoring (AES) System to Grade CPX / Southern Group for Educational Affairs (SGEA) 2016 Regional Meeting / 2016 Co-Facilitator / / Education: East Carolina University, Greenville NC / MS, Instructional Technology, 2017 / / Salem College, Winston-Salem, NC / BS, Biology, 2006 / BA, Chemistry, 2007

Narang, Amrita
Dr. Amrita Narang is a board-certified Pediatrician who is currently in her second year of fellowship training to become a pediatric gastroenterologist at Children's Hospital of Los Angeles. She is also currently pursuing a Masters of Public Health with a core in Biostatistics and Epidemiology at the University of Southern California. She completed her medical education at New York Medical College in Valhalla, NY and went on to complete her pediatric residency training at Texas Children's Hospital in Houston, TX. Her interests include pediatric transplant hepatology, data analysis and medical education.

Nathanson, Mark
Dr. Mark Nathanson is 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 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.

Ng, Kelley
Kelley Ng, D.O., is a third-year FM Resident at White Memorial Medical Center in Los Angeles, CA. She is currently continuing the residency's participation in the California Healthcare Foundation Safe Prescribing Action Group, a multi- residency-wide committee which aims to improve clinicians' approach to pain management including safe prescribing of opioids. Dr. Ng received her medical degree from Touro University Nevada College of Osteopathic Medicine in 2014. Email: kelley.ng2@ah.org.

Nguyen, B. Sean
B. Sean Nguyen is a third-year medical student at the Keck School of Medicine of USC. He co-founded and is the Director of the Keck Online Learning Initiative (KOLI), a department within the Office of Academic Support Services at the Keck School of Medicine creating content-focused, collaborative, online learning tools for current and future Keck medical students. Besides education, his other interests include medical technology, comic books, and fitness. In 2013, Sean graduated from the University of California, Los Angeles with a major in Integrative Biology and Physiological Science and a minor in Global Studies. Email: baoseann@usc.edu

Nguyen, Margaret
Margaret Nguyen, MD, is a Clinical Instructor, Department of Pediatrics, Division of Neonatology and Developmental Biology, David Geffen School of Medicine at UCLA. She received her MD at Texas Tech Health Sciences Center, Lubbock, TX, in 2010 and completed a residency in Pediatrics in 2013 at St. Christopher's Hospital for Children, Philadelphia, PA. She then completed a fellowship in Neonatal-Perinatal Medicine at McGovern Medical School at UT Health, Houston, TX, in 2016. During fellowship, she did research with Dr. Hope Northrup, Professor of Medical Genetics. Her work examined the relationship of maternal nutrition in mothers with single nucleotide polymorphisms in methylenetetrahydrofolate reductase (MTHFR) 677T and 1298C and the risk of myelomeningocele. The project investigated the association between MTHFR 677T and 1298C and myelomeningocele and how maternal micronutrient intake modifies this association. Upon fellowship graduation, she joined the Division of Neonatology at David Geffen School of Medicine at UCLA as a clinical instructor. She is collaborating with Dr. Josephine M. Enciso, MD, Fellowship Program Director, in developing a simulation-based curriculum for fellows with the goal of increasing NRP adherence and advancing patient care. Email: margaretnguyen@mednet.ucla.edu.

Nyquist, Julie
Julie G. Nyquist, PhD 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. Dr. Nyquist joined the faculty in 1981, served as program evaluator for the Medical Student curriculum (1981-2014) and is currently co-chair of the school's Competency-Based Medical Education initiative. In the Master of Academic Medicine program she is the lead instructor for multiple courses. Dr. Nyquist has developed and delivered over 750 workshops and presentations on topics related to learning principles, teaching, evaluation, ACGME competencies, curriculum development, motivation, scholarship, and leadership 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. Email: nyquist@usc.edu

Ojeda, Norma
Dr. Norma B. Ojeda, is the Director of Pediatric Residency Mentoring Research Program, Associate Director of the Neonatology Fellowship Program, and an Associate Professor of Pediatrics in the division of neonatology. Dr. Ojeda completed a fellowship in human Physiology and joined the Department of Pediatrics in 2009 as an Assistant Professor. Her involvement in medical education includes serving as Graduate Faculty for the School of Graduate Studies at the University of Mississippi Medical Center, training pediatric residents and neonatology fellows. Dr. Ojeda research activity involves serving as the domain expert in pre/peri/post-natal outcomes within the Mississippi Pediatric Clinical Trials Center (M-PCTC) and basic and translational research in the field of developmental origins of health and diseases.

Olson, Holly
Holly Olson, MD 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.

Olson, Michelle
Michelle M Olson, MD, MACM is the Program Director of the General Surgery Residency at the Carle Foundation Hospital in Urbana, Illinois, and Clinical Assistant Professor of Surgery at the University of Illinois College of Medicine at Urbana- Champaign. She is board certified in Colon and Rectal Surgery and General Surgery and completed the Master of Academic Medicine Program at the USC Keck School of Medicine in 2012. She serves on the editorial board for the World Journal of Colorectal Surgery and is locally active as an officer of the Illinois Chapter of the American College of Surgeons, a board member of the Champaign County Medical Society and a member of the Council on Education and Health Workforce of the Illinois State Medical Society.

Osman,Mohamed
Dr. Mohamed Osman, MD, is a second-year resident at Harlem Hospital Center, affiliated with Columbia University. He received his Bachelor's degree of Medicine and Surgery in 2006 from the university of Khartoum ,one of the pioneer African Universities established in 1902. After working in Sudan as a medical officer, Dr. Osman joined Harlem Hospital Center to serve Harlem community and its culturally-rich new York area. His multilingual skills (French, English, Arabic) is one of his greatest assets as he caters to Harlem community patients. His current research interests include medical education, improvement of health systems, as well as gastroenterology, hepatology, and hematology research.

Paetow, Glenn
Glenn Paetow, MD completed his Emergency Medicine Residency at Hennepin County in 2016 and is now the Medical Education & Simulation Fellow in the Emergency Department. His clinical time is split between the Emergency Departments at Hennepin County and the University of Minnesota. Among his

duties as a fellow, he helps to run the Interdisciplinary Simulation and Education Center and helps with educational and administrative projects in the Emergency Medicine Residency Program at Hennepin County Medical Center. He is interested in the integration of technology and social media in resident education and is involved with a few different medical education blogs, including HennepinUltrasound.com, HQMedEd.com, and ALiEM.com. Email: glennpaetow@gmail.com Twitter @glennpaetowmd

Parikh, Pranay
Pranay Parikh is resident physician in the Internal Medicine department of Los Angeles County-University of Southern California (LAC-USC). Dr. Parikh received an undergraduate degree in Biochemistry at University of California: San Diego and his medical degree from Ross University. He is currently vice president of Committee of Interns and Residents: Southern California Chapter and a member of their resident wellness committee. He is also a member of the resident wellness committee of the Graduate Medical Education (GME) office at LAC-USC and a consultant for the Keck School of Medicine medical student wellness committee. LAC-USC is one of the largest academic hospitals in the United States employing over 900 residents and fellows. His interest in wellness in resident wellness stems from witnessing his own struggles and those of colleagues throughout medical school and residency. In summer 2016, he was awarded a grant from the Department of Health Services to provide crises mental health services for all residents and fellows at LAC-USC. He can be contacted at Pranay.parikh.@med.usc.edu.

Park, Kelly
Kelly J. Park is a 2nd-year medical student at the Keck School of Medicine of USC. After graduating from Pomona College with a BA in Chemistry, she taught English in South Korea as a Fulbright Fellow for one year. She then continued her research at the Pomona College Chemistry Department in the spectroscopic analysis of disease biomarkers in breath. Prior to attending medical school, she was an Oak Ridge Institute for Science and Education Fellow at the FDA, where she helped develop a rapid-screening tool for detecting adulterants in natural supplements.

Parker, Colin
Dr. Colin Parker is a second year Pediatrics resident at the David Geffen School of Medicine at UCLA. He graduated cum laude from the University of Notre Dame with a B.A. dual major in Economics and Pre-professional Studies. Subsequently he received his medical degree from the University of Michigan Medical School (UMMS). He maintains strong interests in global health as a member of the Global Health Track in residency and medical education with the PICC-ADE program. Previous projects with his involvement include a health and nutrition initiative to eradicate child malnutrition in rural El Salvador, a research collaboration to identify barriers to chronic disease management in public health centers in Ecuador, and a Medicine in Spanish course that he helped implement and integrate into the UMMS curriculum. He was the recipient of the Dr. Robert Joseph Barnet Award for superior academic achievement within his college major and two merit-based scholarships in medical school. He plans to pursue work in underserved communities and eventually subspecialty training in Neonatology.

Patel, Priya
Priya Patel is currently a second year medical student at the UC Irvine. She obtained a BS in Integrative Biology and Public Health from UC Berkeley in 2014. During her undergraduate career, she worked at a women's homeless shelter, at a refugee resettlement agency, and in a lab studying alternative chemotherapies to treat breast cancer. She took a gap year before beginning medical school, which she spent working as a medical assistant at an ENT practice in San Francisco. She is currently involved with the UCI Outreach Clinics, and is interested in women's health, public health, and wilderness medicine. In the summer of 2016, she travelled to Tanzania with 10 of her classmates, where they established a cervical cancer screen and treat clinic, taught ultrasound at a local school, and conducted research on HIV stigma.

Pendergraph, Bernadette
Bernadette Pendergraph, MD 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

Perez, Jan
Jan has worked in continuing medical education for over 20 years and is a founding partner of CME Outfitters, LLC. Her expertise is in collaborating with expert facutly during the activity planning phase to develop multimedia education that is based on need, grounded in the latest evidence, and focused on improving the knowledge and performance of health care providers. Jan has played a lead role in the development and utilization of video segments and case vignettes in CMEO's multi-textured activities. She is a Distinguished Member of the Alliance of Continuing Education in the Health Professions (ACEHP) and was one of the recipients of the 2010 President's Award. Jan has served as Section Leader for the Medical Education and Communications Company Alliance (MECCA) Member Section of the ACEHP, Chair of the Program Committee for the National Association of Medical Education Companies (NAMEC), and currently volunteers for the ACEHP Research Committee. Jan is a graduate of the CMR Institute and in December 2008 earned the designation of Certified Healthcare CPD Professional (CHCP) from the Commission for the Certification of Healthcare CPD Professionals.

Perez, Samuel
Samuel Perez has credentials from California State University at San Bernardino (Masters in Instructional Technology), Boston University (Masters in E-Commerce) and Suffolk University (Masters in Health Administration) and Penn State University (Graduate Certificate in Geo-Spatial Intelligence). Sam is an Instructional Designer with the University of Arizona College of Medicine in Phoenix. He works as internal education consultant for faculty and staff members on matters of pedagogy, instructional design, online learning and innovative interactive modalities. He has extensive experience in agile learning using tools such as Articulate Storyline and has created various interactive learning modules that are in use in the medical school. Recently Samuel was part of the founding team that developed and launched a new online learning program called the Executive Masters in Sustainability Leadership with the Arizona State University School of Sustainability. Samuel also worked as instructional designer with A.T. Still University in Mesa, Arizona and led the transition of faculty from a learning management system called WebCT to Blackboard. Sam has 13 years teaching experience in higher education and 6 years' experience in instructional design. samperez3@email.arizona.edu.

Peters, Melissa
Dr. Melissa Peters completed residency in Pediatrics at Vanderbilt Children's Hospital in Nashville, Tennessee. She then completed fellowship in Pediatric Emergency Medicine at The Children's Hospital of The King's Daughters in Norfolk, VA, during which she pursued additional training in the area of Child Abuse Pediatrics. She is the Medical Director of The CHIPS Center for child abuse evaluation and treatment at Children's of Alabama in Birmingham, AL and is board certified in General Pediatrics, Pediatric Emergency Medicine and Child Abuse Pediatrics. She is an attending physician on both the inpatient child maltreatment consultation service and in the pediatric emergency department at Children's of Alabama. All of her current educational, administrative, research and advocacy work is in the field of Child Abuse Pediatrics.

Petersen, Scott
Scott M. Petersen, MD, is Associate Professor in Obstetrics & Gynecology and Family Medicine at the Uniformed Services University of the Health Sciences (USUHS) in Bethesda, MD. He has a B.S. in Biology from the University of Oregon and attended medical school at USUHS. He completed residency training at Tripler Army Medical Center and Maternal-Fetal Medicine Fellowship training at Johns Hopkins. He is a Fellow of the American College of Obstetricians and Gynecologists, a member of the Association of Professors in Gynecology and Obstetrics (APGO), and a Regular member of the Society for Maternal-Fetal Medicine (SMFM). He is currently an oral examiner for the American Board of Obstetrics and Gynecology and is currently the residency program director at Walter Reed National Military Medical Center at the National Capital Consortium in Bethesda, MD. He is a technical advisor to the Survive and Thrive program advancing global health initiatives and education. He serves as a

reviewer for peer-reviewed journals including, Obstetrics & Gynecology, Transfusion, BJOG: An International Journal of Obstetrics and Gynaecology, Journal of Reproductive Immunology, Journal of Biology of Blood and Marrow Transplantation, and the Journal of Clinical Ultrasound. His research interests include prenatal diagnosis, novel fetal therapies, medical student and resident education, and global health.

Pierce, Cason
Cason Pierce is an academic hospitalist at Denver Health, a safety net hospital. His primary interest is undergraduate medical education. When he is not in in the hospital, he is on his bike or traveling and hiking with his wife.

Pott, Emily
Emily Pott is a second-year medical student at the Keck School of Medicine of USC. She grew up in Chappaqua, New York and graduated from Duke University in 2014 with a BS in Neuroscience. Before attending medical school, she worked at the Adult and Late Life Depression Clinic at the New York State Psychiatric Institute where she coordinated all research activities for four NIH-funded research studies on Major Depressive Disorder and Frailty. There she co-authored multiple papers centered around the placebo response and study-design as it is applied to psychiatry. At Keck, she is very active in student affairs as the president of the largest student interest group on campus, the Emergency Medicine Student Interest Group, operating within the Department of Emergency Medicine at LA County Hospital. It functions to provide mentorship and shadowing opportunities to student members to further their clinical experience. She is also a committed member of the Keck Student Council, holding the role of social chair. Emily is an enthusiastic member of the Evaluation and Recruitment Subcommittee for the admissions office at Keck and helps to interview and recruit potential medical students on a weekly basis. She also serves as an academic coach to first-year students and co-founded the Keck Anatomy Mentorship Program in an effort to supplement the gross anatomy curriculum with near-peer tutoring. Emily aspires to enter into the fields of Emergency Medicine or Surgery.

Powderly, Kathleen
Dr. Kathleen Powderly is Director of the John Conley Division of Medical Ethics & Humanities at SUNY Downstate Medical Center in Brooklyn, NY. She received a BS from Niagara University, an MSN in Maternal-Newborn Nursing/Nurse-Midwifery from Yale University and a PhD in Sociomedical Sciences from Columbia University. Dr Powderly is a clinical ethicist and Vice-Chairman of the Ethics Committee at University Hospital of Brooklyn/Kings County Hospital Center. She is a Fellow of the New York Academy of Medicine and the Hastings Center.

Powers, Ryan
Urological surgery resident, PGY2. Interested in increasing healthcare safety and efficiency.

Pratt, Julia
Julia Pratt, MD, received her bachelors degree in anthropology-zoology from the University of Michigan, Ann Arbor. She received her M.D. from the Keck School of Medicine at USC before completing her pediatric internship and residency at Children's Hospital Los Angeles. Dr. Pratt is currently a Chief Resident at Children's Hospital Los Angeles.

Prestidge, Melanie
Melanie Prestidge is a fourth year MD candidate at Oregon Health and Science University. She received her bachelor's degree in Sociocultural Anthropology from The George Washington University in 2006, then completed a term with AmeriCorps working as a case manager in a homeless clinic in Austin, TX. She pursued her interest in underserved care, cultural medicine, and HIV through continued academic and experiential endeavors. After completing a Master's degree in Medical Anthropology at the University of Oxford, having written her thesis in epidemiological risk classification of high-risk HIV subgroups in South Africa, she worked for the Vanderbilt HIV Vaccine Research Program. She also holds an MS in Physiology and Biophysics from Georgetown University. Other research interests include mental health, structural and cultural competency, HIV/TB and global health, and medical education. Melanie looks forward to continuing her career as an Internal Medicine physician after graduating in June 2017.

Puvvula, Jyoti
Jyoti Puvvula MD, MPH is the Co-Director of the Gardena High School Based Clinic, as well as the Director of Community Medicine. In both roles she has been central to the process of creating and implementing curriculum, and community projects. She is the author of our school-based "Peer Health Advocate" elective for 11th and 12th grade students at Gardena High School. She has worked closely with high school administrators, social workers, and nurses to provide services to a student body of approximately 3,000. She was instrumental in helping establish not only the school-based clinics, but also in developing a comprehensive curriculum for the pregnant teens at Riley High School. She supervises residents and fellows who rotate through the school-based clinic as well as at the various Department of Family Medicine locations. Dr. Puvvula also has a certificate of added qualification in Adolescent Medicine. Like many of the faculty in our department she is bilingual and has extensive training in developing culturally sensitive curricula. She is also the Co- Director of the department's annual Summer Urban Health Fellowship, a pipeline program based out of Banning High School.

Quon, Samantha
Samantha Quon is a third year medical student at the Keck School of Medicine of USC. She received her Bachelors Degree in Public Health from University of California, Berkeley. She is the class co-president. Her professional interests include curriculum development, quality improvement and student and trainee wellness.

Rabinowitz, Molly
Molly Rabinowitz is a fourth year MD/MPH candidate at Oregon Health & Science University and the OHSU-PSU School of Public Health, Health Management & Policy track, in Portland, OR. She earned her bachelor's degree in Comparative Ethnic Studies from Columbia University in 2010. Her undergraduate academic and volunteer work sparked her interest in medicine as a tool for promoting social justice. In deciding to pursue dual MD/MPH training, she hopes to develop the skills and knowledge to lead efforts in healthcare delivery system reform, especially for underserved populations. Her main research interests include structural competency, innovation in medical education, gender disparities in graduate education, healthcare reform, breastfeeding support disparities by race/ethnicity, and the barriers to care for adolescent LGBTQ populations. Molly hopes to become a Pediatrician, working as a bilingual clinician for underserved families and an active advocate for structural, "upstream" approaches to improving the health of communities. She was inducted into the Gold Humanism Honor Society in 2016.

Rafeedie, Jennifer
Jennifer Rafeedie is an Assistant Professor of Clinical Pediatrics at the Keck School of Medicine at USC based at Children's Hospital Los Angeles and a licensed psychologist. In her primary role as supervisor and educator, she has trained psychologists and medical residents in the art of communicating with patients and colleagues in a manner that honors the metacommunication as a significant factor in progress and outcomes. In addition to her role as supervisor and educator, Dr. Rafeedie is a key member in the development of the Foster Care Hub at Children's Hospital Los Angeles. This is a ten-year collaboration of physicians and psychologists evaluating children and families involved in the Child Welfare System. Through this ten-year partnership, Dr. Rafeedie and her physician-partner, Dr. Sheela Rao, have become quite adept at working with resistant and antagonistic patients.

Rao, Sheela
Sheela Rao is an Assistant Professor of Pediatrics at Children's Hospital of Los Angeles. She graduated from Keck's Masters of Academic Medicine program earlier this year. She has taught pediatric residents and medical students in both inpatient and outpatient clinical settings since joining the faculty at USC in 2006. Since the beginning of her career, she has worked in the interdisciplinary CHLA Foster Hub clinic where pediatricians join with psychologists to complete initial health assessments of children entering the foster care system. She has recently started bridging campuses by serving as the Child and Family Health track director in Keck's MPH program. Her research interests include cultivating capacity to improve care for children with special health care needs and vulnerable populations in foster care.

Reddy, Swapna
Swapna Reddy, JD, MPH is a Clinical Assistant Professor at Arizona State University's School for the Science of Health Care Delivery, College of Health Solutions. She is also currently a doctoral candidate in Behavioral Health/Health Promotions at the University of Texas School of Public Health. At Arizona State University, Ms. Reddy teaches students in both undergraduate and graduate coursework. She also serves as faculty at Arizona State University's Barrett, the Honors College. Ms. Reddy's primary research interests are how law and policy can be utilized as tools to improve health outcomes, reduce health disparities and inequities. Prior to joining Arizona State University, Ms. Reddy has had a variety of health policy experiences related to improving the health of high need communities, particularly as they affect women, children and working families. Prior experience includes positions at Harvard Medical School/Brigham & Women's Hospital- Women's Health Policy & Advocacy Program, CASA at Columbia University, The Children's Defense Fund-New York, Texas Senate, Texas Health Institute and University of Texas School of Public Health.

Regalado, Michael
Michael Regalado, MD is associate professor of clinical pediatrics, Keck School of Medicine and chief, developmental behavioral pediatrics at LAC USC Medical Center.

Reiter, Jamie
Jamie Reiter, PhD, is Director of Educational Outcomes at CME Outfitters. She earned her PhD from the Department of Cognitive Sciences at UC Irvine, with an emphasis on developing mathematical models for analyzing neuropsychological data in patients with dementia. That experience has resulted in a motivation for utilizing more novel, yet impactful, statistical and mathematical approaches to data analysis. Prior to CME Outfitters, Dr. Reiter was Director of Biostatistics and Research at CME LLC. While there, she recognized the need to emphasize the importance of statistical rigor in the medical education industry and made it her mission to educate providers. She presented at the ACEhp annual meeting, where she highlighted not only the importance of statistical analysis in demonstrating activity success, but in utilizing the appropriate statistical methods given the types of data collected. She was then invited to serve on a panel as statistical expert at the IACE (formerly PACME) Spring Summit. Over her career, she has developed and taught biostatistics courses for UC San Diego Extension; served as statistical, medical writing, and scientific consultant for academic and research institutions, medical education providers, medical societies, and contract research organizations; and worked in academia and the pharmaceutical industry. Her current goal at CME Outfitters is to optimize outcomes by utilizing sound data analysis and educational design methods.

Richter-Lagha, Regina
Regina Richter-Lagha, PhD, is a quantitative researcher and an expert in scale construction, survey analysis, educational assessment, validation and program evaluation. She is an educational researcher with methodology expertise, in particular in Generalizability Theory. She ahs published in the areas of objective structured clicnail examinations and scales for assessing interprofessional competencies. She is a graduate of the University of California, Los Angeles and a consultant and advisor on multiple grant projects including the Geriatrics Workforce Enhancement Programs and HRSA training grants.

Rivas-Lopez, Vanessa
Vanessa Rivas-Lopez was born in Mexico City and came to the United States at the age of 1 year old. She grew up undocumented in a low socioeconomic neighborhood in Chicago Illinois until she became a resident at the age of 8. Vanessa attended Northwestern University where she majored in biology and pursued her interest in medicine by going on a medical brigades trip to Honduras. Subsequently, she attended University of Chicago Pritzker School of Medicine where she was a leader in multiple student groups including SNMA, LMSA, was elected to be the class president, and was inducted into the Gold Humanism Honor Society. Vanessa is currently a 3rd year pediatric resident at Children's Hospital Los Angeles. She plans to be a general pediatrician who cares for an underserved patient population with a special interest in immigrant children. She is interested in working with patients with limited English proficiency and ensuring that everyone has access to interpreters. She plans to work in an academic center, teaching and mentoring medical students and residents about culturally responsive healthcare.

Roche, Faith Anne
Faith Anne is currently a second year medical student at The Ohio State University College of Medicine. She graduated in 2013 from The Ohio State University with a Bachelor of Arts degree in psychology. With a true buckeye spirit, Faith Anne is actively involved in the College of Medicine Student Council where she holds the position of Secretary on the executive board. She is also a member of the Women in Medicine and Women in Surgery interest groups. After college, Faith Anne worked as a medical assistant in a dermatology office for two years before she began medical school. It was during this time that she developed a passion for dermatology and plastic surgery. She also took this time to travel and volunteer in Cape Town, South Africa. Faith Anne has a strong passion for traveling and seeing the world. In her free time, she likes rock climbing, yoga, and dancing. She also enjoys finding new restaurants with her friends and significant other and planning future endeavors to see the world.

Roshan, Afghani
Dr. Roshan is a third year resident in the GMC Emergency Medicine residency program. She received her medical degree from The Commonwealth Medical College. She earned her Bachelor's degree from The Pennsylvania State University and attended Temple University where she completed a post-baccalaureate, Pre-Professional Health program.

Rudnick, Melanie
I'm Melanie Rudnick, and I am a Pediatric Hospital Medicine Fellow at Children's Hospital Los Angeles. My service time includes being on the resident team, where I will be involved in clinical teaching during rounds, as well as during case conferences with residents and medical students, and some small group didactic teaching sessions. I am interested in learning more about medical education and how to be a more effective teacher, specifically in the setting of family centered rounds, which is becoming the mainstay in pediatric hospital medicine. Also interested in Quality improvement work. As for my family, I am the third out of four kids, originally from the east coast, making my first venture out of the northeast. Currently living by myself, but hoping to get a dog after I take my boards in October! My interests outside of work include tennis, softball, exploring new places!

Rwigema, Jean-Christophe
I was born in Rwanda, a country that has gained spotlight recently due to the movie "Hotel Rwanda." It was indeed quite an experience watching that movie since my family and I actually took refuge in that same hotel during the Rwandan genocide. My family and I were very fortunate to survive the genocide and eventually immigrated to the United States. Having such an experience early on in my life opened my eyes to the injustices that are prevalent around the world. My passion to pursue medicine was sparked by the experiences that my family and I had once we settled in America. My parents struggled to start a new life as immigrants as we constantly moved from state to state in search of better job/living conditions. I became inspired to pursue medicine to serve underserved communities that we were also a part of. I inspire to be a community-oriented physician who is passionate about working to reduce health disparities. I went to UC Irvine for my undergraduate education where I studied Biological Sciences. Afterwards, I attending UC San Diego where I completed a one-year Post-Baccalaureate program. I am now a second year medical student at the Keck School of Medicine of USC.

Saffier, Kenneth
Ken Saffier, MD, 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.

Sahota, Preet
Preet Sahota is a Junior Research Specialist under the Department of Emergency Medicine at the University of California, Irvine Medical Center. She received her Bachelor of Science degree in Human

Biology from the University of California, Irvine and is currently pursuing a Master of Science degree in Biomedical and Translational Science at the University of California, Irvine. She is currently employed as a teaching assistant under the Division of Undergraduate Education at the University of California, Irvine while completing her Master of Science degree by June 2017. Her research interests include medical education, instructional technology, patient satisfaction, patient education, undergraduate research training and administration, substance abuse in pediatric populations, and general clinical emergency medicine.

Sanchez, Gloria
Gloria Sanchez, MD 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. gsanchez@dhs.lacounty.gov

Sanchez, Katia
Dr. Katia Sanchez holds a Medical and Master of Public Health degrees which she received from the University of California-Irvine School of Medicine, Irvine, CA. Dr. Sanchez is currently in her third year of medical residency at the White Memorial Family Medicine Residency Program, where she provides culturally and linguistically appropriate medical services in her medical community. Dr. Sanchez is the current medical resident leader for the Applied Technical Center and WMMC/FMRP partnership.

Saxena, Parnika
Parnika Saxena is a Geriatric Psychiatry Fellow at the University of California, Los Angeles and completed her residency from St Elizabeth's Medical Center, Boston MA. She takes a special interest in financial abuse in the elderly.

Semenchuk, Nicolas
Nicolas Semenchuk is currently a graduate student at the Arizona State University School for the Science of Health Care Delivery. He will be matriculating into Loyola University Chicago, Stritch School of Medicine in July, 2017. He received his undergraduate degree in Public Health. He currently works with Blue Cross Blue Shield of Arizona with the Health/Wellness Program, and previously worked in state-level, legislative health policy and political campaign management. He is a first-generation college student; family hardship in accessing health care inspired his interdisciplinary education and professional experience toward providing care in urban FQHCs and pursuing policy, system, and environmental efficiency to increase access to care.

Senvisky, Jared
Jared is a medical student at Northeast Ohio Medical University currently pursuing a Medical Education Fellowship at the University of Miami Miller School of Medicine. At University of Miami, he works with working with Cane Academy initiative and assists in implement blended learning strategies to the current courses. His main work is focused on implementing innovative multimedia technologies into the preclinical curriculum.

Shah, Saumya
Saumya Shah is a second year medical student at Mayo Medical School in Rochester, MN. She grew up in Southern California and completed her B.S. in Biology at the University of California, Los Angeles. Academic medicine, especially the educational and mentoring aspect, has been a topic of great passion for her. This is due to a strong belief in "paying forward" the phenomenal and dedicated mentorship that she has received from her advisers to the next generation of pre- medical students. Hence, expanding and improving the Pre-Med Insight program has been an integral part of her medical school experience. She hopes to be able to continue being a part of education within medicine in the form of medical school admissions as well teaching students in the future. She is currently considering a procedural specialty for her career within medicine.

Shalikar, Hamed
Hamed Shalikar is a PGY-3 and Chief Resident at White Memorial Medical Center Family Medicine Program. He attended medical school at UCLA and undergrad at UCR. He is passionate about empowering the youth of underserved communities and improving resident wellness among family medicine residents.

Shoemake, Heidi
Heidi H. Shoemake is a Senior Information Technology Program Manager at the University of Mississippi. After earning her B.A from Bloomsburg University in Bloomsburg, Pennsylvania, she attended Indiana University of Pennsylvania where she received her M.A. in Student Affairs in Higher Education. In 2014, Heidi received her certification as a Project Management Professional from the Project Management Institute, Inc. She has spent the last eleven years working in the field of educational technology in analyst, consulting, and managerial capacities. In her current role, Heidi is responsible for the acquisition, implementation, and ongoing support of enterprise software applications in the areas of Education and Research.

Katie Shvartsman, MD
Katie Shvartsman currently serves as the Clerkship Director in the Department of Obstetrics and Gynecology at the Uniformed Services University (USU) School of Medicine in Bethesda, MD. She attended Albert Einstein College of Medicine through the Health Professions Scholarship Program. She completed residency training at Beth Israel Deaconess Medical Center in Boston and was stationed at the National Naval Medical Center (now Walter Reed National Military Medical Center) where she served out her military commitment. She continues to work at Walter Reed as a staff physician. She is a graduate of the APGO scholars and leaders program. Dr. Shvartsman's clinical and research interests include medical student and resident education, general obstetrics, and vulvar dermatology.

Silverberg, Jonathan
Jonathan is a second-year medical student at the University of Michigan Medical School. He is a co-founder of the eMpower program, a director of the Doctors of Tomorrow program, and is involved in medical school curriculum transformation as a member of the Student Advisory Committee. Jonathan spent the summer between his first and second year of medical school conducting cardiovascular outcomes research through the Michigan Clinical Outcomes Research and Reporting Program. The year prior to entering medical school, he spent time working as a teaching assistant at the University of Michigan School of Nursing, and then lived in Guatemala for five months as a participant of the Somos Hermanos Spanish Immersion Program. Jonathan completed his undergraduate education at the University of Michigan, where he received a B.S. in Neuroscience.

Simo, Kelly
Kelly Simo, BNSc, MD Candidate 2017. Kelly is a fourth year medical student at the University of Saskatchewan. Kelly completed her Nursing Degree at Queen's University. She has a previous career as a registered nurse in the Emergency Department. Kelly has an interest in medical education and has previously been involved in simulation education.

Sokol, Kimberly
Kimberly Sokol, M.D., M.S., is a current Clinical Instructor and Simulation Fellow in the Department of Emergency Medicine at the University of California, Irvine. She is a recent graduate from residency in Emergency Medicine at the University of California, Irvine, where she spent the last year as Chief Resident of Simulation and Education. During that time, she designed high-fidelity simulation cases for her co-residents, as well as created her residency program's entire asynchronous learning curriculum using the website Schoology. She also invented the Emergency Department Fact Board, a continuous feed of board-style questions designed to help residents better prepare for their annual in-training examinations, which was presented at last year's IME conference. For the next two years of her Simulation and Education Fellowship, she hopes to expand on her prior experiences by continuing to find better ways of teaching residents both on-shift and off-shift.

Solorio, Gabriel
Gabriel Solorio M.A.,is a Public Health Expert with eight years experience working with high risk communities in the field of HIV Prevention. This included working with national leaders in HIV and Sexual Health. He currently lectures at San Francisco State University and is a Health Sciences Teacher/Facilitator at the Applied Technology Center College and Career Preparation High School in Montebello, CA.

Sorrentino, Anthony
Anthony Sorrentino is a second year medical student at SUNY Downstate College of Medicine. He graduated from Binghamton University with a Bachelor's of Science in Chemistry. At Binghamton, he was involved in Organic Synthesis while working under Dr. Susan Bane. Now at SUNY Downstate, his research interests lie primarily in medical education and helping to develop curriculum, as he is one of the Coordinators for the Near Peer Educator Program. His future career pursuits are in the field of Surgery.

Soto, Raquel
Raquel Soto MD, Dr. Soto completed a one-year Primary Care Faculty Development Fellowship as well as an NIH sponsored research fellowship (K10) at the David Geffen School of Medicine at UCLA. With this experience, Dr. Soto is an expert in the principles of curriculum development and research methodology. As the co-medical director of the Gardena High School based clinic, Dr. Soto has extensive experience working with high-risk youth. Also, during the past seven years as the program's Director of Community Health Education, Dr. Soto designed and implemented a community-based adult nutrition and exercise curriculum, trained promotoras as facilitators, and developed an evaluation strategy for the project. She has presented her curriculum and preliminary data at two national promotora conferences, and other national venues. She has taught many Train-the-Trainer workshops and is an active consultant to a promotora intervention program for a geriatric population in Texas. Most recently she has served as the medical co-director of our adolescent clinic at Gardena High School and is also the center director of the Los Angeles-Harbor AHEC. Her years of experience in community-based health intervention, proven ability to design and implement a curriculum that works for community settings, and her ability to gather data and document results in the initial phases of this project and others testify to her qualifications to lead this project.

Souder, Denise
Denise Souder, EN, EdD, CHSE has recently retired from the post of Director of Simulation at Mount St. Mary's College of Nursing, Los Angeles, California. Prior to that, she worked at USC as Assistant Professor and Deputy Director, Clinical Skills Education & Evaluation Center. She is an active member of ASPE and IMSH and is a reviewer for MEdEdPORTAL, Medical Education Online, Teaching and Learning in Medicine and other medical education journals. She has published in many medical education journals and presented at national and international medical education conferences.

Speer, Matthew
Matthew Speer, MS is a recent graduate of the Arizona State University School for the Science of Health Care Delivery. He received his bachelor's degree in Health Policy, also at ASU. Mr. Speer currently serves as a project manager for the College of Health Solutions as well as clinical content manager at MeMD, a telemedicine company based out of Scottsdale, Arizona. Years of operating in a variety of clinical settings have fueled his passion for both medicine and the legislation that shapes its delivery. He maintains research interests that work towards health equity, health systems interoperability, and population health management.

Stadecker, Monica
Monica Stadecker is a third year medical student at Tufts University School of Medicine. She is also dual degree candidate as part of the MD/MBA program. Prior to medical school, Monica worked in clinical research at Brigham and Women's Hospital, coordinating a large surgical outcomes study. During first year of medical school, she became involved in Tufts' healthcare innovation organization, MedStart, and co-directed it's annual conference during her second year. The MD/MBA program allows Monica to integrate entrepreneurial and business concepts with her current medical education and future career in

medicine. MedStart in particular provides an excellent outlet for combining her commitments to medicine, medical education and innovation.

Steenbergh, Kylie
Kylie is currently in her third 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.

Sturdavant, William
Will Sturdavant is a second year medical student at the University of Michigan with the hopes of pursuing a career in emergency medicine. After Will received his BA in mathematics and biochemistry with honors in mathematics from Albion College in May of 2013, he spent a year as a faculty assistant at the University of Wisconsin – Madison. His primary interests involve assessment of and solutions to disparities in community and global health. He sees education and mentorship as crucial to both understanding and addressing the disparities in health in general and among the healthcare professions. Will is currently one of the Co-directors of Continuing Involvement in the Doctors of Tomorrow program, a pipeline program designed to match medical student mentors with mentees at Cass Technical High School interested in the field of healthcare. Specifically, he works with 10th-12th grade and undergraduate students to aid in designing a program that is catalytic to the students' continued development and pursuit of further education. His most recent project involvements have investigated domestic violence exposure and its implication on mental health in adolescent residents of Detroit as well as the presence of implicit bias among medical student mentors.

Succar, Tony
Dr. Tony Succar is a Research Associate at the USC Eye Institute, Keck School of Medicine. Previously Dr. Succar worked as a Clinical Associate Lecturer at The University of Sydney Medical School, Department of Ophthalmology. He graduated from The University of Sydney with a Master of Science in Medicine (Ophthalmic Science) at Sydney Medical School, where he conducted electrical stimulation studies for the development of a bionic eye – a rehabilitative device for individuals with severe vision impairment. Following this, Dr. Succar was awarded The University of Sydney Postgraduate Scholarship in Vision and Eye Health Research where he completed his PhD at the Department of Ophthalmology. His project involved the development of a Virtual Ophthalmology Clinic on which medical students can sharpen their clinical reasoning skills by formulating a diagnosis and treatment plan on virtual patients with simulated eye conditions.

Succi, Marc D
Marc Succi is a Toronto native, Harvard Medical School graduate, and current R2 MGH Radiology Resident. He has founded two medical companies, including 2 Minute Medicine Inc., which creates, curates, and licenses medical news globally. As the CEO, he manages the technology and business partnerships powering its content syndication engine. Originally consisting of short self-composed study summaries, he built and scaled the organization to the present form after realizing that the need for objective, quality-rated and concise medical reporting spanned far beyond the quad. He previously conducted research at MIT where he patented a stem cell intestinal patch device for IBD patients. Some of his other pending or issued patents noninvasive nasogastric/feeding tube detection devices, modified trocars for faster interventional vascular access, and expandable bougies to aid in gastrointestinal/ bypass surgeries. Select awards include: the Forbes Magazine Top 30 Under 30 in Science and Healthcare List, listed as a top Outstanding Young Entrepreneur and Innovator by CEO World, winning the MIT Thomson Reuters Data Prize, winning the Massachusetts Medical Society Innovation in Technology Award, and being awarded the Governor General's Medal of Canada.

Tabatabai, Ramin
Dr. Tabatabai is an assistant residency program director and a co-director for the medical education fellowship at LAC+USC Medical Center. He has completed the American College of Emergency Physicians Teaching Fellowship program and he is currently enrolled in the Masters of Academic Medicine program at the University of Southern California. He dedicates the majority of his time toward residency education, resident procedural competency, and residency wellness and resiliency.

Teigeler, Todd
Todd Teigeler, MD is a third-year resident of internal medicine at Brown University. He is in the clinician educator tract and endeavors to continue teaching after cardiology fellowship.

Theophanous, Christos
Christos Theophanous, M.D. is completing an internal medicine internship at Kaiser Permanente Los Angeles before attending the University of Chicago for residency training in ophthalmology. He completed his medical degree at the Keck School of Medicine of USC, during which he served as Class President, as well as the National Student Delegate for Legislative Affairs for the Association of American Medical Colleges (AAMC). Prior to medical school, Dr. Theophanous earned an A.B. in Biology from Harvard University and worked as a healthcare consultant at the Boston-based firm L.E.K. and as a business analyst at DaVita. cntheoph@gmail.com

Thrush, Gerald
Gerald R. Thrush, PhD is the Associate Dean, Pre-Clinical Education at WesternU/COMP. He received his PhD in Immunology/Microbiology from Wayne State University in 1990. He became an Assistant Professor at California State University, San Bernardino in 1996 and then moved to WesternU in 2006 where he joined the Basic Medical Sciences Department. Subsequently, in his role as Associate Dean, Dr. Thrush has implemented new modalities in curricular delivery and the usage of computer-based testing.

Tipnis, Sajani
Dr. Sajani Matai Tipnis is the Assistant Dean for Curriculum at the University of Mississippi School of Medicine and an Associate Professor of Pediatrics in the division of neonatology. She completed her B.S at the University of California, Santa Barbara and her medical degree at the Medical College of Wisconsin. She then completed a pediatric residency and neonatal medicine fellowship at the University of California, San Diego. She has previously been on faculty at both the Medical College of Wisconsin and at the University of California San Diego and involved in medical education at both institutions. Her many roles in medical education have included assistant clerkship director of pediatrics, course director for the NICU and general pediatrics sub-internship, the residency review committee, the graduate medical education committee and interim course director for the practice of medicine course. Her research passion is medical education scholarship and she has presented nationally on this topic. She is currently refining her skills by participating in the APA educational scholars program. Her teaching philosophy is “By learning you will teach and by teaching you will learn”. In her current role as Assistant Dean she has the opportunity to teach and learn each day.

Tse, Christina
Christina Tse is a second-year medical student at the University of California, Irvine School of Medicine (UCISOM). Before attending UCISOM, she attended undergraduate at the University of California, Los Angeles and received her B.S. in Physiological Sciences in 2013. She is passionate about increasing diversity in medicine and advancing medical knowledge. Her current research interests include medical education, ultrasonography, simulation, and global health.

Turk, Robby
Robby Turk is a second year medical student at the University of California, San Diego School of Medicine. Originally from Aurora, Colorado, Robby attended University of Redlands for his undergraduate education where he played varsity basketball and received a B.A. in both Biology and Business Administration. He is now a member of the UCSD PRIME- Health Equity Program, a dual-

degree program that focuses on serving the needs of medically underserved communities in California. He plans to obtain an MBA degree along with his MD candidacy in order to become a powerful advocate for the potential for syngerism between health and business. As a first year medical student, Robby created the Business in Medicine course and participated in its implementation in the spring of his first year. With his entrepreneurial spirit and dedication to make an impact in the lives of others, Robby believes that medicine holds an unparalleled potential for innovation in the future and that he will be able to aid in the continued development of the Business in Medicine course which is going into its second year. Robby is extremely thankful for his incredible classmates who were instrumental in seeing the course through to fruition and is looking forward to new ways to make a collective impact on the UCSD SOM campus. Robby plans on pursuing a career in Orthopaedic Surgery and enjoys basketball, reading, and spending time with his family and friends. He can be reached via email at rturk@ucsd.edu.

Vallabhaneni, Pramodh
I am a Consultant Paediatrician with special interest in Paediatric Gastroenterology. I am currently pursuing a Masters course in Medical education. I also am the lead consultant who supervises medical students during their clinical attachment in Paediatrics. I also lead Paediatric teaching in Swansea University. I live in a beautiful part of Wales with my wife and a six year old who keeps me busy when I am not in work. I am a keen Chelsea fan and life without football would be unconceivable!

Velarde, Irene
Irene Velarde is a Junior Research Specialist in the Emergency Medicine Department at the University of California, Irvine. She received her undergraduate degree in Human Biology from the University of California, Irvine. Her research interests include Emergency Medicine and medical education.

Via, Garrhett
Garrhett is an Ohio native and current second year medical student at The Ohio State University College of Medicine. Graduating in 2015 from Wittenberg University, he earned a Bachelor of Science degree in chemistry with certification by the American Chemical Society and also accrued minors in statistics and biology. At Ohio State, Garrhett actively participates in the Ride for World Health (a nonprofit, annual cycling trip of 3,300 miles across the country that addresses global health disparities through education and fundraising) as a webmaster and in the local student guild of the Catholic Medical Association as a part of the leadership team. He currently supports his future alma mater as a student member of the admissions committee by interviewing students and participating in decision-making sessions. As for his intended career, Garrhett has a strong interest in trauma, fractures, and joints, and thus aspires to be an orthopedic surgeon. In his spare time, Garrhett enjoys spending time with his fianceé and cat, and pursuing interests in triathlons, golfing, skiing, and various musical endeavors. He is a lifelong enthusiast of recreational shooting sports and NASCAR.

Vincent, Dale
Dale S. Vincent, MD, MPH, MACM 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.

Wald, David
Dr. Wald is a Professor of Emergency Medicine. He is Emergency Medicine Clerkship Director and the Assistant Dean for Clinical SImulation at the Lewis Katz School of Medicine. His acedemic interest focuses on undergraduate medical education and curriculum development.

Walker, Valencia
Dr. Valencia Walker is a faculty member in the Department of Pediatrics at the David Geffen School of Medicine at UCLA (DGSOM UCLA). Her faculty title is Associate Clinical Professor in the Division of Neonatology. Her research interests include medical education and faculty development. She completed a Medical Education Fellowship (MEF) at DGSOM UCLA in 2013 to improve her teaching

and curriculum development expertise. As PI or co-Investigator on several previous university- and NIH-funded grants, Dr. Walker understands the importance of the proposed curriculum and provided valuable input to the creation and execution of this pilot study. It builds logically on her MEF project, and working with Dr. Parker provides an opportunity to fully explore the success and feasibility of the proposed curricular plan. Dr. Walker is fully committed to the PICC-ADE project because it addresses an area of high relevance for medical student education, and attempts to close gaps in the current curriculum design.

Walsh, Anne
Anne Walsh, MMSc, PA-C, DFAAPA, is Instructor of Clinical Family Medicine at the Keck School of Medicine, University of Southern California (USC). She has been the Medical Student Educator for the Department of Family Medicine since 2003. Additionally, Ms. Walsh teaches in the Primary Care Physician Assistant Program, where she delivers the Gastroenterology section and is involved in Interprofessional Education research, representing the PA Program on the Norris Medical Library IPE Committee. Clinically, she has worked in Gastroenterology and Family Medicine, precepting both PA and medical students. Ms. Walsh has published several chapters on GI topics and is a peer reviewer for the Journal of the American Academy of Physician Assistants. She has served in leadership roles with the California Academy of Physician Assistants, Society of Teachers of Family Medicine, and Physician Assistant Education Association.

Ward, Paulisa
Paulisa Ward is a PGY2 internal medicine resident at Harlem Hospital. She received her Bachelor of Medicine Bachelor of Surgery from the University of the West Indies in 2012 after receiving her Bachelor of Science in Biological Scienes at the University of Windsor.

Ward, Rachel
Rachel Ward is a student in the University of Calgary's Leaders in Medicine, joint physician-scientist training program. She is currently in the second year of her Master of Science in the Department of Community Health Sciences. Rachel's specialization is in Population and Public Health and her research interests include social accountability of medical schools to Indigenous populations, and culturally safe healthcare. Originally from Winnipeg, Manitoba, Rachel completed her undergraduate degree in Biopsychology at the University of Winnipeg.

Watson, Patricia K. Watson
Patricia K. Watson, M.D., is an Assistant Professor of Humanities in Medicine at Texas A&M University College of Medicine. She earned her medical degree from Texas A&M University College of Medicine in 1981 and obtained her graduate medical education in General Psychiatry at the Mayo Graduate School of Medicine in Rochester Minnesota and at the University of Texas Health Science Center in Houston. She is certified in Psychiatry by the American Board of Psychiatry and Neurology. Dr. Watson is interested in the resilience of medical professionals. She is the Interim Head of the Department of Humanities in Medicine at Texas A&M University College of Medicine.

White, Bobbie Ann Adair
Bobbie Ann Adair White is a doctoral student in educational leadership, and holds a masters degree in industrial and organizational psychology. She began her medical education career in 2004 at the University of North Texas and moved to Texas A&M, College of Medicine in 2006. Over the last 12 years, she has served in both administrative and faculty roles with demonstrated success in the following capacities: student services, research, curriculum development, faculty development, and teaching. Her research interests and publications are in the areas of medical education, social science as it applies to medicine, and clinical medicine. She currently serves as an Adjunct Assistant Professor for the Department of Humanities in Medicine through research, writing, and teaching in the following content areas: Conflict Management, Leadership, and Cultural Humility.

Wilkes, Samuel
Samuel Wilkes is a clinical skills instructor/standardized patient educator specializing in feedback and interpersonal communication. His training has largely been in education and theatre. He has worked as

a standardized patient trainer at University of Arizona- Phoenix and is currently a faculty member at Keck School of Medicine of USC.

Wu, Henry
Henry Wu, MD, FAAP is a board-certified general pediatrician at Kaiser Permanente Panorama Medical Center. A Los Angeles native and University of Southern California (USC) alumnus, Dr. Wu earned his bachelor's degree in Neuroscience from USC and his medical degree from the Keck School of Medicine at USC. Dr. Wu completed his General Pediatrics internship and residency training at Children's Hospital Los Angeles (CHLA) and served as a Chief Resident. He continues to work with and educate residents at CHLA as a voluntary faculty member.

Yanofsky, Samuel
Samuel D.Yanofsky, MD, MSEd serves as Director of Education and Faculty Development in the Department of Anesthesiology Critical Care Medicine at Children's Hospital Los Angeles (CHLA). I am a graduate of McGill University, Montréal, Québec (Baccalaureate of Science in Physiology) and St. Louis University Medical School. I completed my 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, I received a Master of Science in Education from the USC Rossier School of Education. My areas of research interests are in the affective domains related to advanced ACGME competencies in health care profession education. I teach leadership within the Master of Academic Medicine program. On a national level, I served as the committee chair on the research education committee of SEA and I am member of the education committee for SEA and SPA. I have provided numerous educational workshops and presentations for my 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.

Zapata, Geny
Geny Zapata, Psy.D. is a health psychologist who serves as Director of Behavioral Sciences at White Memorial Medical Center Family Medicine Residency Program. Dr. Zapata earned her Doctorate in Clinical-Community Psychology from the University of La Verne and is a licensed psychologist in California. Dr. Zapata completed a two-year American Psychological Association (APA) accredited fellowship in Behavioral Medicine and In-patient Psychiatry at Harbor-UCLA Medical Center and an APA accredited internship at Children's Institute Incorporated. Dr. Zapata is a CAPIC/MHSA grant recipient for her work with underserved populations. Additionally, she serves as a member of the Institutional Review Board (IRB) committee at the Reiss-Davis Graduate Center for Child Development and Psychotherapy. Dr. Zapata has served in hospital and clinical community settings providing culturally and linguistically appropriate mental health services to populations of diverse backgrounds. Dr. Zapata also provides clinical supervision, consultation, academic counseling, and education to doctoral and master level medical and mental health providers.

Zarrabi, Yasaman
Yasaman Zarrabi, DO, FAAP, is an Assistant Professor of Clinical Pediatrics at the Keck School of Medicine of USC and a pediatric hospitalist at CHLA. She graduated medical school from UMDNJ-School of Osteopathic Medicine and completed pediatric residency training and chief residency at New York University. Her academic interests include medical student education and she is currently the liaison from the division of hospital medicine who works with the clerkship director to coordinate the schedule of the students rotating through the attending-only service at CHLA. She is also an instructor for the Introduction to Clinical Medicine Course for second year medical students at US

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 as facilitators. This meeting depends on many volunteers willingness to devote their time and expertise to making IME possible. Special thanks go to Lisa Delgado, Program Director of ISOM Professional Development along with Lisa McDonald, Teresa Ball, Chelsea Michel, Bernadette Santiago and Anika Bobb, our wonderful support team from the office of Continuing Medical Education who oversee marketing, registration, facilities management and the production of the Proceedings. We'd also like to thank Pam Teplitz and George Martinez who help maintain the IME website and our own staff Cris Argosino, Vanessa Arias-Herrera and Elisabeth Shimada.

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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