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SANFORD INSTITUTE FOR EMPATHY AND COMPASSION
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Symposium for Innovation in Medical Education

Virtual Poster Session – Room B

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Poster Title	Presenter
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Use of a Summer Prematriculation Course to Catalyze Curricular Innovation in Medical and Pharmacy Education	Stephen D. Schneid Director of Educational Development and Scholarship UCSD School of Pharmacy and Medicine sschneid@health.ucsd.edu
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Beyond Terminology: Training Pediatric Residents to Respond to Racist Microaggressions Through Simulation

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Background, Needs, and Objectives

Anti-racism education has been increasing across academic institutions in the U.S. This has coincided with a rise of trainings and educational materials on microaggressions against all identities, including race.[1,2]

Several frameworks have been introduced to equip learners with skills to address microaggressions in clinical settings as they occur. We refer to these frameworks as Microresistance Communication Tools (MCTs).[3]

Previous studies show improvement in knowledge of terminology and perceived confidence in skills after training on MCTs for physicians, but there is limited evidence on how these trainings impact use of these skills in the clinical environment.[4,5]

Standardized Patient Simulation (SPS) is a method used in post-graduate medical education to assess behavioral competencies. It can also be used as a training tool to practice and solidify clinical skills.

Our objectives were to use SPS to teach and assess the use of MCTs in a concrete and objective manner.

Settings and Participants

The resident cohort was made of two groups. Group A included 14 residents who participated in education over two academic half-days, six months apart. Group B included 24 residents who only participated in the second academic half-day (See Figure 1).

Each session opened with a Knowledge & Confidence assessment before proceeding to the SPS.

- At Session 1, this was followed by a didactic lecture describing Anti-Racism, Microaggressions, and MCTs for bystander use.
- At Session 2, this was followed by a reading, reflection, and workshop on emotional self-regulation in response to microaggressions.

Both sessions then closed with a post-training SPS and Knowledge & Confidence assessment.

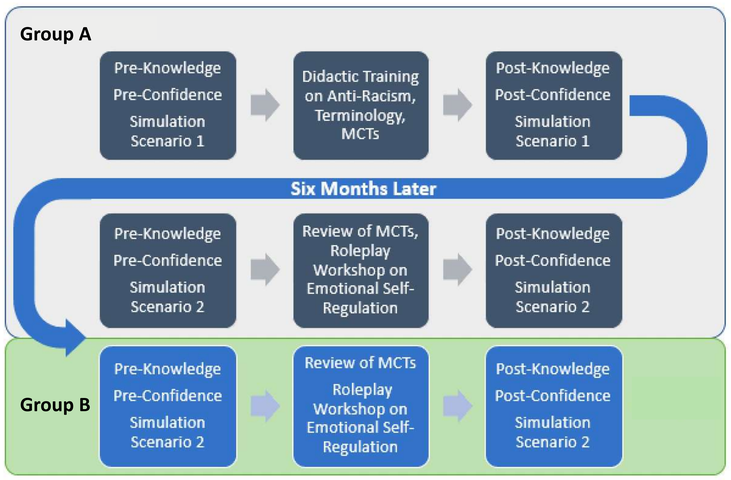
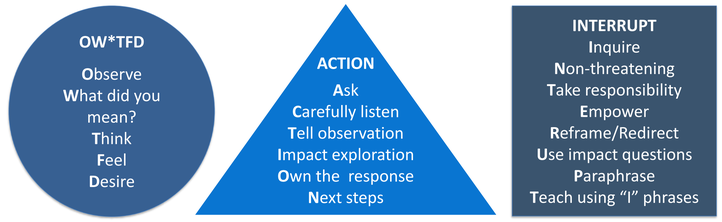


Figure 1. Program Timeline

Description

Knowledge Content

Three MCTs from the medical literature were taught to the residents:



Standardized Patient Simulation

Scenario Setup:

A well patient's mother would like to speak to the resident about a fictional provider who was previously involved in the patient's care. The "complaints" are revealed as three escalating racist microaggressions (Table 1).

Learning Objectives:

Residents are to demonstrate the following in the SPS:

1. Make an objective statement of observation of microaggression(s).
2. Make a direct inquiry on the meaning of the microaggressions(s).
3. Introduce the microaggression(s) as problematic.
4. Communicate an emotion regarding the problem with the microaggression(s).
5. Attempt a resolution/corrective action with parent moving forward.
6. Demonstrate empathy throughout the encounter (e.g., withhold judgement, be non-antagonistic, approach the encounter from a perspective of curiosity).

Scenario Structure:

SPS actors were trained to direct conversation to the proceeding microaggression, regardless of response given by the resident participant.

If no intervention attempt was made after all three, the actor would prompt the resident to respond by asking "You don't think I'm out of line, do you?"

SPS actors were trained to evade identification of a specific race, and to assure the resident actor that the fictional character was "not like either of them," so as to protect and not implicate any resident's identity.

Both scenarios were designed to be comparable in power dynamics, ease of identification, and escalation of apparency of racism.

		Scenario 1	Scenario 2
	Category	**Microaggression Statement**	
1.	Assumption of criminal status/ Second-class Citizen	"Well first of all, I was nervous when walked in here; I didn't even realize that he was the doctor until he introduced himself."	"At first I was put off when he came in, like.. 'who are you?' He explained that he was an intern though. I'm just impressed that someone like him is on his way to be a doctor."
2.	Myth of Meritocracy	"…everything else is fine, thanks for asking. Look, I understand hospitals have their quotas to fill, but I just wanted to make sure I ask not to have him take care of us again tonight."	"I love that anyone can be a doctor if they work hard enough, but I was wondering if maybe someone else could be our first point of contact?"
3.	Denial of Individual Racism/ Color Blindness	"…thanks so much. I appreciate you! Because look, it's not like I'm a racist or anything, I don't even see race in people."	"Trust me, my husband isn't white, so I know how minorities can be treated; I'm certainly not being racist."

Table 1. Microaggressions by Order and Category

Evaluation

SPS performances will be viewed and measured by third-party reviewers using the rubric shown in Table 2. Scores will be compared between scorers for inter-rater reliability.

- Part A quantifies microaggressions demonstrated in the scenario for standardization of assessment, as well as the number of microaggressions stated prior to intervention.
- Part B measures the Learning Objectives completed by the resident in the SPS, and whether they were prompted by the actor to do so.

Scoring Rubric Part A – Intervention vs. Non-intervention					
Did Participant Address MA(s)?	Yes	No			
Was Participant Prompted?	Yes	No			
If Yes, after which MA did the participant ***begin*** to intervene?	First	Second	Third	Required Prompt	
If No, did participant attempt to:	Exit scenario	Ignore, change subject	Other (please describe):		
How many MAs were completed in simulation scenario?	0	1	2	3	

Scoring Rubric Part B – Application of MCTs in Intervention				
Did participant…	Yes	No	Yes, After Prompted	Unclear (please explain)
#1. Make an objective statement of observation of microaggression(s)				
#2. Make direct inquiry to SP on meaning of microaggression(s)				
#3. Introduce the microaggression(s) as problematic				
#4. Communicate an emotion to SP on problem with microaggression(s)				
#5. Attempt a resolution/corrective remedy with SP moving forward				
#6. Demonstrate empathy throughout the encounter? (e.g., withholds judgement, is non-antagonistic, approaches from a perspective of curiosity?)				

Table 2. Scoring Rubric for SPS.

- Post-Knowledge and Confidence Surveys were completed to measure change in knowledge before and after educational sessions.
- Evaluation of Emotional Self-regulation workshop and didactics were completed after educational sessions.

Lessons Learned

1. SPS is a potential tool to measure skill acquisition and application in racist microaggression education/training.
2. Emotional self-regulation workshops may also be a useful training method to build knowledge and confidence in applying these skills.
3. Conducting this training is resource intensive, but residency programs may find value in implementing this broadly.

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Use of a summer prematriculation course to catalyze curricular innovation in medical and pharmacy education

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Abstract

In light of the recent curricular renewal process at UCSD School of Medicine (SOM), there was a need to pilot several educational innovations that align with the changes being discussed for the preclerkship curriculum. These innovations include incorporation of academic coaching, professional identity formation, health systems science, near-peer tutoring, active learning pedagogies such as team-based learning (TBL), and a programmatic assessment framework that incorporates several different inputs to track student progress and give feedback. The UCSD summer prematriculation course (PMC), Core Topics in Biomedical Sciences (CTBS), was the ideal setting to pilot these innovations. The redesigned course was highly rated by the students: 4.81/5 for course excellence, 4.94/5 for course organization, and 4.88/5 for facilitation of learning. The programmatic assessment structure and TBL were the highest rated of the innovations, with student ratings of 4.94/5 and 4.75/5, respectively. The programmatic assessment data was utilized in curricular renewal planning meetings to inform future changes to the assessment structure for the SOM.

Introduction

Since 2010, there has been a sharp rise in PMCs (see Fig 1)[1]. Between 2012-2014, a survey of medical schools that belong to the Association of American Medical Colleges and American Association of Colleges of Osteopathic Medicine found thirty-one medical schools that offered PMCs. The mean course length was approximately four weeks, with 75% of the course content focused on biomedical sciences. The primary goal listed by over 95% of the PMCs was to improve student academic performance. Between 2013-2015, we examined our previous structured PMC at UCSD and found that it resulted in an average increase in academic performance by 0.3 standard deviations and may have prevented a student from falling below the pass line in eleven instances[2]. With our newly redesigned PMC, we hope to improve upon the increase in academic performance observed previously. Additionally, we want to promote student benefits of engaging with academic coaching, near-peer tutoring, and development of professional identity formation as well as cultivating an appreciation of health systems science as the third pillar of health professions education.

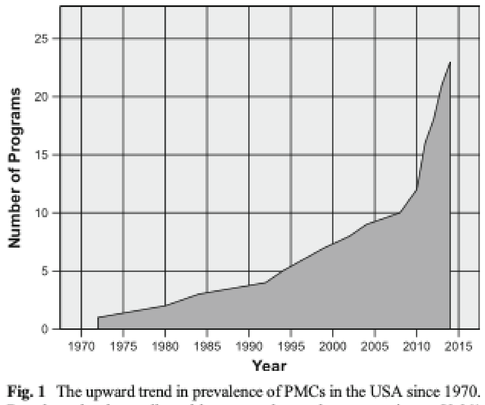

Fig. 1 The upward trend in prevalence of PMCs in the USA since 1970. Based on the data collected here, we observed an approximate 52.2% increase in PMCs since 2010. Out of a total of 23 programs who responded to question #3, 13 were created since 2010. The most common response to question #3 "What year was your program established?" was 2011 (17.4%, $N = 4$). The second most common response was 2013 (13.0%, $N = 3$)

Materials and Methods

Core Topics of Biomedical Sciences (CTBS) is a prematriculation course (PMC) offered to all incoming first-year medical students and second-year pharmacy students. It is approximately eight weeks and has been offered for decades. In the summer of 2022, the CTBS course had 21 medical students and 5 pharmacy students enrolled.

The CTBS course was offered virtually to expand accessibility to the students. The course was significantly modified to include several innovations. For example, there were no live lectures and trademarked team-based learning (TBL) was the active learning pedagogy used for class learning time. Each week was dedicated to a discrete biomedical science content area. The areas included cell signaling/ homeostasis, neurology/neuroscience, autonomic nervous system, cardiovascular system, renal system, immunology, and multi-system integration. Each week, Monday was a dedicated study day and students had two days of TBL sessions followed by a quiz every Thursday. Every Friday, students engaged with a health professional to discuss HSS. After every class session, students were asked to over twenty write self-reflections.

Ten fourth-year medical students, one pharmacy resident, and a faculty member served as academic coaches for two or three students. They met with students once per week. In addition, the academic coaches and CTBS students took a professional identity formation essay (PIE) which were read by scholars in the area of professional identity formation (PIF) and received feedback. This was used to help the coaches assist their coachees in creating a PIF development plan. The CTBS students were required to watch free HSS learning modules to assist them in engaging with the weekly HSS discussions. The students also created an HSS project proposal at the end of the course.

Twelve second-year medical students volunteered to be near-peer tutors. They created learning materials, review sessions, and provided individual help for the students. CTBS also had several inputs to the grade using a programmatic assessment framework. There were five weekly quizzes worth in total 25% of the grade that used multiple-choice and open-ended questions in addition to seven TBLs (21% of grade), approximately seven coaching sessions (5% of grade), self-reflections (10% of grade), HSS project (5% of grade), and a cumulative final exam (34% of grade).

Results

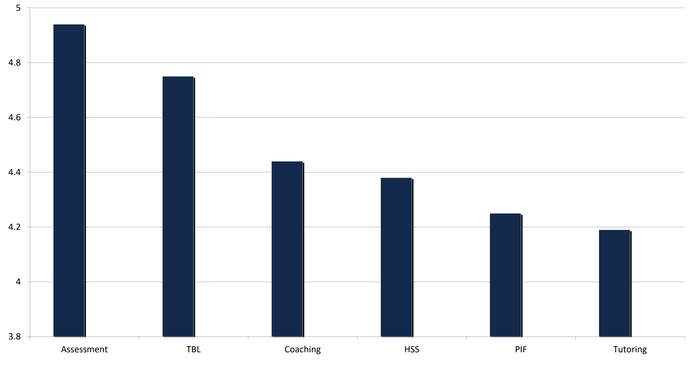

Fig 2. CTBS course evaluations of the specific innovations: Assessment, team-based learning (TBL), Coaching, health systems science (HSS), professional identity formation (PIF), and tutoring. The CTBS students were asked to rate each element on level of satisfaction on a 5-point scale ranging from 1= Very Dissatisfied to 5 = Very Satisfied (N = 16; response rate = 62%).

Student Evaluation Comments on Specific Innovations
Student Comment #1 (Programmatic Assessment Framework)
"Before going into the course and seeing how it was done previously, made me worried since it was all based on single individual tests for each block. This new version of lower stakes exams and quizzes greatly reduced my anxiety of needing to achieve excellent grades. I really enjoyed this style of assessment."
Student Comment #2 (Team-Based Learning)
"TBLs were the BEST part! They helped reinforce everything we learned and even learn more! They challenged us to think more critically regarding all the topics and I am very happy we were able to do it in a team. I learned a lot from my teammates because they had different perspectives and were able to explain things in their way. Sometimes there wouldn't be much engagement from anyone, but it was all very helpful overall and I am glad the course was organized this way. The application exercise was also very challenging which was great"
Student Comment #3 (Academic Coaching)
"I really enjoyed talking to a coach throughout the course. She was always there to support me when I told her how overwhelmed I was, encourage me to try new study methods when I mentioned them, and help me stay on track when I felt like I was losing motivation. I hope to continue to stay in touch with her during the school year."
Student Comment #4 (Health Systems Science)
"I didn't know what HSS was before the course, and I am glad that it was introduced to me before the school year. I enjoyed listening to the speakers and hearing about their research and perspectives in the HSS field."
Student Comment #5 (Professional Identity Formation)
"I really enjoyed reflecting on all the questions….I loved the presentation put together about authenticity and how we can improve more professionally. The feedback was helpful in stimulating further thoughts but I would have liked more guidance (maybe with coaches). Overall, I am really glad we had this incorporated into CTBS".

Fig. 3. Selected student evaluation comments regarding specific curricular innovations.

Conclusion

Overall, the changes to our summer PMC was well received as evidenced by course evaluations: 4.81/5 for course excellence, 4.94/5 for course organization, and 4.88/5 for facilitation of learning. The assessment data also proved to be a valuable asset to the curricular renewal process. We also gained insight from students how to improve the course next year. For example, students would have liked to have started the HSS learning modules prior to the start of CTBS. Additionally, some students recommended that the PIE be made available earlier with more time to spend responding to the prompts. Academic coaches suggested using the PIF experts to facilitate team feedback with students and coaches. Students also shared that having HSS included into the TBL sessions would have enhanced integration of the HSS topics with the biomedical topics. Adding an additional hour to one of the TBL days is being considered to give students more time to discuss. We are excited that some students want to help co-create content for next year's course, particularly in the area of HSS.

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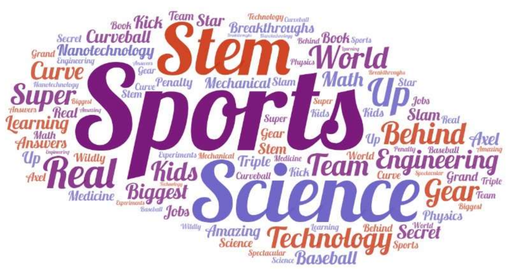
UC San Diego Health

Implementing Virtual High School Sports Medicine Curriculum: Increasing Access to STEM Experiences for Underrepresented Minorities

Sarah Merrill, MD and Kye Duren, MS3

Abstract

Women and marginalized populations remain underrepresented in the science, technology, engineering and mathematics (STEM) fields. Research has shown positive correlations between adolescents' math and science motivational beliefs and their STEM achievement and course taking throughout high school and college; this reinforces the postulation that positive exposure to STEM early in education can continue to impact students' future choices of college majors and careers. Through UCSD Division of Extended Studies, we developed an interactive Sports Medicine virtual summer course with the intention of increasing access to STEM education for high school students.



Introduction

UCSD is a leader in academic medicine regionally, nationally and internationally. UCSD Extensions approached two Sports Medicine specialists in the Family Medicine Department to develop a High School Sports Medicine Academy in 2019. As the content of the course changed from in person to remote online curriculum due to the COVID-19 pandemic, we decided that we would also like to focus on making the class available to students from disadvantaged communities and underrepresented groups in STEM, and even more specifically to underrepresented groups in medicine (URIM). URIM encompasses students from underrepresented racial or ethnic groups, economically disadvantaged backgrounds, and first generation college students. We explicitly identified students from underrepresented groups in the application process and sought to create an inclusive and diverse learning cohort. Our 2022 class distribution was 45.5% female and 79.3% self-identified as Asian, Native Hawaiian or Pacific Islander, Multiple Backgrounds, or Other. Pre-course surveys indicated that the majority of students had the goal of exploring careers in sports medicine at the beginning of the class. A post-course survey had 100% of respondents indicating that they would be interested in pursuing a career in sports medicine. Our results reinforce the notion that early academic exposure to aspects of STEM topics can impact future career choices and support specifically including underrepresented groups could lead to changes in the diversity of STEM occupations.

Course Structure

We had the capacity to support 30 high school students. The course took place inline over four week in July. The students logged in remotely two days a week for two hours to listen to a variety of lectures and panel discussions. We encouraged speakers to be engaging and solicit interaction with the student. The students were assigned homework each week and expected to complete evaluations for each speaker and for the course overall. They were also expected to complete a group assignment on the topic of sports medicine. Grading was based upon completion of all of these components, as well as class attendance.

Session	Speaker Topics	Assignments
1	Course Introduction Strength and Conditioning Activity Tracking Devices	-Food diary -Watch documentary "A Most Beautiful Thing" and generate 3 follow up questions
2	Hosted discussion on 'A Most Beautiful Thing' Exercise is Medicine Sports Nutrition	-Complete online CPR certification
3	Knee anatomy and injuries Challenged Athletes	-Research 2 different careers in sports medicine, compare and contrast the training needed and scope of practice -Prepare 3-4 questions for the Careers in Sports Medicine panel
4	Careers in Sports Medicine panel discussion Pediatric Sports Injuries	-Complete FIFA11 Injury Prevention Course
5	Concussion Mental Health in Sports Shoulder Anatomy and Injuries	-Research misleading claims by helmet companies or organizations about concussions
6	Ankle anatomy Rehabilitating Ankle Injuries Title IX	-Watch League of Denial documentary and complete worksheet
7	Mindfulness in Sport Sports Cardiology Activity Tracking Device Data	-Work on group projects
8	Final Group Presentations	

Methodology

We utilized several avenues to advertise and recruit underrepresented minorities and female high school students. Through an existing alliance with the athletic trainers at San Diego Unified School District, we created and distributed marketing targeted specifically toward schools with higher URIM populations. UCSD Extensions also created a website and online application to attract students who may be outside the San Diego area.

Once we received all the applications for the course, we enlisted the help of the Family Medicine Diversity and Anti-Racism Committee (DARC) to review applications and provide recommendations on enhancing the diversity of our 2022 cohort. We were also able to provide 3 students with full tuition scholarships for the course.

Conclusion

Research has shown that early exposure to STEM experiences increases the chances of students pursuing careers in those fields. By specifically recruiting and providing financial assistance to students in underrepresented minorities in medicine, we hope to contribute to the diversification of STEM and specifically the fields of primary care and sports medicine. We are encouraged by our students' feedback that 100% of them would now consider a career in medicine after completing our course.

Resources

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The Conference Competition: Keeping Residency Conference Engaging With Friendly Competition

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Needs and Objectives

The emergence of COVID-19 necessitated changes to residency didactic conference delivery modalities to accommodate safe learning during a pre-vaccine pandemic. To encourage interactivity and engagement in our core lecture series, our UC San Diego Emergency Medicine (EM) residency program created a friendly year-long conference competition.

Active learning techniques allow adult learners to apply their knowledge in real time. Adult learners enjoy and demonstrate improved knowledge retention when didactics incorporate interactive learning, which may include strategies such as gamification, small-group learning, and hands-on models (1-3). Our core curriculum addresses key topics that every EM physician should know. At our program, residents and faculty members partner together to teach core curriculum topics over the course of the academic year. In the past, there was variability in the quality and delivery of these core lectures. The pre-vaccine pandemic created an additional challenge in how to employ active learning strategies virtually. To encourage creativity and better engagement in core content didactics, both in person and virtually, we created a competition to reward the most interactive, well-designed, and well-delivered sessions.

Photos: Core content active learning delivery methods: hands-on models, games of skill and knowledge, small group activities, and demonstrations.

Materials and Methods

Our residents, fellows, and faculty are divided into "families" to support the residency culture through educational and wellness activities. These families became built-in teams for our Conference Competition. Using the guidance of the principles of active learning, residency leadership and medical educators created a scoring rubric to reward interactive, high-yield and novel teaching strategies (Figure 1). Every core teaching session was given a score based on this rubric. Each month, the "Core Talk of the Month" was voted on by anonymous resident survey.

Examples of novel, highly interactive ideas included the development of a hands-on learning device for transvenous pacemaker placement and a Styrofoam head with sculpted nasal turbinates to practice epistaxis treatment (Photos). These novel ideas, based on the rubric, received higher scores than less engaging talks. This score sheet was made available to the residents throughout the year, for ongoing access to their family's running total.

Results

- Overall, participation by lecturers was excellent, with 93.2% of sessions incorporating active learning techniques after implementation.
  - Prior to intervention, the majority of talks did not incorporate these techniques.
- Average "Core Talk of the Month" survey response rate was **29%.**
- Sessions that employed the most active learning methods were considered the best by the residents.
- At the end of the year, the team who accumulated the most points won a sunset boat cruise for their residency family.

Core Talk	7/27 STEMI	8/3 Pacemakers	8/3 Trans-cutaneous Pacing	8/3 CV Emergencies	8/9 Post-ROSC Management	8/24 Immune Complex Disorders
Interactivity Score	1	1	5	3	1	3
High-Yield Score	1	1	3	0	2	1

Interactivity Score
- 5 Novel idea
- 4 Jeopardy/other gaming
- 3 Kahoot/PollEverywhere
- 2 Breakout group
- 1 Q&A

High yield score
- 3 Core talk of the month
- 2 2nd place
- 1 3rd place

Family Scores (Running)	
Group 1	40
Group 2	23
Group 3	31
Group 4	40

Figure 1: Scoring rubric, including examples of core talk scores and running tallies.

Conclusion

Overall, the Conference Competition contributed to more interactive core content teaching efforts by residents and faculty when compared to pre-pandemic didactics. The residents reported enjoyment of the competition and encouraged participation of their team members.

Next steps:
- Assess the efficacy of this intervention through evaluation of information retention throughout the year.
- Encourage even more resident and faculty adoption of interactive teaching methods by holding regular training sessions on how to incorporate active teaching in didactics.

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Can Meditation Help Students Maintain Empathy During Cadaveric Dissection?

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Introduction

- A 2019 study noted students' emotions in gross anatomy oscillated between:

"Seeing the cadaver as a specimen for learning and seeing the cadaver as a person, with some students intentionally cultivating one of these ways of seeing over the other."[1]

- Research has increasingly identified the utility of including humanistic practices in pre-clinical anatomical education to cultivate professionalism and compassion[2,3]
- However, there has been little research evaluating the implementation of novel curricula that help students maintain empathy during cadaveric dissections

Hypothesis

Compassion exercises offered during a pre-clinical anatomy course will help students maintain their empathy towards body donors.

Materials and Methods

Chest Wall Dissection Example — Compassion Institute

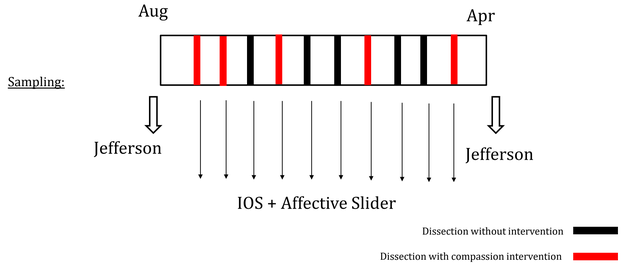
Curiosity and wonder

- Take in the sight of your body donor…Choosing to focus on the chest area – notice the colors, textures, shapes of the skin and chest as if you were seeing everything for the first time… with a sense of curiosity and wonder… [Pause]
- If your mind starts generating commentaries about the practice or anything else, just notice your thoughts like a scientist observing passing clouds in the sky… [Short pause] and come back to a curious, spacious state of mind – simply noticing the colors, textures, shapes… [Pause]
- Now I invite you to gently touch a part of the body donor, and pay full attention to the tactile sensations – firmness, shapes of the muscles, temperature, texture of the tissue and skin… Now move your hands around slowly to touch different parts of the body, just noticing the tactile sensations…

Intention setting

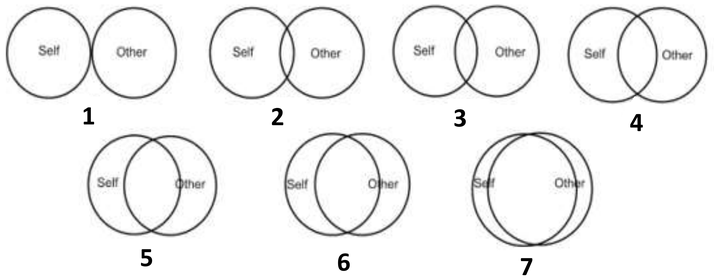
- Recall what you wrote in response to these questions… a. Why you came to medical school [Pause]
b. Why having the opportunity to dissect a real human body is meaningful to you, and what you hope to learn. [Pause]
- Now having checked in with your sense of purpose for being here today, take a moment to set an intention for this lab session – how would you like to show up for this session? With curiosity, kindness toward the donor, as a supportive lab mate… whatever comes to mind.
- *Pause for ~30 seconds, to give students time to set an intention.*
- As we come to the end of the practice, taking a moment to notice how you feel now in the body and mind…
- When you're ready, opening the eyes and bringing your awareness back to the room and everyone here…

Study Design



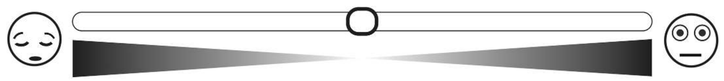
Longitudinal Surveys

Which graph best describes your **relationship with the body donor** (self= you, other= body donor)? (with more overlap signifying that you view the body donor to have more connection to yourself than circles with less overlap)

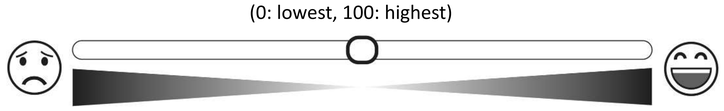


Aron, A., Aron, E. N., & Smollan, D. (1992). **Inclusion of other in the self-scale** and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*(4), 596-612

Move the slider to rate your current level of **arousal**
(0: lowest, 100: highest)



Move the slider to rate your current level of **pleasure**
(0: lowest, 100: highest)



Betella A, Verschure PF. The **Affective Slider**: A Digital Self-Assessment Scale for the Measurement of Human Emotions. PLoS One. 2016 Feb 5;11(2)

Engagement with CT:

How **engaged** were you in compassion practices during today's anatomy lab? (1: not very, 2: moderately, 3: highly)

In the past week, how much did you **use the compassion practices you have experienced in anatomy OUTSIDE** of anatomy lab? (1: Every once in a while, 2: semi-regularly, 3: Very regularly)

Jefferson Empathy Scale: Pre-post change still being analyzed (very few respondents at post-course timepoint)

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3. McDaniel KG, Brown T, Radford CC, et al. Anatomy as a Model Environment for Acquiring Professional Competencies in Medicine: Experiences at Harvard Medical School. Anatomical Sciences Education 2020;14:241–251. Available at: https://anatomypubs.onlinelibrary.wiley.com/doi/10.1002/ase.2000.

Results

n=36 longitudinal participants, mean±SD

- Identification with the donor increased over the year (p< .001; Figure 1) with a trend for more identification after CT (3.8±0.2) than non-CT sessions (3.5±0.2) (p = .066); greater increase in identification associated with greater increase in pleasure
- There was no significant change over sessions in arousal (p=.49) or pleasure (p=.81) and no differences between sessions with and without CT in arousal (55.8± 3.5, 58.8 ± 3.5 resp)(p=.34) or pleasure (59.6± 3.2, 54.9± 3.1, respectively) (p=.13)
- More engagement in contemplative practices outside anatomy was reported in the weeks following CT (1.3±0.7) than non-CT (1.1±1.7) sessions (p=.04)
- Levels of in-session engagement with CT increased over time (p=.03; Figure 2) and were higher during sessions with CT (2.1±0.1) vs without CT (1.4±0.1) (p<0.001), particularly for sessions on Kidney/Bladder/Reproductive Organs, Face/Skull, and Pericardium/Superficial heart (Figure 2)

Figure 1

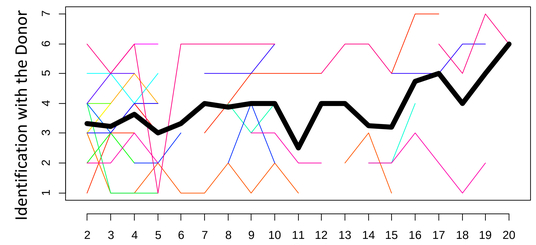
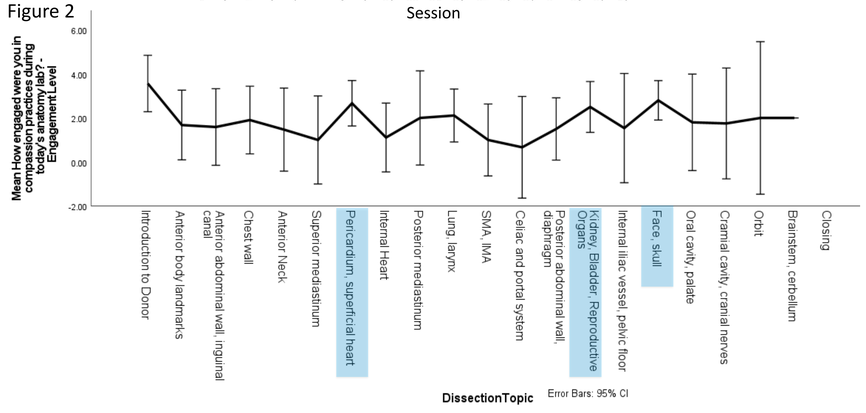


Figure 2



Conclusion

- Students identify more and more with the body donors as they advance in the course and identification was experienced as pleasurable and tended to be greater after formal compassion training.
- Students are more likely to engage in compassion practices when opportunity is incorporated into laboratory sessions.
- Anecdotally, "compassionatomy" led to better physical care for the body donors

Compassion Institute

SANFORD INSTITUTE FOR EMPATHY AND COMPASSION
Center for Empathy and Compassion Training in Medical Education

Implementing Equity Focused Health Systems Science Learning into Medical Education Using a Novel Learning Framework

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Introduction

Incorporation of health equity (HEQ) and health systems science (HSS) into medical education is essential to training effective healthcare providers in a rapidly evolving health care system. With the goal of helping students:
(1) understand a holistic, systems-based approach to healthcare
(2) fulfill their evolving, professional roles as physicians, and
(3) understand their role in achieving the quintuple aim of healthcare: population health, optimized care experiences for individuals, reduced cost/value in care delivery, provider well-being, and health equity.

Barriers to implementing HSS from faculty include perceived complexity of learning HSS, difficulty finding time for HSS in a busy curriculum, and lack of knowledge on how to effectively teach HSS[1]. Barriers cited from students include a preference for concrete facts rivaled the perceived importance of HSS inclusion in the curriculum[2]. These challenges present opportunities to design a curriculum with end-user concerns in mind.

We introduce a novel framework uniting HSS and HEQ in an undergraduate medical education curriculum at one medical school. Our approach to teaching HSS knowledge, skills, and behaviors is rooted in a socio-ecological model, HEQ framework, and the domains of HSS.

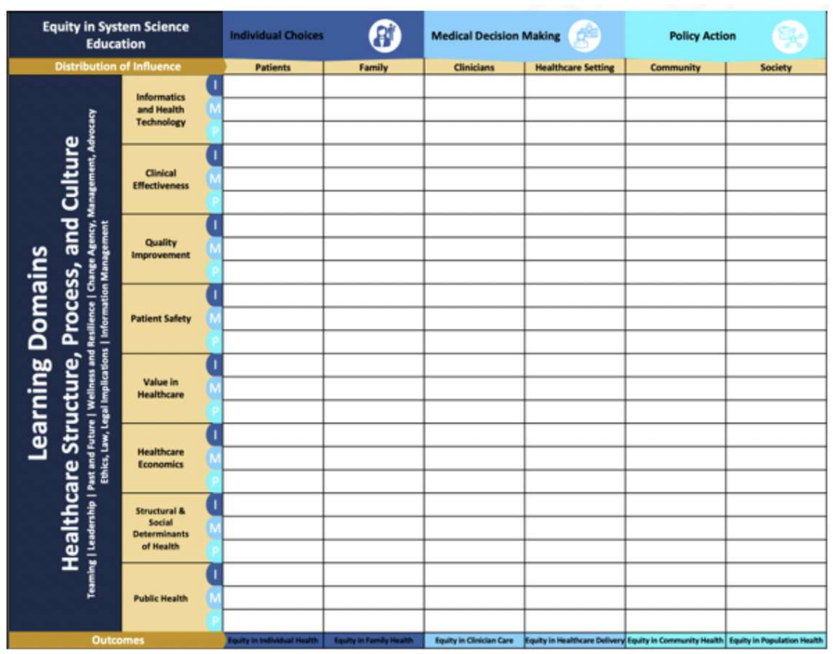

Figure 1. UCSD SOM Problem-Based Learning Framework

Methods

- Framework uniting HSS and health equity (HEQ) implemented in University of California Medical School preclinical curriculum
- Goal:
  - To develop a comprehensive framework rooted in a socio-ecological model, HEQ framework, and the domains of HSS.
- Development:
  - Process over the course of several months
  - Incorporated feedback and perspectives of faculty facilitators, leaders in the medical education and current medical students
  - Co-created across all levels of experience and expertise through:
    - Case-writing
    - Journey-mapping

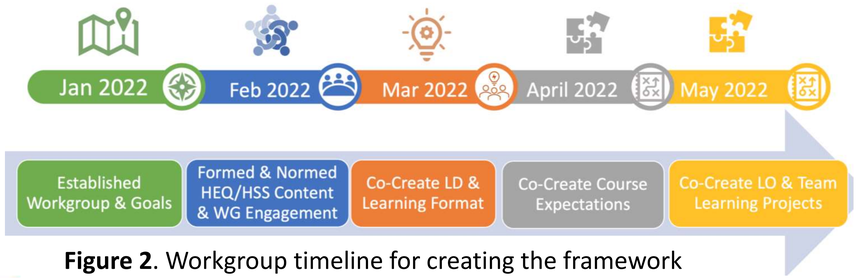

Figure 2. Workgroup timeline for creating the framework

Framework

- Student groups of ~10 students and 1 faculty facilitator
- Topics range from migrant health to firearm safety
- 8 learning domains adapted from the NIMHD Research Framework (**Figure 1**)
- 2–4 day patient cases include:
  - Panels with community experts
  - Lectures
  - Discussions
  - Project proposals
- Groups present a small project to the full class at the end of the quarter
- Bi-directional evaluations to assess student, facilitator and case quality

Conclusion/future directions

Through the implementation of HEQ concepts and a framework derived from HSS, medical students within UGME will leave with a greater comprehension of the needs of the various populations each will serve as physicians. Although still amid the curriculum launch, many crucial steps have been taken to increase the likelihood of efficacy. A group of stakeholders, charged with the development of the program curriculum, have agreed upon the fundamental framework, learning objective, and methods to dispense the knowledge to all student participants. From feedback and perspective shared by former faculty facilitators, leaders in the medical education and administration space, and current medical students across all years to create a curriculum rooted in a socio-ecological model that would offer case-based learning to offer tangible examples to students.

However, we believe there are still aspects of this curriculum that can be improved or expanded upon:

- Consistent and timely review of cases, resources, and pedologic methods
- Development of timely cases responsive to modern public health topics with incorporation of modern health technology such as electronic health records
- Training and integration of student coordinators to foster the development of future physician instructors.
- Expansion of curriculum to schools throughout the United States to test efficacy of approach.

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Full Spectrum Dermatology: Enhancing patient-provider communication regarding changes in the skin's appearance

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Needs and Objectives

- Sylvia, a first-year medical student, who identifies as a Black female, attends a dermatology lecture that includes an overview of Fitzpatrick's skin types and a discussion of eczema in "skin of color" patients.

How might racialized notions of skin color in medical curriculum impact the way she discusses and addresses the skin care needs of patients in the historically Black and marginalized neighborhood where she grew up and plans to practice?

- Reliance on Fitzpatrick's skin types and other racialized notions of the skin's appearance and terms such as "skin of color," "white skin," "black skin," "dark skin" and "light skin," may limit training with regards to basic skin biology and patient-provider communication.

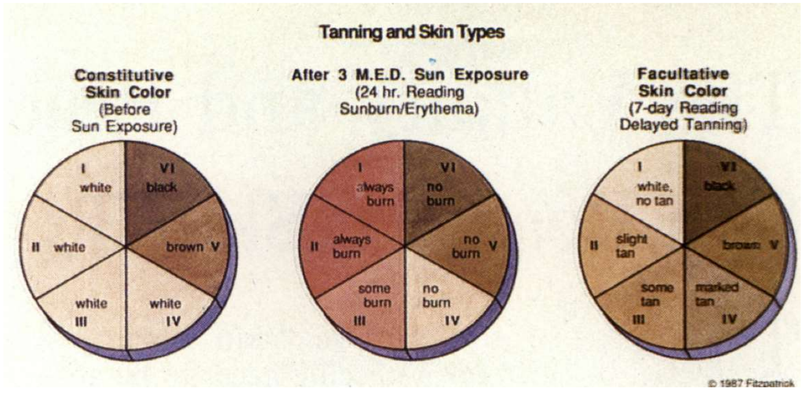


Figure 1: Fitzpatrick's overview of his phototyping system

Introduction

- *Full Spectrum Dermatology* is a proof-of-concept pilot that engages undergraduate, medical students and residents in the process of developing dermatology education modules that specifically address patient-provider communication.

Project Implementation

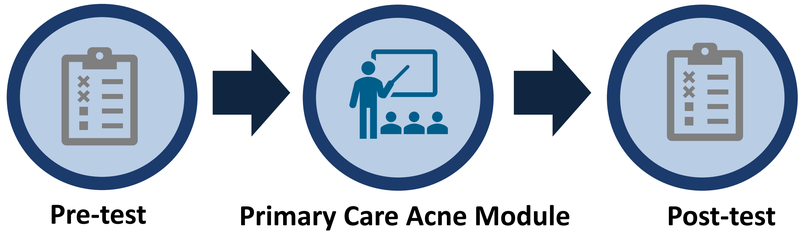
Designing Education Modules

What approaches do you, your family or friends use to describe skin tone?

What approaches to describing skin color do you feel might harm patient trust in a medical provider?

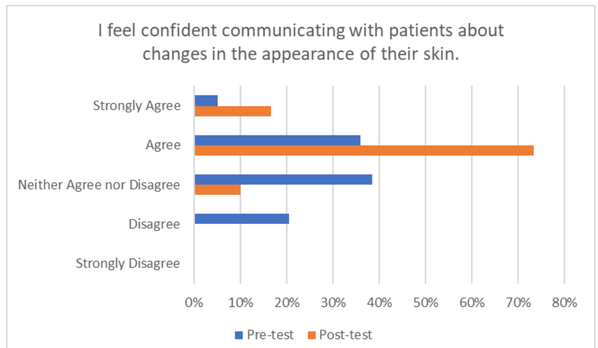
Figure 2. Slide from Full Spectrum Primary Care Acne Module

Designing Evaluations



Results and Discussion

- Following implementation of the "Full Spectrum Acne Module", we observed an increase in pediatric resident self-reported confidence discussing: 1) skin color and (2) changes in the skin's appearance.
- This proof-of-concept pilot supports further study and development of dermatology education modules that specifically address patient-provider communication.



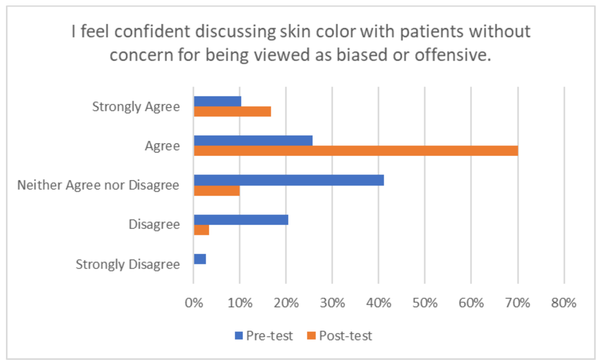


Figure 3. Comparison of pre- and post module evaluation responses completed by pediatric residents that address patient-provider communication

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