SUBWAY SUMMIT ABSTRACTS 2019
Posters

P1

Assessing and Enhancing Neurology Resident Education on Interpersonal Communication and Professionalism

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Background and goals: The ACGME mandates that residents become proficient in interpersonal communication and professionalism, but the ideal methods to achieve these milestones are unclear. We sought to understand resident and faculty perceptions about teaching these competencies, and to determine the potential role of simulation in resident education of these topics.

Design/methods: Anonymous electronic surveys were sent to neurology residents and faculty at NYU to assess their perceptions about resident education on various topics including: breaking bad news, discussing a diagnosis, disease prognostication, leading a goals-of-care discussion, disclosing medical errors, discussing risks and benefits of tPA, and communicating with members of the care team.

Results: Surveys were completed by 20 residents and 49 faculty members. The majority of residents feel comfortable with the aforementioned tasks. Less than 50% of residents noted that a faculty member had observed them performing these tasks, and less than 30% of residents received feedback on them. Residents reported that they learn best by doing, rather than by reading, observing or listening. More than 50% of faculty endorsed teaching residents about interpersonal communication and professionalism, but less than 50% of faculty reported having observed residents performing relevant tasks and less than 50% had provided feedback on such tasks. Based on these results, we developed a curriculum of eight OSCEs (objective structure clinical examinations) in the simulation center, spread across 2 years of training. These included: transitions of care, consenting for tPA, dealing with a difficult colleague, identifying an impaired resident, disclosing a medical error, discussion of prognostication, giving and receiving feedback, diagnosis of a psychogenic problem. Based on feedback from post-simulation surveys, the majority of residents felt that the OSCE stations were useful and that they would positively influence their practice of neurology in various ways.

Conclusions and next steps: The traditional method of "see one, do one, teach one" may not be effective in ensuring all trainees receive adequate experience and feedback on their skills. A simulation center curriculum allows for real time
observation and feedback by faculty on interpersonal communication and professionalism. We will continue to incorporate these OSCEs into our training program to validate a more standardized approach to competency-based development.

References:

AAMC. Assessment of Professionalism Project [online]. Accessed at: https://www.aamc.org/download/77168/data/professionalism.pdf. Accessed March 15, 2019.

ACGME. ACGME Milestones Guidebook [online]. Accessed at: https://www.acgme.org/Portals/0/PDFs/Milestones/MilestonesGuidebookforResidentsFellows.pdf. Accessed March 15, 2019.

Issenberg SB, Scalese RJ. Simulation in Health Care Education. Perspect Biol Med. 2007;51:31–46. Mareiniss DP. Decreasing GME training stress to foster residents' professionalism. Acad Med. 2004;79:825–831.

Reed DA, West CP, Mueller PS, Ficalora RD, Engstler GJ, Beckman TJ. Behaviors of Highly Professional Resident Physicians. JAMA. 2008;300:1326.

P2

Multi-Modal Remediation for Unprofessional Behavior

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Goals/objectives of study/innovation
Develop a curriculum to remediate trainees who have been identified as having problems with communication deemed as unprofessional.

Background/Relevance of Study
Trainees arrive with a variety of backgrounds and skill levels in communication. During times of stress, weakness in skillful communication may manifest as unprofessional behavior. Trainees who are unsure of themselves in a demanding unfamiliar environment are often tempted to push back in denial against reasonable criticism. Without intervention these responses may lead to disciplinary action or even termination. It is vital that these deficiencies be identified early and remediated effectively. This report is unique in the approach to remediation, and it describes the actions and their effects.

Design/Methods
Here we present our experience with two complex remediation situations. In each case, a remediation plan was designed to help in reflective practice in order to help the trainee improve their performance. The remediation was mandatory, but the structure of each plan was designed by the program directors. Each program included weekly meetings with a close mentor. Weekly reading and reflective writing assignments were assigned and reviewed by the mentor and program directors. The assignments were intended to provide scenarios that reinforce positive behavior and the underlying rationale for that behavior in the professional setting. Depth of reflection was analyzed[1] and used to aid in the feedback given to the trainee. Simulation-based scenarios were designed to stress the trainees in situations that were similar to those that precipitated the undesired behaviors. For example the trainee might be set up to counsel an uncooperative 'resident' for the same type of behavior that led to the trainee's remediation. The trainee was then debriefed by the team with video review.

Results (or anticipated results)
Trainees responded positively to the simulation exercise. The reading and writing assignments were completed with varying levels of reflection. Mentors reported improved levels of insight during conversations. Both trainees successfully completed their respective remediation programs. One reported a better understanding of the stressors that led to her communication problems. The general demeanor of

another trainee was markedly improved post remediation. The awareness of professionalism provided by the readings/reflections and the value the program/institution placed upon the trainee's success were cited factors. No further episodes of unprofessional behavior have been reported.

Conclusions/Limitations/Next Steps
Remediation of trainees for a multimodal approach with reading, reflective writing, and simulation-based experiences can lead to improvements in performance. We speculate that all trainees could benefit from this type of training.

References
McEvoy M, Pollack S, Dyche L, Burton W. Near-peer role modeling: Can fourth-year medical students, recognized for their humanism, enhance reflection among second-year students in a physical diagnosis course? *Med Educ Online.* 2016;21:31940

P3

Measuring Professionalism in Medical Curriculum: An Analysis of Mapping Course Instructional and Assessment Methods

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Professionalism has been widely noted as paramount in medical education, however its definition and application within curricula varies across institutions. The American Board of Medical Specialties (ABMS) defines professionalism as a three-pronged process that involves ethical values, knowledge/technical skills, and interpersonal abilities.1 Although most medical schools have adapted this definition and devised various methods for instructing and assessing professionalism across the curriculum2, there are still contentions about how to implement it in medicine. This research examines the mapping of professionalism educational program objectives (EPOs) at the CUNY School of Medicine, specifically analyzing the ways these EPOs are connected to session-level objectives and instructional and assessment methods. Further, we highlight the ways in which the school's mission of serving the underserved3 is addressed within the professionalism framework, and how these social justice-based objectives are instructed and assessed. Mapping data have been collected during 2018-19 for all courses/modules in 38 pre-clerkship courses and 9 clerkships through process meetings with course directors using confidential data templates. Resources used within our mapping process include the design and dissemination of an informational PowerPoint presentation describing the mapping process, samples of how to write measurable objectives, and the design and implementation of course-specific data templates. These data have been into the school's course management system, LCMS+, for analysis. Through these analyses, we pinpoint places in the curriculum where professionalism EPOs are both shallow and redundant, stimulate productive collaboration with faculty members across departments, and utilize professionalism data in curriculum reviews. Next steps include establishing the foundation of an institutional learning community where mapping supports the vision that faculty and students achieve professionalism through an articulated, transparent, and seamless curriculum.

References:
1 Ethics and Professionalism Committee– ABMS Professionalism Work Group. ABMS professionalism definition. American Board of Medical Specialties Web site. https://www.abms.org/media/84742/abms-definition-of-medical-professionalism.PDF. January 2012. Accessed March 22, 2019.
2 Helen O'Sullivan, Walther van Mook, Ray Fewtrell & Val Wass (2012) Integrating professionalism into the curriculum: AMEE Guide No. 61, Medical Teacher, 34:2, e64-e77,DOI: 10.3109/0142159X.2012.655610
3 CUNY School of Medicine. (n.d.). Retrieved March 25, 2019, from https://www.ccny.cuny.edu/csomuploaded

P4

Perceived Barriers of Applying to Medical School by Underrepresented Minorities in High School

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Objectives
The purpose of this study is to understand the perceived barriers of applying to medical school identified by high school students in the Harlem community.

Background
Despite significant efforts to improve applicant diversity in the United States between 1980 and 2016, the percentage of URMs applying to medical school has only marginally increased.[1] Within this time frame, the number of applicants who identified as black or African American increased by 1.2% and Hispanic or Latino applicants increased by 1.2%. As an outlier, the number of Asian applicants increased by 16%.[1] Efforts to engage this disparity such as "3000 by 2000", launched in 1991[2], and changes to the LCME accreditation standards to increase minority matriculants[3] have only marginally increased the percentages of non-Asian URMs applying to medical school.

Methods
MedAchieve is a 2-year program designed to inspire, educate and mentor high school students interested in medicine. Students are primarily from the Harlem community and represent diverse demographic backgrounds. Of the78 students in the program, 31% self-report as Hispanic or Latino, 31% as Black or African American, and 29% as Asian. In order to understand perceived barriers to applying to medical school, students completed a survey during the first MedAchieve session in fall 2018. Students were asked if they felt there were any barriers to becoming a doctor, and if so, what those barriers might be.

Results
In a preliminary survey of students, 64% felt that there were potential barriers to becoming a physician. The barriers most frequently identified were lack of family members who have applied to medical school (74%), cost of medical school (70%), ability to succeed in medical school (41%), and lack of guidance, support system and/or role models (26%).

Conclusions
Several perceived barriers of applying to medical school were identified in this preliminary survey. Follow-up studies are needed to track these perceived barriers beyond high school and throughout the pre-med years. Studies that assess perceived barriers of applying to medical school, as described here, help inform interventions aimed at increasing URMs in medicine.

References

1Acosta, D. et. al. (2017). "Trends in Racial and Ethnic Minority Applicants and Matriculants to U.S. Medical Schools, 1980-2016." AAMC Analysis in Brief vol. 17, num. 3.

2Nickens, H. et al. (1994). "Project 3000 by 2000 – Racial and Ethnic Diversity in U.S. Medical Schools."

Doi: 10.1056/NEJM199408183310712

3Boatright, D. et. Al. (2018). "Association Between the Liaison Committee on Medical Education's Diversity Standards and Changes in Percentage of Medical Student Sex, Race, and Ethnicity." Doi: 10.1001/jama/2018.13705

P5

Developing a Tailored LGBTQ Curriculum for a Pediatric Residency Program

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Goals/Objectives: To assess pediatric provider knowledge and comfort in caring for lesbian, gay, bisexual, transgender and questioning (LGBTQ) youth and to develop a tailored curriculum as part of a hospital-wide LGBTQ health education initiative.

Background: The majority of medical schools and residency programs lack formal education on LGBTQ health, particularly for adolescent patients. In a study of 176 U.S. and Canadian medical schools, a median of 5 hours of curriculum was spent on LGBTQ-specific content and one-third reported no hours spent on LGBTQ content at all1.

Design/Methods: Initial surveys of pediatric residents, fellows and attendings assessed current knowledge, attitudes, and curricular interests regarding LGBTQ healthcare on a variety of topics using a 5-point Likert scale. A year-long LGBTQ curriculum consisting of lectures, small group sessions, modules, articles, and case-based learning was developed based on the initial results. A second survey assessed knowledge scores using 8 multiple choice questions and evaluated current practice patterns. Post-survey results will be obtained in May 2019.

Results: In the initial survey (n=78; 50 residents, 2 fellows, 26 attendings), most providers felt they had little or no knowledge regarding pre-exposure prophylaxis (60.3%), post-exposure prophylaxis (53.9%), strategies for coming out (68%), homelessness/environmental risks (59%), gender dysphoria (62.8%), puberty blockade (76.92%), hormonal (77.92%) and surgical (80.5%) transitioning, domestic violence (57.7%), EMR logistics (88.5%) and NYC resources (79.5%). Few providers felt extremely comfortable taking a patient history about sexual orientation (33%), gender identity (12.82%), or specific sexual practices in an LGBTQ patient (14.3%). Providers were most interested in learning via lectures (62%), expert speakers (60%), and case scenarios (59%).

Conclusion: Pediatric providers at an academic institution have limited knowledge and comfort on many topics significant in the care of LGBTQ youth. Utilizing this data, we developed a tailored curriculum to improve the commitment to the provision of excellent care of LGBTQ adolescents at our hospital. We intend to evaluate the curriculum by comparing knowledge scores and assessing provider skills, attitudes, and impact on clinical practice.

References:
1. Obedin-Maliver J, Goldsmith ES, Stewart L, et al. Lesbian, Gay, Bisexual, and Transgender-Related Content in Undergraduate Medical Education. JAMA. 2011; 306(9): 971-977.

P6

Bread & Butter: A Novel Approach to Differential Diagnosis in Medicine

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Objective: We sought to develop an interactive way for medical students to generate patterns for medical diagnosis from the constellation of symptoms with which patients present.

Background: During preclinical years, medical students learn basic science and pathophysiology underlying disease processes, organized by organ system or diagnosis. However, when clinical clerkships begin, students must adapt their approaches to generate a diagnosis, starting with presenting symptoms.

Methods: Through collaboration with medical students and Internal Medicine house-staff at the Icahn School of Medicine at Mount Sinai, we developed a website called "Bread & Butter." This platform teaches students frameworks for approaching common chief complaints by discussing pertinent positives, pertinent negatives, physical exam findings, labs, and tests that distinguish one diagnosis from another. Currently, the website features three chief complaints but will feature 20 once completely launched. Users can explore each presenting symptom to understand the "do not miss" and most common diagnoses. In addition, users can understand what differentiates one diagnosis from another. Self-assessment tools allow users to test themselves to reinforce the material they have learned.

We will survey third-year medical students before they start clinical clerkships to understand baseline knowledge and ability to generate differential diagnoses. We will monitor their utilization of our platform and continue to assess how their knowledge progresses. Specifically, we will ask students to outline their approaches to common presenting symptoms and compare them to "Bread & Butter" frameworks.

Results: Preliminary focus groups have yielded overwhelmingly positive feedback, with 11/13 students agreeing with the statements, "I believe there is a lack of curriculum for teaching differential diagnoses in medical school" and "I believe this curriculum was effective in teaching

differential diagnoses." We expect to see high utilization of this website by students throughout their time on clerkships. While test preparation questions and clinical experiences will refine their abilities, students will also credit our platform with informing their approach to differential diagnosis.

Conclusion: We are developing a symptom-based framework for medical students that will allow them to transition from the disease-based approach of their preclinical years. Its interactive, concise, user-friendly format will support the next generation of physicians.

P7

Outcomes of a "Boot Camp" for Incoming Neurology Residents

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Objective: Prepare incoming neurology residents in clinical neurology via a short, intensive training period.

Background: The transition from internal medicine to neurology can be jarring for many residents, and presents a host of challenges from the complex anatomy of the nervous system to the nuances of the neurologic exam, clinical reasoning, and neurologic emergencies. Traditionally our program offered an introduction to neurology through a series of didactics intermixed with clinical duties over several months. This method was limited, however, by anxiety over caring for patients while still learning new material with conflicting clinical duties. We sought to develop an alternative introductory course to address these limitations.

Methods: A one-week intensive "boot camp" was developed for incoming residents. in place of clinical duties for the first week of July, they completed a series of interactive didactics covering basic neuroanatomy and physiology, the neurologic exam, urgent clinical presentations (stroke, seizure, headache, neuromuscular crises), neuroradiology, and lumbar punctures. The week concluded with a case-based review. To assess efficacy, residents were sent a post-week self-assessment (with both Likert scales and write-in sections) regarding their comfort and preparation for clinical neurology. Faculty members were sent a survey several months later asking them to compare that cohort's preparation to that of the preceding five years.

Results: Among responding residents (n=6), impressions were positive. All felt more comfortable in the topics discussed, with greater benefit derived from interactive sessions (such as those for the neurological exam) than from lecture-based sessions. Faculty (n=16) reported an improvement in preparation for the wards, clinics and consults, with particular gains in exam quality and knowledge of neuroanatomy.

Conclusions: A one-week "boot camp" may better prepare incoming residents for clinical neurology, and mitigate anxiety related to transitioning to a new residency program.

P8

Fellow-Driven, Flipped Classroom Curriculum Redesign in Pediatric Critical Care Medicine

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Goals of Innovation:
To improve the trainee engagement and satisfaction of the Pediatric Critical Care Medicine (PCCM) fellow core didactic lecture series by transitioning from faculty-lead lectures, to fellow-led, case-based, interactive discussions employing flipped classroom model.

Background:
The flipped classroom is being applied with progressively increasing frequency in undergraduate, and now graduate, medical education. Demonstrating increasing popularity in a recent national survey of Internal Medicine residency programs, 12% of programs were either "somewhat often" or "very often" using the flipped classroom model.1 In a systematic review of graduate medical educational programs that utilize the flipped classroom, 13 specialties were represented, including 3 in Pediatrics.2 There is no literature demonstrating its utilization in PCCM fellowship training.

Design:
For the academic year 2017-2018 the fellow lecture series was reformatted to maintain the same content as in years prior but content elements were assigned to a faculty/fellow pair for delivery rather than a faculty member alone. The pair met before each session to disseminate relevant, required prereading, and generate a lesson plan. The conferences were case-based discussions applying the principles of the readings. Following each session we generated feedback about the utility of each conference presentation and the new format was evaluated quarterly amongst fellows and faculty. At the conclusion of the academic year, all of the lecture topics were assessed and edited. For 2018-2019 the conference series maintained the flipped-classroom format, with the amended topic list. We are continuing to collect feedback after each session and quarterly.

Results:
Fellows exposed to the lecture-based conference series much preferred the flipped-classroom model. Junior fellows who have only experienced the flipped-classroom model find it an effective way to learn and feel engaged in the process. The counterbalance measure of time the fellows spend preparing conference lesson plans does not outweigh the benefits of working through pathophysiology before the session with enough understanding to teach a colleague.

Conclusions/Limitations/Next Steps:
There has been increased trainee satisfaction with flipping the fellow core conference series. We recognize that this is only a single program QI initiative. However, we hope to share our experience via a medical educational portal for others to potentially use.

References
1) Wittich C, et al. Flipped Classrooms in Graduate Medical Education: A National Survey of Residency Program Directors. Academic Medicine 93 (3):471- 477, Mar 2018.
2) King AM, Gottlieb M, Mitzman J, Dulani T, Schulte SJ, Way DP. Flipped the classroom in graduate medical education: A systematic review. Journal of Graduate Medical Education: February 2019. 11 (1): 18-29.

P9

Impact of Teaching Modality on Knowledge Retention in the 2nd year Hematology Pathophysiology Course

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Objectives & Background: Concordant with a trend in medical education, there has been increasing time devoted to interactive modalities in the second-year hematology curriculum, which teaches many topics through multiple modalities. In our review, there are no published data establishing whether multimodality teaching impacts long term retention of medical knowledge. We plan to evaluate hematology medical knowledge retention over the three years following completion of the second-year hematology pathophysiology course. We will evaluate which particular teaching modalities, or, whether the use of multiple modalities, as compared to traditional lecture alone, improve knowledge retention.

Methods: All second-year medical students at the Icahn School of Medicine at Mount Sinai were eligible. Students participating will complete five multiple choice quizzes: prior to the course, after the course, Spring of third year, Spring of fourth year, and at the end of intern year. Participants be surveyed about which modalities the student utilized during the course and any intervening exposure to hematology between quizzes.

Results: Thirty-four students (24%) in 2018 and 36 students (24%) in 2019 enrolled and completed the pre-course quiz. As expected, we found low pre-course knowledge with correct answer rates (mean quiz score 31%) likely attributable to chance. The immediate post-course quiz showed a significant improvement in fund of knowledge (mean quiz score 78%) with 28 students participating from the 2018 cohort and 31 students from the 2019 cohort (84% retention). An important limitation was a suboptimal participation rate. Third year quiz results will be collected shortly for the 2018 cohort and will be available in April.

Conclusion: We demonstrated that pre-course knowledge was low across different topics covered in the course and improved after the course, as expected. Immediate post-course understanding did not vary by the teaching modality or use of multiple modalities. We will report whether this trend continues after one year. We identified a suboptimal participation rate as a limitation to the generalizability of our future results. Moving forward, we hope to provide insights based on long-term retention to inform the best use of limited instruction time.

P10

LCME 7.3: Hands-On Scientific Research for the Classroom

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Goals/Innovation: Our goal is to develop a workshop for medical students on the scientific method and data analysis using real data from the 2013-2014 National Health and Nutrition Examination Survey (NHANES). The workshop will supplement the biomedical statistics curriculum.

Background: LCME standard 7.3 states that faculty should ensure the "medical curriculum includes instruction in the scientific method and in the basic scientific and ethical principles of clinical and translational research."

Design: The workshop is designed for a two-hour small group session in a classroom with computers. For the first hour and a half, each group develops an original hypothesis and tests it using the NHANES database. The students access an Excel workbook, which contains instructions and the organized NHANES laboratory, medical, and demographic data. The available instructions help them develop and test their hypotheses. Demonstration videos and a "Help" tabs shows students how to conduct basic t-tests, correlation analysis and how to use Pivot Tables to analyze the data. Students are then asked to interpret their results. The last half hour is designated for the groups to briefly present their hypotheses, statistical tests, and findings. After the presentations, students conduct a short discussion of possible scientific/medical/societal reasons for the various findings and the ethical considerations in conducting the experiments and interpreting and presenting the results.

Pilot Study: Our pilot of a single group of four students demonstrated the viability and value of the project. In the two hours allotted, the group tested two hypotheses: that levels of creatinine/levels of albumin are statistically different between men and women. The students then discussed possible reasons for the differences and the implications and ethical considerations involved. They reported increased enthusiasm in learning statistics, conducting research, and working with data. We anticipate similar success when conducting the activity with the entire class of students.

Next Steps: We will run this activity with the second-year medical student class in the fall. Surveys assessing students' comfort with data analysis and the scientific method will be distributed before and after. Students are encouraged to further pursue and present their findings at university-wide and professional meetings.

References:
Brimacombe MB. Biostatistical and medical statistics graduate education. BMC Med Educ. 2014 Jan; 14:18.

Dong C, Goh PS. Twelve tips for the effective use of videos in medical education. Med Teach. 2015 Feb; 37(2):140-5.

Evans KH, Thompson AC, O'Brien C, Bryant M, Basaviah P, Prober C, Popat RA. An Innovative Blended Preclinical Curriculum in Clinical Epidemiology and Biostatistics: Impact on Student Satisfaction and Performance. Acad Med. 2016 May; 91(5):696-700.

Ferguson PC, Caverzagie KJ, Nousiainen MT, Snell L; ICBME Collaborators. Changing the culture of medical training: An important step toward the implementation of competency-based medical education. Med Teach. 2017 Jun; 39(6):599-602.

Liaison Committee on Medical Education, Functions and Structure of a Medical School, Standards for Accreditation of Medical Education Programs Leading to the MD degree. LCME Functions and Structure of a Medical School, March 2018.

Rosenberg ME. An Outcomes-Based Approach Across the Medical Education Continuum. Trans Am Clin Climatol Assoc. 2018; 129:325-340.

Sullivan LM, Hooper L, Begg MD. Effective practices for teaching the biostatistics core course for the MPH using a competency-based approach. Public Health Rep. 2014 Jul-Aug; 129(4):381-92.

P11

Plastic Surgery Milestones Competencies and Chief Year Cosmetic Case Volume: Is There a Relationship?

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Objective: To assess the relationship between Plastic Surgery Milestones and chief year cosmetic case volume.

Background: The Milestones program in Plastic Surgery was established by the Accreditation Council for Graduate Medical Education (ACGME) in 2014 in order to standardize evaluations in reconstructive, cosmetic, and general competencies foundational to Plastic Surgery education. However, despite the widespread belief that clinical exposure is fundamental to competency achievement, there have been no studies evaluating the association between achievement of Plastic Surgery Milestones competencies and volume of cases performed in those clinical areas. Therefore, we sought to initiate this investigation by evaluating the association between volume of cosmetic cases performed by chief residents and their levels of achievement in respective Milestones competencies.

Methods: A retrospective review of operations performed by chief residents at our primary training institution was conducted for eight residents graduating from 2015 – 2018. Cosmetic cases were isolated and classified by type of operation. The association between cosmetic case volume and levels of achievement in respective Milestones competencies was performed using Spearman's rank correlation coefficient ($p < 0.05$).

Results: No significant association existed between volume of chief year cosmetic cases at our primary training institution and levels of achievement in Milestones competencies in Facial Aesthetics Patient Care ($r = 0.53$, $p = 0.18$), Facial Aesthetics Medical Knowledge ($r = -0.58$, $p = 0.25$), Non-Cancer Breast Surgery Patient Care ($r = 0.43$, $p = 0.29$), Non-Cancer Breast Surgery Medical Knowledge ($r = -0.58$, $p = 0.13$), Cosmetic Trunk and Lower Extremity Patient Care ($r = 0.23$, $p = 0.64$), and Cosmetic Trunk and Lower Extremity Medical Knowledge ($r = -0.58$, $p = 0.25$).

Conclusion: The lack of significant association between chief year cosmetic case volume and levels of achievement in respective Milestones competencies potentially supports the position that competency achievement in surgical education does not have a linear relationship with clinical exposure. However, the minimal variation of Milestones levels achieved by chief year residents may have limited our ability to detect a significant association. Future studies should investigate the relationship between Milestones competencies and resident case volume throughout all years of Plastic Surgery education.

P12

A Novel Method for the Measuring Institutional Impact of a Near Peer Medical Educator Program

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Background
SUNY Downstate's Near Peer Educator Program (NPEP) is a student-coordinated organization that recruits and trains medical students to teach their peers under faculty supervision. Though this model is becoming prevalent in US medical schools, no study has provided a method for quantifying and assessing the institutional impact of a peer teaching program.[1][2] This study develops an approach to quantify the growth of an NPEP and its impact on the institution's curriculum.

Methods
This is a retrospective analysis of NPEP recruitment logs. All Near Peer Educators are required to submit their names to this log before teaching a session. Teaching hours were analyzed by comparing the number of peer educators per class year as well as the number of sessions taught by each near peer teacher by class year. Additional trends studied but not included here were participation by gender, subject matter and month. Linear regressions, one-sample and two-sample t-tests were performed using Microsoft excel (IBM®, v24).

Results
A total of 227 students have led 589 didactic sessions amounting to 1767 teaching hours over the past 4 years. Participation in the program has increased with each college of medicine (COM) class year: COM2017(40), COM2018 (36), COM2019 (47) and COM2020 (61) (linear regression, $R^2= 0.84$, $\beta = 0.92$, $p=0.07$). The average number of teaching sessions per student increased with each successive class year. Two sample tests revealed significant difference between COM2017 and COM2018 ($p=0.04$) as well as between COM2018 and 2019 ($p=0.049$). Additionally, COM 2019 (n=184) taught more classes overall than COM2018 (n=104) ($p<0.01$). Additional data available for presentation.

Conclusions
We have shown a quantifiable and reproducible template for identifying successful recruiting tactics, gauging student involvement over time and measuring the impact of the near peer educator program at SUNY Downstate. This model may apply to other institutions.

References
1 de Menezes S, Premnath D. Near-peer education: a novel teaching program. *Int J Med Educ.* 2016;7:160-7. Published 2016 May 30. doi:10.5116/ijme.5738.3c28

2 Tolsgaard, M. G., Gustafsson, A., Rasmussen, M. B., HØiby, P., Müller, C. G., & Ringsted, C. (2007). Student teachers can be as good as associate professors in teaching clinical skills. *Medical teacher*, *29*(6), 553-557.

P13

Clinical Science Inquiry (CSI) — A Just-in-Time Mobile Platform for Integrating Clinically-Relevant Basic Science Concepts into the Clerkships

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Goals/objectives of study/innovation
To support longitudinal learning, without overwhelming student with an already heavy workload, NYU School of Medicine used a survey platform, Qualtrics, to develop a series of 5-minute formative quizzes to provide just-in-time basic science concepts in a clinically-relevant context.

Background/Relevance of Study
It is vital that students continue to identify the connections between foundational medical knowledge (basic sciences) and the care that they deliver to their patients. Data, including students' feedback, often indicate that there are gaps in basic science exposure and the application of pre-clerkship basic science teaching in the clinical years, specifically during clerkships. However, it is challenging to incorporate basic science concepts into the clerkship curriculum due to:
- o time constraints to introduce additional didactic educational components to an existing clerkship curriculum that stresses clinical, rather than basic science concepts
- o the shortfall of clerkship faculty who feel comfortable with basic science instruction

It is, therefore, important to find innovative ways to effectively integrate basic science education into clinical clerkships without requiring substantial time and faculty effort.

Design/Methods
A mobile-friendly, just-in-time Clinical Science Inquiry (CSI) tool e-mails the students 2-3 clinically relevant basic science questions every week during their clerkships.

The design and implementation characteristics of the CSI are as follows:
- Basic science areas, based on student feedback, included Pathology, Microbiology, Pharmacology, Laboratory Medicine
- Clinical content that can best integrate basic science topics are identified in conjunction with the individual clerkship director(s).
- Questions that include a clinical vignettes in the stem are written in multiple-choice format, and are accompanied by in-depth explanation of both correct and incorrect choices.
- Two questions are scheduled to be delivered per week directly to the learners' email during each clerkship.

- Learners' completion of the questions are tracked and analyzed.

Results
- Completion
  - Since July 2018, 2 clerkship programs (OB/GYN and Pediatrics) have launched the CSI in their clerkships.
  - In total, more than 100 clerkship students completed 20 CSI questions.
  - The completion data shows that more than 90% of students have completed all 20 questions.
- Student feedback
  - More than 90% reported that CSI was a helpful learning tool in providing clinically relevant basic science concepts.
  - More than 80% evaluated the quality of CSI either "good" or "excellent"
- Student behavior
  - Students have spent about 2-6 minutes for 2-3 questions per week

Conclusions/Limitations/Next Steps
We have learned that:
- it takes significant effort to write meaningful questions
- it is important that clerkship directors highlight the importance of CSI to the learners
- it is important to revisit the questions as part of a continuous quality improvement process.

We plan to introduce the program into all other clerkships, and invite residents to serve as questions reviewers.

Ultimately, a decision will need to be made about how this program will be incorporated into the student's clerkship record.

References
Perin, D. (2011). Facilitating student learning through contextualization: A review of evidence. *Community College Review*, *39*(3), 268–295. http://doi.org/10.1177/0091552111416227

Van Merri??nboer, J. J. G., & Sweller, J. (2005). Cognitive load theory and complex learning: Recent developments and future directions. Educational Psychology Review (Vol. 17). http://doi.org/10.1007/s10648-005-3951-0

P14

A Student Led Approach to Learning Medical Foundations through Clinical Decision Rules in Emergency Medicine

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Background:
The approach to medical education should change. Active learning is well established as most effective, yet course directors are slow to step away from traditional lecture presentations. Widespread adoption of a "Flipped Classroom" model into Emergency Medicine Residency curricula has been successful in maintaining learner engagement and training lifelong learning skills. Oddly, these types of sessions do not seem to have significant presence at the Sub-Internship level. As part of a larger curriculum aimed at teaching lifelong learning skills, we developed a novel Flipped Classroom session specifically geared towards the educational needs of sub-interns in Emergency Medicine.

Design/Methods:
Students pre-read assigned materials and come prepared to discuss them in the session. Discussion initially occurs in small groups and then generalizes to full classroom involvement, which is facilitated by a faculty member. The session focuses on clinical decision rules, which allows seamless application of classroom knowledge to clinical application by teaching a basic foundation of clinical medicine. Topics include the HEART score[1], the PERC rule[2], Head CT Trauma Rules[3], and appropriate evaluation of ectopic pregnancies[4]. The sources are from notable Free Open Access Medical education (FOAMed) resources, giving students an early introduction and exposure to FOAMed-based learning as they embark on their journey outside of the formal education system. What makes this session so successful is that it is student led and moderated with faculty facilitators.

Results:
Data from anonymous exit surveys show that students find this flipped classroom session to be incredibly successful overall, as 104 of 121 (86%) responses prefer this to a standard lecture. Specific feedback regarding the lecture is also used to help guide and shape the session for future rotators, giving the students ownership and lending this session a true "for the students, by the students" mentality.

Conclusions:
A flipped classroom module for emergency medicine sub-interns can be an effective means to expose students to the appraisal of FOAMed, teach core clinical practice concepts and maximize learning engagement. This student-led and moderated session is a favorite in our rotation and reinforces multiple aspects of our lifelong learning curriculum.

References:
http://rebelem.com/management-and-disposition-of-low-risk-chest-pain/

https://litfl.com/puzzling-out-the-perc-rule/

https://www.aliem.com/2011/05/paucis-verbis-head-ct-rules-trauma/

http://www.emdocs.net/ectopic-pregnancy/

P15

***The Lifelong Learning Initiative: An Emergency Medicine SubInternship
Curriculum Promoting Resilience and Preventing Burnout***

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Background: In a rapidly changing healthcare system, our responsibility to prepare students for medical practice requires new scrutiny. While medical students begin with lower rates of burnout than matched non-medical peers, 1 they rapidly reach up to 49% burnout rates, and that burnout persists through residency and into early physician careers. 2 As wellness takes center stage in our professional discourse, we have an obligation to consider what role the current state of learning in medicine plays in contributing to burnout, and if expanding our focus beyond traditional core content can have a positive impact.

Design/Methods: We hypothesize that Lifelong Learning skills such as an active self-learning narrative, learning networks and educating others can be taught and will work to increase intrinsic goal orientation and thereby reduce burnout in students who have completed our Emergency Medicine sub-internship. The Lifelong Learning Initiative (LLI) is a curriculum involving small group sessions, flipped classroom, self-evaluation and a final project all aimed at teaching medical students the skills necessary to be effective lifelong learners. We plan a longitudinal cohort study to test the effect of the LLI on students' ability to cope with the transition from medical school to residency. Participants shall be evaluated over a 2-year period for evidence of burnout as well as retention of core objectives of the LLI.

Anticipated Results: In its first year of implementation, the curriculum was overall very well received by students who felt that it was both unique and beneficial to their future learning based upon exit survey data. We anticipate reduced burnout scores as measured by the Maslach Burnout Inventory in students who retain the core learning objectives of the LLI.

Conclusions: We believe that curricula designed to help students reconnect with what learning means to them, providing them with the tools to strengthen that connection, and creating learning opportunities to inspire them, can have a positive impact on students working to prepare themselves for the challenges of residency. Teaching lifelong learning can transform our current state of medical education from a locus of stress and burnout into a source of professional fulfillment and personal resilience.

Bibliography:
1. Brazeau CM, et al. Distress among matriculating medical students relative to the general population. Acad Med. 2014 Nov;89(11):1520-5. doi: 10.1097/ACM.0000000000000482.
2. Dyrbyre LN, et al. Burnout among U.S. medical students, residents, and early career physicians relative to the general U.S. population. Acad Med. 2014 Mar;89(3):443-51. doi: 10.1097/ACM.0000000000000134.

P16

Utilizing 'Resident as Teacher' Training to Improve Noon Conference Evaluations

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Objective: To implement a noon conference evaluation system by the designated 'Teach' resident and compare the evaluations to those of the pediatric residents.

Background: The ACGME requires residency programs to create a curriculum of educational sessions for residents but there are few studies that examine their evaluation, with one factor being poor response rates to evaluation requests. At our institution, residents complete a required teaching rotation that uniquely trains and positions them to implement and evaluate didactics and apply their skills to the evaluation of noon conferences to enact positive change.

Methods: Based on resident focus group feedback, the plus-delta evaluation tool was adapted from the APA to be used in this context. During their teaching rotation, residents completed the evaluation tool, consisting of 5 Likert scale questions and 2 free text plus-delta questions. For comparison, all residents were given evaluations for one week during each quarter of the year. Analysis included descriptive statistics and comparison of resident and Teach resident quantitative responses via t tests. Themes for the components of effective noon conferences were explored via qualitative analysis of plus-delta responses.

Results: Noon conferences were evaluated from July 2017 to Oct 2018 with 242 resident evaluations and 45 Teach resident evaluations. Average quantitative scores are shown in Table 1. Teach resident evaluations were consistent with resident evaluations in EBM integration and session relevance but were significantly lower in the domains of session logistics, engagement, and learning outcomes. Themes in the qualitative analysis were interrelated and focused on interactive, case-based, clinically relevant information that engaged residents and gave them easily accessible resources. Teach resident responses were more robust and offered more actionable feedback than residents at large.

Discussion: Residents during their teaching rotation offer a practical source of conference feedback. Consistent with the training they receive during their rotation, these residents are able to provide more critical, concrete and actionable suggestions for improvement, making them an ideal source for otherwise often missed opportunities for evaluations and feedback. Future work will focus on using the evaluation results to create guidelines to improve the educational impact of conferences.

References:

1. Accreditation Council for Graduate Medical Education. ACGME Program Requirements for Graduate Medical Education in Pediatrics. July 2016.

2. Hill S, Butler D, Guse C. Conference Formats in Family Practice Residencies. Society of Teachers of Family Medicine. June 2000.

3. Sawatsky A, Zickmund S, Berlacher K, Lesky D, Granieri R. Understanding Resident Learning Preferences Within an Internal Medicine Noon Conference Lecture Series: A Qualitative Study. Journal of Graduate Medical Education. March 2014.

4. Fraser T, Sargsyan Z, Bagget T, Baggett M. Quantitative Study of the Characteristics of Effective Internal Medicine Noon Conference Presentations. Journal of Graduate Medical Education. May 2016.

5. Copeland H, Longworth D, Hewson M, Stoller J. Successful Lecturing A Prospective Study to Validate Attributes of the Effective Medical Lecture. J Gen Intern Med. June 2000.

6. Ginsburg S, Gold W, Cavalcanti R, Kurabi B, McDonald-Blumer H. Competencies "Plus": The Nature of Written Comments on Internal Medicine Residents' Evaluation Forms. Academic Medicine. October 2011.

7. Natt N, Dupras D, Schultz H, Mandrekar J. Impact of Electronic Faculty Evaluation on Resident Return Rates and Faculty Teaching Performance. Medical Teacher. February 2006.

8. Codone S. Getting Immediate Student Feedback the Plus/Delta Way. Faculty Focus. November 2011. [http://www.facultyfocus.com/ articles/teaching-and-learning/getting-immediatestudent-feedback-the-plusdelta-way/]

9. Dick B. Qualitative Evaluation for Program Improvement. IIR Conference on Evaluation. September 2001. (http://www.aral.com.au/DLitt/DLitt_P62qeval.pdf)

Table 1: Mean evaluation scores for Teach resident and all resident evaluations

	Teach Resident	All residents	P-value
Was this session well planned and run?	4.73	4.79	0.02
Did the session keep you engaged?	4.16	4.35	0.02
Did the session appropriately integrate EBM?	4.25	4.27	0.18
Was the session relevant?	4.75	4.64	0.15
Did the session teach you what you hoped to learn?	4.29	4.51	0.02

P17

Can Self-Regulated Learning Theory Guide Learning Task Design?

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Purpose:
The benefits students derive from utilizing the steps Self-Regulated Learning (SRL) Theory are extensive (Duffy et al., 2004; Zimmerman & Kitsantas, 1996). The degree to which students innately employ these steps and whether learning formats influence the specific steps utilized is less clear. This retrospective study examined how students utilized and valued components of the SRL Theory when completing mandatory online modules for a systems-based course.

Methods:
An anonymous, electronic survey was sent to all third-and fourth-year students at Albert Einstein College of Medicine to assess students' experience of online lectures in a second-year Gastroenterology course. The survey assessed whether students utilized the steps of the SRL Theory, their perceived value of utilized steps, and whether the learning task was conducive to employing SRL steps (Ormrod 2016). Fisher's Exact Test was used to examine the association between use of SRL Theory steps and their perceived value (4-point Likert scale). Phi Correlation (Φ) was computed to examine directionality of the correlation.

Results:
A total of 171 survey responses (171/360,47.5%) were collected. Planning was most utilized (50%) followed by Attention Control (41%), Strategizing (38%), Goal Setting (26%), Reflection (21%), and Seeking Help (8%). Most students who did not utilize SRL steps thought they would have been useful (>50% for each). Significant correlations between utilization and perceived value were found for Strategizing ($p < 0.028$, $\Phi = 0.21$) and Reflection ($P < 0.041$, $\Phi = 0.19$). Conversely, students who did not Plan were more likely to perceive planning as valuable compared to those students who did Plan ($p < 0.005$, $\Phi = -0.27$).

Conclusion:
Most students that did not utilize steps of SRL Theory responded that it would have been useful to have done so after simply being introduced to that step in the survey. This mandatory video lecture assignment differentially stimulated performance-oriented steps of the SRL Theory (Planning, Attention Control, Strategizing) while steps like Reflection were marginally used. Our results suggest that for mandatory online lectures, performance tasks are more readily a part of students' study repertoire. Adding a Reflection component or modifying the learning task to a modality with higher engagement could rectify this. Further validation of these results in a multi-centered study is needed to contribute to more learning task designs that increase student engagement.

References
Duffy, F. D., Gordon, G. H., Whelan, G., Cole-Kelly, K., Frankel, R., Buffone, N., . . . Langdon, L. (2004). Assessing competence in communication and interpersonal skills: the Kalamazoo II report. Acad Med, 79(6), 495-507.
Zimmerman, B. J., & Kitsantas, A. (1996). Self-regulated learning of a motoric skill: The role of goal setting and self-monitoring. Journal of Applied Sport Psychology, 8(1), 60-75. doi:10.1080/10413209608406308
Ormrod, J. E., (2016). Human Learning. Harlow, Essex: Pearson Education Limited.

P18

Flipped Classroom Model to Teach Embryology of the Central Nervous System

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Objective/Purpose of innovation:
To assess the quality of resources created to teach embryology using a flipped classroom model.

Background:
Medical students consider embryology to be a difficult subject to grasp and apply in clinical practice (Popovici et al. 2017). One way to help students understand this seemingly difficult subject is by providing resources (videos, articles etc.) that allow them to study the topic on their own as an out-of-class (OOC) activity and arrive prepared for the in-class (IC) activities (quizzes, discussions etc.) that focus on application-based learning (Anderson and Krathwohl 2001). Here, we present a flipped classroom model that combines online and face-to-face learning experiences (Garrison and Vaughan 2008) to teach the embryology of the CNS.

Design:
The study is comprised of OOC and IC activities. During the OOC activity, students watched four videos on the embryology of the CNS, took online quizzes and also read relevant documents. In the IC activity, faculty presented clinical cases and factual questions related to CNS development using PollEverywhere, which were followed by a think-pair-share activity and additional MCQs. Faculty then commented on both the correct and incorrect answer choices. Finally, students completed a voluntary online evaluation survey regarding this flipped-classroom experience.

Results:
The total number of responses to the survey were 35 (out of 185). The answers to five questions regarding the content and quality of the videos averaged 4.45 (out of 5), 32 students (91.43%) believed the videos were just the right length; 35 (68.57%) students stated that the interactive quiz reinforced the content learned in the video. The answers to four questions regarding the effects of the OOC activity on the IC activity and the effects of both activities on the overall learning experience averaged 4.23 (out of 5).

Conclusions:
The quizzes and videos significantly enhanced the learning experience. The quiz interface needs improvement to better reinforce learning of the video content. The OOC activities contributed to better learning of IC activities and both activities enhanced peer-to-peer interaction in class and the overall

learning experience. Limitations: data not representative of entire class; long-term effects on retrieval of information not tested.

References:
Anderson LW & Krathwohl DR 2001. *A Taxonomy for Learning, Teaching, and Assessing: A………* NY: Longman, Garrison, & Vaughn 2008

Blended learning in higher education:Framework, principles, and guidelines. San Francisco, Jossey-Bass.

Popovici R, Pristavu A & Sava A (2017) Three dimensional ultrasound and hdlive technology as possible tools in teaching embryology. *Clin Anat* 30 30**:**953-957

P19

An Urban Instance of Project ECHO for Dementia Education – Improving Provider Knowledge in Face of the Silver Tsunami

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Objective: To provide training for Brooklyn-based primary care providers (PCPs) in the management of Dementia via implementation of project ECHO (Extension for Community Healthcare Outcomes).

Background: Based on national data, we estimate that approximately 50,000 elders in Brooklyn, NY suffers from dementia. Brooklyn's only comprehensive Alzheimer's disease is located at SUNY Downstate Medical Center. No more than 10% of the 50,000 elders living with dementia are being served by specialists, while the remainder are being served by PCPs. Many PCPs do not believe they can fulfill the roles expected with regards to Alzheimer's dementia[1] and express a strong desire for specialist consultation[2]. Project ECHO is a collaborative medical education model that aims to increase workforce capacity in specialty care for underserved areas via videoconferencing technology with specialist mentors. While ECHO has been used to address the urban-rural disparity in specialist care access, little has been published on the use of Project ECHO to address urban health disparities[3-6].

Design: We plan utilize Project ECHO to extend Dementia education to the providers and underserved populations of Brooklyn, NY. Providers will be invited to enroll in the Project ECHO curriculum and tracked longitudinally. The program will include biweekly, 1-hour CME sessions with a brief didactic followed by case management discussions. We will deliver a curriculum that incorporates: 1. Normal Cognitive Aging; 2. Dementia Screening / Early Diagnosis; 3. Management of Dementia; 4. Neuropsychiatric Syndromes and Management; 5. Social Programming for Dementia; 6. Dementia Caregiver Issues and Services. Following each case discussion, dementia specialists will provide evidence–based management recommendations.

Anticipated Results: We anticipate that Project ECHO programming will improve providers': knowledge of dementia management, knowledge of dementia screening, disease recognition, and self-efficacy. Program evaluation will include measures of provider: satisfaction, knowledge gains, and practice change.

Next Steps: 1. Partnership and training with the University of New Mexico for participation in Project ECHO – in progress; 2. Curriculum development – in progress; 3. Partnership with the Brownsville Multiservice Family Health Center (46 primary care physicians) for program delivery; 4. Submission for IRB approval; 5. Program implementation and evaluation; 6. Dissemination of results.

References:
1. Brody, A., & Galvin, J. E. (2013). A Review of Interprofessional Dissemination and Education Interventions for Recognizing and Managing Dementia. *Gerontology and Geriatrics Education*, *34*(3), 225-256.
2. Reuben D, Levin J, Frank J, et al. Closing the dementia care gap: can referral to Alzheimer's Association chapters help? Alzheimers Dement 2009;5:498–502.
3. Catic AG, Mattison ML, Bakaev I, Morgan M, Monti SM, Lipsitz L. ECHO-AGE: An Innovative Model of Geriatric Care for Long-Term Care Residents with Dementia and Behavioral Issues. Journal of the American Medical Directors Association. 2014;15:938–

942.

4. Salgia RJ, Mullan PB, McCurdy H, et al. The educational impact of the specialty care access network–extension of community healthcare outcomes program. Telemedicine and e-Health. 2014;20:1004–1008. doi: 10.1089/tmj.2013.0302.

5. Fisher E, Hasselberg M, Conwell Y, et al. Telementoring primary care clinicians to improve geriatric mental health care. Popul Health Manag. 2017;20:342–347.

6. Sockalingam S, Arena A, Serhal E, et al. Building provincial mental health capacity in primary care: an evaluation of a project ECHO mental health program. Acad Psychiatry.2017;7:1–7.

P20

Improving Public Health Awareness in Harlem through Nutrition Education of Local High School Students

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Objectives
MedAchieve aims to promote healthier choices and the spread of nutritional information within the community through the education of Harlem high school students.

Background
In the New York City neighborhood of Harlem, the rate of obesity and diabetes is concerning. Among all NYC neighborhoods, East Harlem ranks fifth in avoidable adult diabetes hospitalizations, more than twice the Manhattan and citywide rates (King et al., 2015). The need for health education, especially in disease prevention, is critical. In this pursuit, MedAchieve, a mentorship program led by medical students of Touro College of Osteopathic Medicine, designed an interactive lesson on nutrition for medically-interested high school students in the Harlem community.

Methods
This lesson described the process of interpreting a nutritional label and the intricate relationships between diet and metabolic disorders. In addition, the complications of high fructose corn syrup and a high sugar diet were discussed, especially in relationship to their effect on diabetes and obesity. Afterwards, high school students were assigned with a hands-on task to choose particular snacks out of a variety of options. They were encouraged to elaborate on the nutritional value of their choice using nutritional labels and to provide evidence of why it would be considered a healthy option.

Results
Surveys of the high school student participants given prior to the session demonstrated 62.5% of them had a relative with diabetes, only 35% said that the nutrition label influences what they eat, and 12.5% self-reported being a "healthy eater". After the session, survey results stated that 64.7% of students will read nutrition labels going forward and over 75% of students reported that will discuss the nutritional information that they learned with their families.

Conclusion
It is clear that students gained an appreciation of nutritional labels and the importance of nutrition on overall health and well-being. This interactive session addressed a growing need for spreading awareness about disease prevention, but more follow up of both the students and their families is needed to assess whether this information was relayed and whether any action was taken in response.

References:
King L, Hinterland K, Dragan KL, Driver CR, Harris TG, Gwynn RC, Linos N, Barbot O, Bassett MT. Community Health Profiles 2015, Manhattan Community District 11: East Harlem;

2015; 11(59):1-16. https://www1.nyc.gov/assets/doh/downloads/pdf/data/2015chp-mn11.pdf

P21

Developing a Medical Student-Run Auditory Screening Program-Listening to the Community and Addressing Concerns

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Context: 1 in 6 Americans has or will have a sensory or communication disorder in their lifetime. In New York, approximately 12.6% of the population is affected by some degree of hearing loss or vestibular dysfunction. Osteopathic medical student auditory screenings can positively impact communities in screening for auditory disorders. In health fair surveys, participants indicated a desire for auditory screening, with concerns of unaddressed hearing pathologies.

Objective: To argue for the importance of incorporating auditory screening programs into osteopathic student-run health fairs to positively impact underserved communities.

Methods: Participants were recruited from Touro College of Osteopathic Medicine's fall and spring health fairs and were predominantly African American, with an average age of 56. Osteopathic medical students developed an appropriate auditory screening protocol and trained other student volunteers.

Results: During the inaugural health fairs, 22 participants were screened for auditory pathologies. 4 participants (18%) were referred for additional testing due to abnormal or inconclusive results. No statistical significance was observed in comparing auditory pathology to age, gender, or race. Average age of participants was 56 with 13 females and 9 males. Participants primarily identified as African American/Black (15), with Hispanic (5), Caucasian (2), and Asian (2) bringing up the remainder.

Conclusion: The results of this project underscore the need for effective auditory screening programs at osteopathic student-run health fairs, especially in underserved communities. Referral for possible auditory dysfunction was done for 18% of the tested population in health fair screenings. These findings are consistent with previously published data, mirroring the overall incidence in New York. Auditory screenings allow for earlier detection compared to national average age of detection (65-75). In turn, physicians and patients are able to have discussions sooner about diseases modifying behaviors and preventative measures that can slow progression and improve quality of life,which can better inform patients of their care options. The Touro auditory screenings utilize these ideas to better serve the Harlem community.

References

1. National Institutes of Health, National Institute on Deafness and Other Communication Disorders (NIDCD). Communicating the need for follow-up to improve outcomes of newborn hearing screening. Bethesda, MD: NIDCD; 2001.

2. Center for Disease Control. "Any Hearing Loss by State" https://www.cdc.gov/nchs/data/health_policy/hearing_loss_table_SEs.pdf; 2016.

3. Office of Disease Prevention and Health Promotion. "Hearing and Other Sensory or Communication Disorders" https://www.healthypeople.gov/2020/topicsobjectives/ topic/hearing-and-other-sensory-or-communication-disorders; 2014.

4. American Speech-Language-Hearing Association. "Self Test for Hearing Loss" https://www.asha.org/public/hearing/Self-Test-for-Hearing-Loss/.

5. Touro College of Osteopathic Medicine. "Our Mission and Vision" https://tourocom.touro.edu/about-us/our-mission--vision/.

6. US Preventative Services Task Force. " Hearing Loss in Older Adults: Screening" https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/hearin g-loss-in-older-adults-screening?ds=1&s=hearing%20loss; 2012.

7. RM. Disogra, "Breaking News: An Audiologist's Guide to Health Fairs." The Hearing Journal, 65(8), 32. doi:10.1097/01.hj.0000418174.60072.be, 2012.

8. RJ .Kamil, DJ. Genther , FR Lin, "Factors Associated with the Accuracy of Subjective Assessments of Hearing Impairment". Ear and hearing. 36(1):164-167. doi:10.1097/AUD.0000000000000075, 2015.

9. CD. Mulrow, C. Aguilar, JE. Endicott. Association between hearing impairment and the quality of life of elderly individuals. J Am Geriatr Soc.;38(1):45-50B, 1990.

10. B. Capozzi, A. Chez, T. Carpenter, L. Hubert, L. Hewan-Lowe, A. Ozcan, S. Sahni, "Osteopathic medical student administered smoking cessation counseling is an effective tool," North American Journal of Medical Sciences, vol 8. No. 4, pp. 187-190, 2016

P22

Addressing Mental Health in the Harlem Community

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Evaluation of physical health is strongly emphasized at community health fairs; however mental health is predominantly overlooked. Participants of Harlem community health fairs are typically those from minority groups, predominantly with chronic illness, lower education, lack of insurance, or low financial income. These traits contribute to obstacles, potentially leading to development of mental illness such as depression and/or anxiety. It has been reported that psychological symptoms tend to be higher among minorities and populations with lower incomes, and that there is a significant correlation between depression in individuals with lower educational status. These problems are compounded by research showing that low-income, minority patients are less likely to seek mental health services than those from the general population. Therefore, there is significant need for participants' psychological states to be addressed.

This study is comprised of the PHQ-9 depression screening, GAD-7 anxiety screening, and a questionnaire we created to evaluate how participant's screening outcomes impact changes they plan to implement regarding health care. Participants receive immediate results from the screening tests, which allows them to self-reflect in the questionnaire. First year medical students assisted with the surveys, discussing scores, and providing resources. We evaluate the type of treatment participants are seeking, how their results differed from expectations, and how helpful they found the provided resources. This study has intended benefits for the subjects, while providing data to improve the implementation of mental health assessments in the Harlem community.

We anticipate finding a positive correlation between higher scores on the screening tests, and indications in the questionnaire of participants realizing their desire to seek treatment. Our preliminary data (N=18) shows 52.63% of participants scored 35 on anxiety screening, of these participants 70% plan to seek help based on results. Likewise, 50% scored 35 on the depression screening, and 62.5% plan to seek help.

Ultimately, we strive to allow more persons requiring mental health treatment to acknowledge their needs and receive resources. Moreover, we allow students an opportunity to practice live consultation and health-literacy skills. We plan to administer this study in the Fall and distributing results and resources to clinics in the community.

References:
1. Bledsoe SE. Adult health care services and psychiatric disorders: The use and costs of health care services in a low income, minority population coming to an urban primary care clinic. [Order No. 3266535]. Columbia University; 2007.
2. Frank LB, Matza LS, Revicki DA, Chung JY. Depression and health-related quality of life for low-income african-american women in the U.S. Quality of Life Research. 2005;14(10):2293-301.

https://search.proquest.com/docview/883830062?accountid=14375. doi:
http://dx.doi.org/10.1007/s11136-005-6541-1.

3. Kroenke, K et al. "The PHQ-9: validity of a brief depression severity measure"*Journal of general internal medicine* vol. 16,9 (2001): 606-13.

4. McGuire TG, Miranda J. New evidence regarding racial and ethnic disparities in mental health: policy implications. Health Aff (Millwood). 2008;27(2):393-403.

5. Love AS. Mental and physical health of older african -american men living in harlem. [Order No. 3085880]. Columbia University; 2003.

6. Thomas J, Jones G, Scarinci I, Brantley P. A descriptive and comparative study of the prevalence of depressive and anxiety disorders in low-income adults with type 2 diabetes and other chronic illnesses. Diabetes Care. 2003;26(8):2311-7.
https://search.proquest.com/docview/223045085?accountid=14375.

7. Schmaling KB, Hernandez DV. Detection of depression among low-income mexican americans in primary care. J Health Care Poor Underserved. 2005;16(4):780-90.
https://search.proquest.com/docview/220586006?accountid=14375.

8. Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092-7. Retrieved from
https://search.proquest.com/docview/234267314?accountid=14375

P23

Implementing a Palliative Care Curriculum for Pediatrics House Staff to Combat Compassion Fatigue

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Goals/Objectives of Study/Innovation: To implement and research the impact of a pediatrics palliative care curriculum on rates of compassion fatigue among pediatrics house staff.

Background/Relevance of Study: Mount Sinai Hospital (MSH) is a known pioneer in the fields of Geriatrics and adult Palliative Medicine. While we have made great strides in improving care for adults with serious or terminal illnesses, we have been slow to implement the necessary services for dying or seriously ill children and their families, as well as for our trainees. Pediatric suffering and loss have a clear impact on all members of the healthcare team, especially house staff due to their close proximity to patients. A literature review suggests that the majority of pediatrics house staff feel underqualified to provide proper palliative and end-of-life (EOL) care, including pain management, to children [Contro et al. 2004; Kolarik et al. 2006; Davies et al. 2008]. Currently, there is no formal educational curriculum in place at MSH to train pediatric residents on palliative or EOL care, including practical matters, such as filing death certificates or pronouncing time of death. We hypothesize that a lack of confidence surrounding the provision of palliative/EOL services to children and their families may be contributing to rising rates of compassion fatigue among pediatrics residents.

Design/Methods: We propose the implementation of a "Mini-Series" to provide basic training on palliative and EOL care for pediatrics house staff. This curriculum will be rolled out over the course of the upcoming academic year (2019-2020) during protected academic half days. Topics will include the following: *Indications for Palliative Care, Initiating Difficult Conversations, Symptom Management at the End of Life, Pain Management, Navigating Spiritual and Cultural Diversity, Logistics,* and *Caring for the Caregiver.* Success of our project will be measured via a mixed-methods approach and will include quantitative and qualitative surveys, as well as interviews. Following the completion of our project, resident physicians will be asked to assess the quality of the PPC programming, as well as their level of confidence providing PPC & EOL care to children. Other data points collected will include levels of compassion fatigue and burnout. All of the data gathered will be compared to baseline data

Results: N/A

Conclusions/Limitations/Next Steps: Recent studies demonstrate a nationwide discrepancy, similar to the one observed at Mount Sinai, in the amount and quality of adult versus pediatric palliative care services offered in hospital settings, with pediatric services being grossly underfunded and under prioritized. As advances in medicine are only increasing the prevalence of children living with medically complex conditions, robust PPC programming is more important now than ever [Hays et al. 2008; Pelant et al. 2012]. It is not only patients who would benefit from having physicians with more training and

experience in PPC and EOL care, but also the physicians themselves. If we equip our physicians with the tools they need to succeed in difficult patient interactions, we may be able to curb increasing rates of compassion fatigue.

References:
Contro et al. (2004) "Hospital staff and family perspectives regarding quality of pediatric palliative care." *Pediatrics* : 114 (5), 1248-1252.
Davies et al. (2008) "Barriers to palliative care for children: perceptions of pediatric health care providers" *Pediatrics* : 121 (2), 282-288.
Hays et al. (2006) "The Seattle Pediatric Palliative Care Project: effects on family satisfaction and health-related quality of life." *Journal of palliative medicine:* 9 (3), 716-728.
Kolarik et al. (2006) "Pediatric resident education in palliative care: a needs assessment." *Pediatrics* : 117 (6), 1949-1954.
Pelant et al. (2012) " Development and implementation of a pediatric palliative care program." *Journal of pediatric nursing* : 27 (4), 394-401.

P24

Faces of Resistance: Using Real-World Patients and Their Advocates to Teach Medical Students About Antimicrobial Stewardship and Consequences of Overuse

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Goals/Objectives
Our goal was to engage preclinical medical students with antimicrobial stewardship through a novel seminar in which students learn directly from patients with drug-resistant infections, surviving family members, public health officials and policy advocates focused on antimicrobial resistance.

Background
Antimicrobial resistance (AMR) is a major public health crisis driven by antibiotic overuse[1-3]. Antimicrobial stewardship programs are crucial for combating AMR, but prior studies have shown that many medical students are unfamiliar with the role of stewardship[4].

Methods
In partnership with the Centers for Disease Control and Prevention (CDC) and the Infectious Diseases Society of America (IDSA) we hosted an interactive panel discussion for 2nd year medical students featuring 1) a patient survivor of a multi-drug resistant mycobacterial infection 2) a family member of a patient who succumbed to fulminant *C. difficile* infection and 3) the Senior Vice President of Public Policy & Government Relations for IDSA's AMR committee. Using an audience-response system, we electronically surveyed 180 2nd year medical students at the Albert Einstein College of Medicine before and after the AMR seminar on their knowledge, attitudes, and perceptions about AMR and antimicrobial stewardship.

Results
Prior to the seminar, over 90% of students agreed that AMR is an important public health issue and that overprescribing is a major cause of resistance and *C. difficile*, but only 26% were familiar with the concept of antimicrobial stewardship. Eighty percent reported a desire to improve knowledge of antimicrobials. After the seminar, 81% responded that the seminar would influence their future

prescribing behaviors; 83% reported that it improved their understanding of AMR and stewardship. Ninety-one percent reported that hearing personal stories is an effective way to learn about AMR.

Conclusions

Engaging pre-clinical medical students in antimicrobial stewardship and consequences of overprescribing has the potential to influence future prescribing behaviors and connect students with the societal impact of AMR. We suggest that all medical schools consider partnering with the IDSA and the CDC to introduce medical students to stewardship and patient advocacy related to AMR.

References

1. Kabir Yadav, Eriko Masuda, Emi Minejima, Brad Spellberg; Expected Practice as a Novel Antibiotic Stewardship Intervention, *Open Forum Infectious Diseases*, , ofy319, https://doi.org/10.1093/ofid/ofy319
2. Spelberg B, Srinivasan A, Chambers HF. New societal approaches to empowering antibiotic stewardship. JAMA **2016**; 315: 1229–1230.
3. Durkin, M., Jafarzadeh, S., Hsueh, K., Sallah, Y., Munshi, K., Henderson, R., & Fraser, V. (2018). Outpatient Antibiotic Prescription Trends in the United States: A National Cohort Study. *Infection Control & Hospital Epidemiology,* 39(5), 584-589. Doi:10.1017/ice.2018.26
4. Lilian M. Abbo, Sara E. Cosgrove, Paul S. Pottinger, Margaret Pereyra, Ronda Sinkowitz-Cochran, Arjun Srinivasan, David J. Webb, Thomas M. Hooton; Medical Students' Perceptions and Knowledge About Antimicrobial Stewardship: How Are We Educating Our Future Prescribers?, *Clinical Infectious Diseases*, Volume 57, Issue 5, 1 September 2013, Pages 631–638, https://doi.org/10.1093/cid/cit370

P25

Impact of Social Determinants of Health Curriculum on Resident Empathy

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Background: Understanding social determinants of health (SDH) is an essential component of pediatric health care delivery, yet remains an underemphasized competency in residency education. SDH have been shown to be a risk factor for poor outcomes in almost every pediatric disease. We believe competency in SDH furthers physicians' understanding of the structural environments in which patients live while simultaneously allowing for the delivery of individualized, effective and empathetic care.

Objectives: To evaluate baseline levels of pediatric residents' comfort with SDH topics and examine the extent to which a curriculum on SDH increases empathy and residents' comfort with exploring patients' SDH.

Design/Methods: We developed an empathy-based learning curriculum which practices approaching patient interactions by reflecting on one's own background and relating them to the experiences of patients. The goal is to utilize interactive and reflective exercises to strengthen the empathy muscle thereby facilitating better relationships with patients. The curriculum includes 6 1-hour sessions covering implicit bias, literacy and education, food insecurity, homelessness, violence, and immigration. Each session has included collaboration with social work colleagues to highlight the patient experience. We are comparing pre-and post-session self-assessment scores as a proxy for resident empathy levels concerning these specific SDH.

Results: Self-assessment scores from 72 pre and post session evaluations (29% MS, 32% PGY1, 23% PGY2, 16% PGY3) demonstrated an increase in self-reported understanding and comfort in talking about SDH with patients ($p<0.01$). Qualitative feedback regarding the value of social work input has been noted.

Conclusion: Preliminary outcomes demonstrate acceptance of an interactive method for fostering empathy through reflection and discussion and has increased resident comfort in discussing and addressing patient's SDH. The inclusion of social work input centering on SDH discussions has been viewed as positive by residents.

P26

Demystifying the Influenza Vaccine: Video Media Improves Vaccine Acceptance Rates in an Underserved Urban Resident-Physician Primary Care Clinic

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Goals/objectives of study/innovation
Many of our primary care patients are hesitant to accept the influenza vaccine, resulting in a low vaccination rate. Our goal was to increase vaccination from a baseline of 35% (2017 influenza season) to 50% during the 2018 influenza season using a resident-made informational video.

Background
We identified a need to improve patient health literacy on the influenza vaccine. In addition, we studied using personalized, alternative media as an educational approach in preventive health and wellness.

Design
Internal Medicine residents at NYC H+H/Kings County produced a 2-minute educational video based on the CDC fact sheet, "No More Excuses: You - Need a Flu Vaccine" addressing common reasons for flu shot declination. From October to December 2018, patients were asked their reasons for declining influenza vaccination. An educational video was then played in the exam room. Subsequently, residents engaged in a shared decision making (SDM) discussion around the risks and benefits of flu vaccination. Patients were then offered the flu vaccine.

Results
Vaccine acceptance was recorded both before and after education with a locally produced video and SDM discussion. The primary objective was to measure the conversion rate of initial flu vaccine declination to acceptance following intervention. The most common reason our patients refused the flu vaccine was, "I don't get the flu." In October, flu vaccine acceptance increased by 16.7% following the video and SDM intervention; 58.3% patients received a flu shot. More patients agreed to vaccination in November (81.25%) and December (70%). Consistent use of the educational video and SDM contributed to an increase from a baseline of 35% flu vaccination in the 2017 season to 72.4% during our study period.

Conclusions
After identifying the prevailing myths of flu vaccination and producing a video to educate patients on the importance of influenza vaccination, the rate of flu vaccination in our patient population increased. This innovative form of patient education using video media during office visit time improved SDM discussions around vaccination. Key components included a tailored, culturally relatable educational platform featuring our patients' healthcare team.

References

No More Excuses: You Need a Flu Vaccine [Internet]. CDC; 2016 [cited 2018 August]. Available from: https://www.cdc.gov/flu/pdf/freeresources/general/no-excuses-flu-vaccineprint. pdf

Disease Burden of Influenza [Internet]. CDC; 2018 [cited 2018 August]. Available from: https://www.cdc.gov/flu/about/disease/burden.htm

P27

UGHE and Cornell: A Unique Model for Collaborative Curriculum Development in an International Setting

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Abstract:
Rwanda, a nation with a remarkable track record for resilience and perseverance in the face of unique and challenging circumstances, has embarked on an educational mission that is lofty by any international standard. The University of Global Health Equity (UGHE) plans to enroll its first class of MBBS/Masters in Global Health Delivery students in 2019 with the mission of educating future physicians to deliver "globally equitable" care. What is unique about UGHE is the introduction of a modern educational institution into the very environment where health disparities are most acutely felt.

The Department of Anesthesiology at Weill Cornell Medicine is collaborating with the faculty at UGHE to develop the curriculum and evaluation metrics for its Anesthesiology and Critical Care medical student clinical rotations. This unique partnership offers a multitude of challenges and questions relating to the intersection of a robust, rigorous medical education and a socially conscious global health education. How should standard curricula be modified to optimize the distinctive mission of UGHE? What elements of anesthesiology and/or critical care should be required knowledge for physicians delivering globally equitable care? What methods of evaluation are best suited for students in this unique context? Ultimately, how can we prepare physicians to provide safe and reliable care in this ever-changing and unpredictable environment?

The purpose of this short presentation or poster would be to introduce the audience to the mission of UGHE, provide a background on relevant biological and psychosocial determinants of health in Rwanda, and to elaborate on the uniqueness of this particular type of collaboration. As this is an ongoing and fluid project, the presentation would reflect real time updates on our progress. To date, our team has established module objectives based on degree requirements in Rwanda and is in the process of expanding our basic curriculum outline into a bank of standardized course education materials. We are planning a trip to Rwanda in the fall of 2019 for further course development.

References:

https://www.politico.com/story/2019/01/27/rwanda-medicine-progress-1127495

https://ughe.org/the-story-behind-the-university/

P28

Global Surgery Innovation: Encouraging Local Solutions through Multidisciplinary Student Symposia

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Goals/Objectives of Innovation
This partnership sought to develop innovative thinking and collaboration amongst Indian medical, engineering, and management students to address problems facing surgical, obstetric, and anesthesia care in low- and middle-income countries (LMICs).

Background/Relevance of Study
Nearly five billion people lack access to safe, timely, and affordable surgery.i Moreover, nearly one-third of all disease is amenable to surgical care.ii Much of this gap occurs in LMICs.i Medical innovation, however, largely focuses on high-income countries, with 40-70% of new technologies failing when implemented in LMICs.iii Healthcare-themed hackathons have gained popularity in high-income settings to encourage interdisciplinary approaches to unmet needs.iv The potential of innovation symposia in LMICs to promote context-specific innovation for low resource settings has not been reported.

Design/Methods
Over three years, the Program in Global Surgery and Social Change partnered with two universities in India to launch innovation centers, anchored by annual global surgery symposium-student hackathons. This study describes steps taken to develop these relationships, leading to three symposia/hackathons, involving >1500 students.

Results
Karunya University established a Center of Excellence in Surgical Innovation and then sponsored a symposium-hackathon. Student groups then formed and began working with both local and international faculty. Saveetha University, however, sponsored a lecture series for students before their two-day innovation symposium-hackathon. Saveetha then launched an Empowerment and Entrepreneurship Department. Integral to success were meetings with local faculty and administrators. Clear expectation setting and discussions about roles and responsibilities helped to enfranchise all involved, as well as to lay the groundwork for the sustainability of these locally driven initiatives. From these symposia, student groups continue to work on problems presented at the hackathons. These efforts have resulted in student-led patents, seed funding, and local business partnerships.

Conclusions/Limitations/Next Steps
Three years of lecture-based symposia with student hackathons at two Indian universities have resulted in a locally driven focus on innovation to tackle problems facing global surgery. The integration of innovation into the pedagogy of medical, engineering, and management students encourages Indian students to tackle these problems. Next steps include integrating student

perceptions from the symposia, as well as ongoing follow-up.

References

i Alkire, B. C., Raykar, N. P., Shrime, M. G., Weiser, T. G., Bickler, S. W., Rose, J. A., … Farmer, P. E. (2015). *Global access to surgical care: a modelling study. The Lancet Global Health, 3(6), e316–e323.* doi:10.1016/s2214-109x(15)70115-4

ii Shrime, M. G., Bickler, S. W., Alkire, B. C., & Mock, C. (2015). *Global burden of surgical disease: an estimation from the provider perspective. The Lancet Global Health, 3, S8–S9.*doi:10.1016/s2214-109x(14)70384

iii Olson, K. R., Walsh, M., Garg, P., Steel, A., Mehta, S., Data, S., … Bangsberg, D. R. (2017). *Health hackathons:theatre or substance? A survey assessment of outcomes from healthcare-focused hackathons in three countries. BMJ Innovations, 3(1), 37–44.* doi:10.1136/bmjinnov-2016-000147

iv Silver, J. K., Binder, D. S., Zubcevik, N., & Zafonte, R. D. (2016). *Healthcare Hackathons Provide Educational and Innovation Opportunities: A Case Study and Best Practice Recommendations. Journal of Medical Systems, 40(7).*doi:10.1007/s10916-016-0532-3

P29

Residents Identify Gaps in Medical Education Regarding the Optimal Process for Outpatient Referrals

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Goals: We sought to assess internal medicine residents' attitudes toward and experiences with outpatient referrals.

Background: Relevant clinical information is often missing when a patient sees a specialist after being referred by another physician in the ambulatory setting.[1,2] This can result in missed or delayed diagnoses, delayed treatment, unnecessary testing, and drug interactions.[3,4] Residents' attitudes toward providing clinical information at the time of referral and their perspectives toward training on referral skills are not well studied.[5] There is also a paucity of formal curricula on ambulatory referrals for residents.[6]

Methods: We conducted a cross-sectional survey in October-December 2018 of all internal medicine residents affiliated with a large, urban internal medicine residency program in New York, NY. We used a novel survey instrument that included 13 questions about attitudes toward and experiences with outpatient referrals; each question used a 5-point Likert scale. We used descriptive statistics to characterize the results.

Results: Overall, 122 of 132 residents participated (92.4% response rate), of which 34% were in post-graduate year (PGY) 1, 34% in PGY 2, and 31% in PGY 3. While 83% of residents reported that it is "always" important to provide the clinical reason for a referral, only 11% stated that they "always" provide a sufficient amount of clinical information for the consulting provider when making a referral. Forty-eight percent of residents "never" email, message, or call the consulting physician to explain a case beyond the electronic health record's referral order. Only nine percent of residents "strongly agree" that residency provides sufficient training in knowing when to refer patients. Eight percent "strongly agree" that residency provides sufficient training in what information to provide the consulting physician.

Conclusions: These results highlight a discrepancy between the amount of information residents believe they should provide at the time of a referral and the amount they actually provide. Many residents feel that they have not received adequate training during residency on when to refer patients and what clinical information to convey. A formal residency curriculum on optimal referral processes may be warranted, especially as the referral habits developed during training will likely be carried forth into residents' medical careers.

References
1. O'Malley AS, Reschovsky JD. Referral and consultation communication between primary care and specialist physicians: finding common ground. *Archives of internal medicine.* 2011;171(1):56-65.
2. Gandhi TK, Sittig DF, Franklin M, Sussman AJ, Fairchild DG, Bates DW. Communication breakdown in the outpatient referral process. *Journal of General Internal Medicine.* 2000;15(9):626-631.
3. Epstein RM. Communication between primary care physicians and consultants. *Arch Fam Med.* 1995;4(5):403-409.

4. Mehrotra A, Forrest CB, Lin CY. Dropping the baton: specialty referrals in the United States. *Milbank Q.* 2011;89(1):39-68.

5. Lindfield D, Bradley V, Whitelaw B. Teaching and developing referral skills for new doctors. *Medical education.* 2015;49(11):1152-1153.

6. Gwynne M, Page C, Reid A, Donahue K, Newton W. What's the Right Referral Rate? Specialty Referral Patterns and Curricula Across I3 Collaborative Primary Care Residencies. *Family medicine.* 2017;49(2):91-96.

P30

First Night On-Call (FNOC): Establishing a Community of Practice and Culture of Patient Safety for Incoming Interns

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Goals/ Objectives: To cultivate a culture of safety and community of practice for new interns while establishing expectations of high-quality patient care.

Background: We implemented an authentic, immersive First Night On-Call (FNOC) simulation to make certain new interns are ready to address common patient safety issues on "Day 1".

Methods: FNOC included pre-work, a half day of immersive simulation, debriefing. Intern groups were challenged to: conduct an ethical informed consent, evaluate a decompensating patient/ activate rapid response teams, recognize mislabeled blood culture bottles, conduct an effective patient handoff, and participate in patient safety rounds and debriefings. Learners completed a pre-program and retrospective pre-post assessment and are completing a program evaluation six-month later. Standardized-Patients and Standardized-Nurses completed behaviorally-anchored checklists for each case. Pre-post FNOC annual AHRQ Culture of Safety and number of Patient Safety Incident (PSI) reports were compared.
Results: 200 incoming interns from 11 clinical disciplines completed FNOC. While 36% (n=72) reported having witnessed a medical error, only 25% (n=50) reported any formal training in patient safety. Post FNOC, 92% (n=173) of interns reported increased comfort (4 or 5 on 1-5 scale) in speaking to supervisors, escalating situations, and reporting medical errors. 68% of groups (n=47) called a rapid response team and only 19% contacted the senior resident for the decompensating patient, 53% of groups (n=46) recognized label errors for the blood cultures, and 44% (n=47) groups ensured patient privacy when obtaining informed consent. Almost all interns (N=173) agreed/strongly agreed FNOC was an effective (92%) fun (91%), and engaging (92%) way to learn patient safety. Of the 86% of interns who completed all Wise-on-Call online modules, 85% agreed that they increased readiness-for-internship. Our AHRQ Culture of Safety Survey 2018 (N =158 post-FNOC) vs 2017 (N=39 pre-FNOC) shows trends in improvements in culture: 31% agreed that responses to error are not punitive compared to 26% pre-FNOC; 55% agree that there is open communication vs. 50% pre-FNOC; 48% report overall a culture of patient safety vs 41% pre-FNOC.

Conclusions: A large scale experiential patient safety simulation-based curriculum is feasible and effective in engaging learners, building a community of practice and enhancing patient safety culture.

P31

Critical Cardiopulmonary Event Series: Four Simulations for Pediatric ICU Fellows, Critical Care Nurses, and Pediatric Residents

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Objective:
1. Identify critical coarctation of the aorta and demonstrate correct management of hemodynamic compromise secondary to a ductal-dependent congenital heart lesion.
2. Recognize critical cardiac arrhythmias and implement the PALS Cardiac Arrest Algorithm.
3. Recognize need to initiate early inotropic support and limit fluid administration in setting of cardiogenic shock.
4. Demonstrate appropriate management of a cyanotic episode in a child with Tetralogy of Fallot by promoting right ventricular flow into the pulmonary circulation.
5. Utilize SBAR techniques and closed loop communication to work as a highly effective team

Background: Cardiopulmonary events arising from congenital or acquired heart diseases are less common in the scope of Pediatric Critical Care but yield significant morbidity and mortality when encountered. Designed for Pediatric Critical Care Teams (i.e., fellows, residents, and nurses), this resource provides participants with high acuity cardiopulmonary scenarios in safe learning environments. The included cases are Coarctation of the Aorta, Kawasaki Disease, Myocarditis, and Tetralogy of Fallot. Design/Methods: Simulations are performed in situ in the Pediatric Intensive Care Unit. Necessary personnel include two instructors (i.e., critical care attending and nurse educator) and one simulation technician to operate the manikin high fidelity
simulator/monitor. The simulation begins with bedside handoff of the "patient" by a simulation team member to the primary nurse who recruits the assistance of other nurses, resident physicians, and ultimately a Pediatric ICU fellow as the scenario escalates. Team performance is observed for completion of critical actions (e.g., history taking, focused physical exam, scenario specific medical interventions, etc.). Upon completion of the exercise, participants engage in an interactive debriefing session.

Results: Based on aggregate post-simulation survey responses, participants overwhelmingly report these scenarios increase comfort level with management of cardiorespiratory events and improve effective teamwork skills (see Table). Free response feedback has been analyzed and categorized into three domains: 1) Pediatric Medicine takeaways, 2) Teamwork takeaways, and 3) Opportunities for Simulation Improvements.

Conclusion(s): This series advances self-reported learner knowledge and skills surrounding management of cardiopulmonary events while providing opportunities to hone teamwork and communication skills. Limitations include inability to create perfectly realistic scenarios or setups, manikin faultiness, and heavy reliance on participant "buy-in".

References:

1. Ghelani SJ, Spaeder MC, Pastor W, Spurney CF, Klugman D. Demographics, trends, and outcomes in pediatric acute myocarditis in the United States, 2006 to 2011. Circulation: Cardiovascular Quality and Outcomes 5.5 (2012): 622-627.

2. Reeder RW, Girling A, Wolfe H, et al. Improving outcomes after pediatric cardiac arrest – the ICU-Resuscitation Project: study protocol for a randomized controlled trial. Open Access. 2018; 19;213. https://doi.org/10.1186/s13063-018-2590-y

3. Mellander M. Diagnosis and management of life-threatening cardiac malformations in the newborn. Seminars in Fetal and Neonatal Medicine. 2013;18(5):

4. Dijkema EJ, Leiner T, Grotenhuis HB. Diagnosis, imaging and clinical management of aortic coarctation. Heart 2017;103:1148–1155.

5. Newburger JW, Takahashi M, Burns JC. Kawasaki disease. Journal of the American College of Cardiology 2016;67(14): 1738-1749.

6. Tammy LU. Viral Myocarditis in Children. Critical Care Nurse. 2008; 28(1): 42-63

7. Herbert WH, Farnsworth PB. Cyanotic Episodes of Tetralogy of Fallot: Pathogenesis and Management. Clinical Pediatrics. 1971; 10(2): 115-118

8. Fanous E, Mogyorosy G. Does the prophylactic and therapeutic use of betablockers in preoperative patients with tetralogy of Fallot significantly prevent and treat the occurrence of cyanotic spells? Interactive CardioVascular and Thoracic Surgery 25. 2017; 647-650

9. Couloures KG, Allen C. Use of simulation to improve cardiopulmonary resuscitation performance and code team communication for pediatric residents. MedEdPORTAL. 2017;13:10555. https://doi.org/10.15766/mep_2374-8265.10555

10. Cashen K, Petersen T. Pediatric pulseless ventricular tachycardia: a simulation scenario for fellows, residents, medical students, and advanced practitioners. MedEdPORTAL. 2016;12:10407. https://doi.org/10.15766/mep_2374-8265.10407

11. Eppich W, Cheng A, Promoting Excellence and Reflective Learning in Simulation (PEARLS): development and rationale for a blended approach to health care simulation debriefing. Simulation in Healthcare. 2015 10(2), pp.106-115.

P32

The Resident-as-Teacher Experience in Anesthesiology Simulation Training

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Objective: The goal of this study is to describe the experiences of anesthesiology residents in a resident-as-teacher (RaT) simulation workshop for crisis resource management. The workshop was led by senior residents without explicit instruction in teaching or simulation-based education.

Background: The Accredication Council for Graduate Medical Education emphasizes the importance of residents as educators in the anesthesiology milestones; however, there are few studies describing RaT experiences in anesthesiology residencies,1 and none describe the experiences of resident teachers who have received no formal RaT training. Simulation has been successfully employed in anesthesiology residencies to develop and maintain the competencies necessary for practice.2 Applying the RaT model to simulation may provide an educationally valuable experience for both the learner and teacher.3

Methods: A pilot simulation-based workshop was designed and conducted by 4 volunteer CA3 resident teachers, with content supervised by 3 anesthesiologists. Thirteen CA1 resident learners participated in the workshop, conducted over 4 hours. Learner and instructor experiences were captured using a post-workshop survey, the Critical Incident Questionnaire (CIQ),4-5 and focus group discussions. This study was part of an IRB-approved education initiative registry.

Results: All learners enjoyed the workshop (77% strongly agreed, 23% agreed). All learners reported their experience would improve their clinical care (77% strongly agree, 23% agree) and their new knowledge could be immediately applied (69% strongly agree, 31% agree). All CA1 residents enjoyed learning from CA3 residents and reported that they were effective teachers (85% strongly agree, 15% agree for both). All teachers enjoyed the workshop and became more interested in resident education as a result of their participation. All teachers agreed that they were prepared for their roles as teachers, and were neutral regarding whether they needed training or didactic material to prepare (3/3 neither agree nor disagree). The data from the focus groups and CIQ substantiated the survey results.

Conclusions: This RaT simulation workshop was perceived by both resident learners and teachers to be an enjoyable and valuable educational tool. Learners felt strongly that it would improve their clinical care and that resident teachers were effective facilitators despite a lack of formal preparatory curriculum for the teachers.

References:
1. Berger JS et al. Anesthesiology residents-as-teachers program: a pilot study. J Grad Med Educ. 2012; 4(4):525-8
2. Yunoki K, Sakai T. The role of simulation training in anesthesiology resident education. J Anesth. 2018; 32(3): 425-33.
3. Miloslavsky EM et al. A simulation-based resident-as-teacher program: the impact on teachers and learners. J Hosp Med 2015. 10(12):767-72.

4. Brookfield S. Using the Critical Incident Questionnaire (CIQ). http://www.stephenbrookfield.com/ciq. Accessed 3/17/2019.

5. Keefer JM. The critical incident questionnaire (CIQ): from research to practice and back again. Adult Education Research Conference, 2009. http://newprairiepress.org/aerc/2009/papers/31

P33

Development of a Low-Fidelity Trachea Intubation Box to Help Novice Learners Develop Microskills for Use of the Airway Bougie

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Goals/Objective:
The gum bougie is used for navigating anatomically difficult airways and assisting in endotracheal intubation. Our goal was to create a low-fidelity task trainer to teach novice airway practitioners microskills (tip guidance, shaping, rotational maneuvering) necessary for effectively using an airway gum bougie.

Background/Relevance:
Annually, the Weill-Cornell Emergency Department hosts an airway course for trainees involved in airway management. This course breaks down skills and approaches to airway management including the use of the gum bougie in anatomically difficult intubations. Typically, videos or high-fidelity simulations are used to teach bougie use, however, the individual microskills required to utilize this tool are not teased out with these conventional education techniques. We sought to create a task trainer to address this gap in bougie education.

Design/Methods:
In collaboration with Cornell Tech's MakerLAB, a Bougie Microskill Box was designed to allow learners hands-on practice in the microskills required to utilize the bougie. Keeping the bougie as a constant parameter, different sizes of boxes were created to find efficient ways to develop training maneuvers through a playful setup. Final design consisted of a wooden box with a removable translucent acrylic lid. A mouth size hole at the top indicated a natural starting point for the learner. Three exit holes of varying size on the back and side of the wooden box allow the learner to understand how to manipulate the tip of the bougie. A 3D-printed corrugated tube mimicking a trachea was attached to one of the posterior holes to create a higher level of difficulty. The magnetic adjustable obstacle attached to the lid with 3D-printed modular connectors forces the learner to understand the need for pre-shaping and rotational maneuvering of the gum bougie.

Results:
Novices appreciated the stepwise approach to learning the tactile skills required for using the bougie. More advanced airway practitioners found the higher levels of difficulty appropriate for fine tuning their tactile skills.
Conclusion/Next Steps:
The development of the Bougie Microskill Box was well received by the learners. Informal feedback was obtained, and design improvements are planned to improve ease of use and transport.

P34

Teaching "Web-Side Manner": Using Simulation for Telemedicine Education

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Goals/objectives: Teach learners how to communicate effectively over a video-based medium and understand the differences between providing in-person medical care and video-based medical care

Background/Relevance of Study: The AMA has recommended that telemedicine training be incorporated into both undergraduate and graduate medical education. To address the growing need for programs specifically addressing telemedicine communication for medical students, we created a simulation-based curriculum using video-based encounters focused on "web-side manner" (eg. communicating using technology-based mediums) as a critical corollary to traditional bedside manner.

Design/Methods: An elective for 4th year medical students has been developed focused on communication skills necessary for video-based medical care. The sessions highlight different aspects of care through telemedicine including 1) the basics and logistics of communicating, 2) medical history taking, 3) the provider-to-patient interaction and remote physical exam skills and 4) the provider-to-provider interaction with facilitated physical exam. Sessions consist of a video-based standardized patient encounter followed by assessment using an internally validated communication checklist modified for telemedicine. Students receive feedback, then debrief with a simulation trained physician. Advocacy/inquiry is used to help students explore the differences between communication skills used for in-person encounters and those needed for video-based encounters. Pre-session and post-session surveys using 5-point Likert scales were used to obtain feedback for the course

Results (or anticipated results): Initial feedback was obtained from the twenty-two participants. Feedback for the course has been positive including all participants finding the session overall useful.

Conclusions/Limitations/Next Steps: Using simulation, we are effectively able to teach students telemedicine specific communication skills that are becoming increasingly critical to patient care. Future work will formally evaluate this new curriculum and expand the curriculum to all potential telemedicine providers.

P35

Developing a 3D-Printed Larynx for Injection Laryngoplasty Training

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Objective: This study aims to develop casted silicon elastomer rubber models made from 3D-printed casts as a low-cost, high-fidelity adult laryngeal model for simulation of laryngeal office procedures, such as percutaneous injection laryngoplasty (PIL).

Background: Surgical simulators have been used to teach otolaryngology residents new techniques, including sinus surgery, peritonsillar abscess drainage, and myringotomy.1-3 Office-based laryngological interventions are performed in awake patients,4 a less optimal teaching environment for residents and fellows compared to the operating room. To date, no study has created and tested an anatomically and tactilely accurate simulation model for laryngology office procedures such as PIL using 3D-printing technology.

Design/methods: The model larynges will be designed using computed tomography (CT) scans of the upper airways from anonymized, open-source file repositories. Imaging files will be reconstructed into 3D computer-aided design (CAD) models using medical software. Models will be printed using 3D-printers and evaluated by the PIs for anatomic accuracy. A collection of silicon elastomer casted laryngeal models will be produced and evaluated for similarity to human tissue by three expert laryngologists.

Results: We aim for our models to achieve anatomic and tactile accuracy as judged by expert laryngologists. We will describe the process of producing silicon elastomer casted laryngeal models in detail for reproducibility.

Discussion: We envision the final product of the project to be an open-access 3D rendering of the casts for the silicon elastomer laryngeal model. Once created, the models developed from this study will be used in a randomized controlled study examining the value of simulated training of laryngeal procedures with the New York Presbyterian otolaryngology residents. Finally, the medical student author will discuss his experience in learning 3D modeling software to illustrate the value of expertise in new technological modalities in the advancement of clinical science.

References:
1. Musbahi O, Aydin A, Al Omran Y, Skilbeck CJ, Ahmed K. Current status of simulation in otolaryngology: a systematic review. *Journal of surgical education.* 2017;74(2):203-215.
2. Taylor SR, Chang CD. Novel peritonsillar abscess task simulator. *Otolaryngology–Head and Neck Surgery.* 2014;151(1):10-13.
3. Deutsch ES, Wiet GJ, Seidman M, Hussey HM, Malekzadeh S, Fried MP. Simulation activity in otolaryngology residencies. *Otolaryngology–Head and Neck Surgery.* 2015;153(2):193-201.
4. Sulica L, Rosen CA, Postma GN, et al. Current practice in injection augmentation of the vocal folds: indications, treatment principles, techniques, and complications. The Laryngoscope. 2010;120(2):319-325.

P36

Does Scripted Debriefing in a Pediatric Simulation Curriculum Improve Medical Student Teamwork and Communication?

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Background: Teamwork and communication are critical to successful pediatric resuscitations but there is currently a knowledge gap in how to best teach these skills to medical students. Simulation studies have been done on teaching these skills to residents, but little has been done with medical student learners.

Objective: This study aimed to evaluate if scripted debriefing within a pediatric simulation curriculum would improve resuscitation teamwork and communication skills in medical students.

Methods: This was a prospective interventional study of 119 medical students with a scripted debriefing on teamwork and communication skills, integrated into a pediatric simulation curriculum. The intervention group participated in a simulation, then scripted debriefing, then a second simulation. The control group was exposed to the scripted debriefing after both simulations. Study investigators evaluated teamwork and communication skills using a validated assessment tool during all simulations. Data was obtained from the Research on Medical Outcomes Education registry, a de-identified NYU School of Medicine IRB-approved educational registry. Statistical analyses were performed on SPSS Statistic 23. Demographics were analyzed with descriptive statistics and pre/post test comparisons were analyzed with Wilcoxon Signed Rank and Paired T-Tests.

Results: Students participated in the simulations as part of their pediatric clerkship curriculum and were randomly assigned to control or intervention groups. 119 third year medical students consented to study enrollment (~80%). 53% were female with an average age of 25 years. 73% had prior experience with teamwork and communication training. The intervention group had a significant overall improvement in teamwork and communication skills (2.6 points, p=0.023, 95% CI -16.33 to -1.5). This improvement was specifically within the areas of "understanding roles" (1.9 points, p=0.048, 95% CI 0.16 – 3.0) and "passing information" (2.0 points, p=0.039, 95% CI 0.08 – 1.75). 91% of students found participation beneficial, and 55.5% found the scripted debriefing helpful.

Conclusion: A scripted debriefing within a pediatric simulation curriculum improved teamwork and communication skills in medical students and was viewed favorably by the learners. These results are likely generalizable to other medical student populations.

P37

Effectiveness of E-Learning Tools in Medical Education in Various Learner Groups

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Objectives: We aim to evaluate the effectiveness of various e-Learning tools (e.g. interactive webinars, motion-graphic videos, written "blog-post"-style text with infographics) in different learner groups (e.g., practicing physicians, residents, research faculty) on various topics in medical education (e.g. faculty development).

Relevance of study E-learning, or using Internet multi-media technologies to enhance performance and knowledge, has recently been a growing area of pedagogy. This offers participants control over content and learning sequence, allowing them to be able to pace their time and education. In the diverse and evolving field of medical education, when compared to traditional methods (lectures/written text), it appears that e-learning is at least as effective, if not more.[1,2] Evidence on combining e-Learning with live teaching into a blended-learning educational experience has shown increased effectiveness.[3]
Methods Participants in varied learning groups (clinical and research faculty at Weill Cornell Medicine, Mayo Clinic School of Medicine, University of Nebraska College of Medicine; Neurology residents at Weill Cornell Medicine; physician and resident members of the American Academy of Neurology [AAN]) will be invited via e-mail to participate and have the option to engage in lessons on various topics (e.g., effective science communication, how to succeed as a clinician educator, self-directed learning, verbal feedback, and the AAN "Neuro Bytes" program). Video/webinar/page-view analytics will be collected via an online learning management system (LMS) via AlzU.org/ofd. Additional data will be collected through online surveys/quizzes pre-/post-completion to evaluate the comparative effectiveness of these modalities. Primary outcome measures include 1) subjective preference between different e-learning types (Likert-scale ratings pre/post-intervention) in learner groups, 2) assessment of how individual educational strategies change real-world clinical and/or teaching practices. Secondary outcome measures include 1) completion rates/usage statistics of educational modules, 2) changes in knowledge when comparing educational interventions.

Anticipated Results in March 2019, IRB-approval was obtained. The LMS is now being populated with materials, instructional tools are being beta-tested, and the study will begin in Summer 2019. Conclusion Our goal is to develop an optimized, web-based educational platform complementing traditional learning methods, for a range of individuals in the medical community, with a focus on medical education (primarily faculty development) and neurology.

References: 1. Ruiz JG, Mintzer MJ, Leipzig RM. The impact of e-learning in medical education. Academic medicine. 2006 Mar 1;81(3):207-12.
2. Carrol NE, Burke M. Learning Effectiveness Using Different Teaching Modalities. American Journal of Business Education. 2010;3(12):65-76. 3. Warnecke E, Pearson S. Medical students' perceptions of using e-learning to enhance the acquisition of consulting skills. The Australasian medical journal. 2011;4(6):300.

P38

Virtual Autopsy Report — A New Curricular Tool in Medical Student Anatomy Education

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Learning objectives:
1. Review current practices of teaching radiology in early medical school education
2. Describe a novel approach of engaging millennial medical students with radiology in the first year of medical education, with example cases utilized by students at our institution.
3. Preliminary results of feasibility and perceptions of the tool, with review of future directions of this project.

Abstract:
Historically, the principal form of learning anatomy has been through cadaveric dissection. In recent years, various additional pedagogical resources have been shown to aid gross dissection in teaching anatomy to medical students. These resources include plastination, computer-based learning (CBL), living anatomy and medical imaging. Several schools across the world today have an imaging anatomy curricula as part of the Gross Anatomy course, which typically include didactic lectures and small group sessions on identification of basic radiographic and CT anatomy. At our institution, we expounded on this idea. Each anatomy lab cadaver underwent a CT scan, which was analyzed by a radiology-resident under the project director's direction, typically PGY 3 – 5 level trainee who generated a radiology report. The first-year anatomy students utilized the CT data set with the provided radiology report, the gross dissection and relevant histology to postulate a cause of death. These "virtual autopsy reports" allow for a hybrid-learning environment where the learning of radiographic anatomy is enhanced with an active and direct involvement with imaging.

Preliminary results regarding perceptions of this project were significantly positive. Survey results at the end of the project revealed that the majority of the students surveyed felt this project allowed for gaining insights into the clinical manifestations of disease and abnormal physiology by reviewing the pathology slides and the CT scans. In addition, the majority of the students surveyed also felt they were more engaged during the Clinical Gross Anatomy course knowing they would have to prepare a virtual autopsy report. Several areas of improvement were also elucidated; however, the successful completion of this project demonstrates that this tool can successfully integrate the basic sciences with the clinical sciences at a much earlier stage of training.

References
1. Straus CM, Webb EM, Kondo KL, Phillips AW, Naeger DM, Carrico CW, et al. Medical Student Radiology Education: Summary and Recommendations From a National Survey of Medical School and Radiology Department Leadership. J Am Coll Radiol [Internet]. 2014 Jun 1 [cited 2019 Jan 18];11(6):606–10. Available from:
https://www.sciencedirect.com/science/article/pii/S1546144014000192
2. Phillips AW, Smith SG, Straus CM. The Role of Radiology in Preclinical Anatomy. A Critical Review of the Past, Present, and Future. Acad Radiol [Internet]. 2013;20(3):297–305. Available from: http://dx.doi.org/10.1016/j.acra.2012.10.005
3. Gunderman RB, Wilson PK. Viewpoint: Exploring the human interior: The roles of cadaver dissection and radiologic imaging in teaching anatomy. Acad Med. 2005;80(8):745–9.
4. Slanetz PJ, Kung J, Eisenberg RL. Teaching Radiology in the Millennial Era. Acad Radiol [Internet]. 2013;20(3):387–9. Available from: http://dx.doi.org/10.1016/j.acra.2012.09.022
5. Estai M, Bunt S. Best teaching practices in anatomy education: A critical review. Ann Anat [Internet]. 2016;208:151–7. Available from: http://dx.doi.org/10.1016/j.aanat.2016.02.010
6. Ghosh SK. Human cadaveric dissection: a historical account from ancient Greece to the modern era. Anat Cell Biol [Internet]. 2015;48(3):153. Available from:
https://synapse.koreamed.org/DOIx.php?id=10.5115/acb.2015.48.3.153
7. Caswell FR, Venkatesh A, Denison AR. Twelve tips for enhancing anatomy teaching and learning using radiology. Med Teach. 2015;37(12).

P39

Teaching the Pelvic Exam: The Integration of a Novel High-Fidelity Pelvic Simulator and Use of the Traditional Gynecologic Teaching Assistant, a Randomized Prospective Cross-Over Study and Quality Improvement Project

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Goals and Objectives:
Our hypothesis was the integration of a novel high-fidelity pelvic simulator (HFPS) will improve the ability of medical students to perform a comprehensive pelvic examination, identify both basic and advanced pelvic anatomy, and increase confidence compared to traditional training from Gynecologic Teaching Assistants (GTA).

Relevance of Study:
Historically, training consists of simple observation or utilizes GTAs. Many learners feel unprepared and many educators observe a lack of proficiency. 1-3 Three fundamental facets of pelvic examination education includes (1) the importance of accurate identification of both normal and abnormal anatomy, (2) anxiety associated with learning and performance of the exam, and (3) ethical concerns regarding teaching this sensitive exam. 1,3-4

Design/Methods:
A randomized prospective cross-over study was performed from November 2017 to July 2018, including 97 students rotating through the Ob-Gyn clerkship. Students were randomized to receive either HFPS or GTA training first. In addition to learning how to perform a pelvic exam and basic anatomy, the HFPS objectively assessed accuracy in identifying advanced pelvic anatomy using the 3D virtual model. All students crossed-over. Several surveys assessing confidence and quality of the simulation were completed.

Results:
For confidence in identification of basic pelvic anatomy (i.e. cervix, uterus), the HFPS was equivalent to the GTA ($p < 0.0001$). For advanced anatomy (i.e. bony pelvis, musculature) and advanced pathology (i.e. fibroids), the HFPS surpassed the GTA ($p < 0.0001$). Objective HFPS tests revealed total anatomic recognition time decreased by a mean of 120 seconds ($p < 0.0001$), average recognition time per structure decreased by 32% to <10 seconds ($p < 0.0001$), and percent correct improved to 87.3% from 81.4% ($p < 0.0001$). 100% of students felt the HFPS was more helpful in learning the pelvic exam, basic anatomy, and advanced anatomy than the GTA.

Conclusions:
While the GTA experience is valuable, the HFPS is equivalent in teaching basic pelvic anatomy and superior in advanced pelvic anatomy and pathology. When compared directly, students favored the HFPS. Examination for either supplementation or replacement of the traditional, and expensive, GTA experience should be considered, in addition to the improved ethical profile in teaching this sensitive exam with the HFPS.

References:
1. Bhoopatkar, H., Wearn, A., & Vnuk, A. (2017). Medical students experience of performing female pelvic examinations: Opportunities and barriers. Australian and New Zealand Journal of Obstetrics and Gynaecology, 57(5), 514-519. doi:10.1111/ajo.12634
2. Roosevelt, L., Diebel, M., & Zielinski, R. E. (2018). Achieving competency in vaginal examinations: The challenge of balancing student learning needs with best practice in maternity care. Midwifery, 61, 39-41. doi:10.1016/j.midw.2018.02.016
3. Dugoff, L., Pradhan, A., Casey, P., et al. (2016). Pelvic and breast examination skills curricula in United States medical schools: A survey of obstetrics and gynecology clerkship directors. BMC Medical Education, 16(1). doi:10.1186/s12909-016-0835-6
4. Adashi, E. Y. (2019). Teaching Pelvic Examination Under Anesthesia Without Patient Consent. Jama, 321(8), 732. doi:10.1001/jama.2019.0613

P40

P&S Partners in Pregnancy: A Longitudinal, Patient-Centered Program for Preclinical Students

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Goals/Objectives of Study/Innovation:
To develop a longitudinal program pairing first-year students with prenatal patients; assess the program's impact on participants; and assess feasibility of implementing this program at our institution and others.

Background/Relevance of Study:
Students participating in early clinical longitudinal experiences report greater confidence communicating, comfort in clinical settings, and self-esteem during transition to clerkship year [1,2]. However, few longitudinal experiences exist for preclinical students at Columbia; further, existing programs have not explored the impact of longitudinal care on patients and students.

Design/Methods:
A retrospective Needs Assessment evaluating interest, motivating factors, and perceived participation barriers was distributed to second-year students. In response, we developed a program pairing first-year students with pregnant patients. Students attended lectures and accompanied patients to appointments and delivery. Initial perceptions of the patient-physician relationship were assessed using the Patient-Practitioner Orientation Scale (PPOS), with 1 indicating "doctor-/disease-centered," and 6 "patient-centered." After program completion, participants retook the PPOS, completed surveys, and participated in focus groups.

Results:
49% of students completed the Needs Assessment. 90% were at least "somewhat interested" in a prenatal pairing program. Motivating factors included desiring longitudinal experience (87%), early clinical exposure (82%), patient advocacy (78%), and Ob/Gyn interest (49%). Our program was designed accordingly. All first-years were invited to apply; ten were accepted. Initial mean PPOS score was 4.64 in students, 3.95 in patients. Retention from participants was high. After program completion, student and patient PPOS scores increased. Student scores increased for rating knowledge of prenatal care, and were relatively unchanged for understanding social determinants of health and comfort navigating healthcare systems. Almost all patients agreed that having a student present during pregnancy made them feel more supported. All students would recommend this program to peers. Focus groups revealed positive experiences for both groups.

Conclusions/Limitations/Next Steps:
Students in early medical education are enthusiastic about longitudinal patient experiences and demonstrate patient-centered mindsets. Programs such as ours may help maintain and cultivate patient-centeredness, with potential to improve patient satisfaction [3] and create positive attitudes towards student involvement. Lessons learned from our small group can shape future programming that reaches students and patients in more effective ways. We believe that students and expectant mothers from other communities could benefit from a similar program.

References:

1) Saba TG, Hershenson MB, Arteta M, Ramirez IA, Mullan PB, Owens ST. Pre-clinical medical student experience in a pediatric pulmonary clinic. *Med Educ Online*. 2015; 20:10.3402.

2) Godefrooij MB, Diemers AD, Scherpbier AJ. Students' perceptions about the transition to the clinical phase of a medical curriculum with preclinical patient contacts; a focus group study. *BMC Med Educ*. 2010; 10:28.

3)Krupat E et al. Patient orientations of physicians and patients: the effect of doctor-patient congruence of satisfaction. *Patient Educ Couns* 2000; 39:49-59

P41

Decel Defense! Tackling the Intrapartum Management of Category II Fetal Heart Rate Tracings

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Objectives:
Many interns at the start of training feel trepidation at the prospect of managing Category II fetal heart rate (FHR) tracings. We developed a fun, interactive workshop to teach new trainees a standardized approach to this intimidating topic.

Background:
We queried our interns regarding their greatest fears just prior to starting residency. The majority of their concerns related to the management of FHR decelerations. Given the high stakes nature of obstetrics and the relative inexperience of new interns, this is an understandable source of anxiety.

Methods:
During Internship Orientation we conducted a flipped classroom workshop entitled "Decel Defense!" to teach interns basic principles about intrapartum management of Category II FHR tracings. Participants were given a relevant reading assignment prior to the workshop. Several simple cases were presented, and a novel mnemonic device was introduced for interns to use in their initial approach to managing FHR decelerations.

Results:
Residents' confidence level in managing a Category II FHR tracing was assessed before and after the workshop. Mean baseline level of confidence was 1.83 on a scale of 1-4, ranging from "not confident to very confident". Mean confidence level increased to 3 immediately after participating in the workshop.

Residents' overall evaluations of the Decel Defense! workshop were very positive, with a cumulative rating of 5.0 out of 5.0. Residents appreciated the opportunity to work through strategies for managing Category II FHR tracings in a simulated, low-risk setting prior to caring for patients on our clinical units. Interns were sent a brief follow up survey one month after the initial workshop. 33% of interns reported using the mnemonic tool "sometimes" and 33% reported "often" use of the tool when asked to manage a Category II FHR tracing in real time. Mean confidence level in managing Category II FHR tracings had risen to 2.83 on the scale of 1-4. On average, participants were able to recall 7.67 of the 13 elements in the mnemonic tool.

Conclusions:
Interns found the introduction of a mnemonic device and coaching in a small group setting with simulated cases to be an effective method for teaching basic principles of Category II FHR tracing management.

References:
1. Macones GA, Hankins GD, Spong CY, Hauth J, Moore T. The 2008 National Institute of Child Health and Human Development workshop report on electronic fetal monitoring: update on definitions,

interpretation, and research guidelines. *Obstet Gynecol*. 2008 Sep;112(3):661-6. doi: 10.1097/AOG.0b013e3181841395.

2. Management of intrapartum fetal heart rate tracings. Practice Bulletin No. 116. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2010;116:1232–40

3. Clark SL, Nageotte MP, Garite TJ, Freeman RK, Miller DA, Simpson KR, Belfort MA, Dildy GA, Parer JT, Berkowitz RL, D'Alton M, Rouse DJ, Gilstrap LC, Vintzileos AM, van Dorsten JP, Boehm FH, Miller LA, Hankins GD. Intrapartum management of category II fetal heart rate tracings: towards standardization of care. *Am J Obstet Gynecol*. 2013 Aug;209(2):89-97. doi: 10.1016/j.ajog.2013.04.030. Epub 2013 Apr 27.

P42

Re-Examining Psychiatry Residents' Perspectives of Primary Care

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Background: There have been recent calls to extend the role of psychiatrists to include the management of general health conditions (1).

Purpose: To understand psychiatry resident perspectives on treating general medical conditions in their psychiatric patients and how these perspectives might evolve over time.

Methods: An online survey was distributed to all adult psychiatry residents at our institution. A repeat survey was administered to PGY1s a year later.

Results: Sixty-seven percent of residents responded to the initial study. PGY1-4 residents were fairly similar in their responses regarding "knowing how to" manage the general medical conditions of their patients and feeling "comfortable" with doing so (2). Seventy-one percent of PGY1s indicated that they would like to independently manage both behavioral and general medical conditions of their patients (i.e. without the supervision and consultation of a primary care provider) compared to only 9% of PGY2s, 14% of PGY3s and 17% of PGY4s. Similarly, 86% of PGY1s felt that they should be able to do so in the future compared to only 9% of PGY2s, 0% of PGY3s and 17% of PGY4s. When this PGY1 cohort was surveyed a year later (now as PGY2s) their attitudes changed substantially with none indicating that they "should be able to" independently manage both behavioral and medical conditions and only 10% indicating that they "would like to" do so in the future. Nicotine dependence and dyslipidemias were among the top conditions residents felt they should be able to manage ($\geq$74%). A lack of knowledge, experience, and training were the most frequent barriers residents listed in providing general medical care to patients.

Discussion/Conclusion: In our study, residents expressed desire and expectation to manage general medical conditions of their psychiatric patients in the future, though the degree to which they feel they can do so independently changes over the course of training. Our study suggests that attitudes and plans for future practice differ based on PGY-level. Future studies could explore how these results might compare with psychiatrists in practice.

References
1. Vanderlip ER, Raney LE, Druss BG: A framework for extending psychiatrists' roles in treating general health conditions. Am J Psychiatry 2016; 173:658–663
2. Jones-Bourne C, Arbuckle MR. Psychiatry Residents' Perspectives of Primary Care in the Psychiatric Setting. Acad Psychiatry. 2018; doi.org/10.1007/s40596-018-1001-8.

Integrating Women's Mental Health Education into the Psychiatry Clerkship: A Multimodal Approach

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Goals
To pilot and evaluate a medical student curriculum embedded in the Psychiatry Clerkship covering risk assessment, diagnosis, treatment, and management of perinatal psychiatric illness.

Background
Pregnancy, once believed to be "protective" against mental illness, is now recognized as a risk factor; nearly 20% of peripartum patients suffer from psychiatric illness. There is a dearth of research and clinical expertise to address the needs of this population. Introducing training in women's mental health education in medical school is one strategy to meet this need.

Methods
We developed, piloted, and evaluated a three-component women's mental health curriculum consisting of: 1. A case-based multimedia interactive online presentation; 2. A graded quiz assessing psychopharmacology knowledge; 3. An OSCE case of postpartum depression providing an opportunity for students to practice skills, demonstrate knowledge, and receive formative feedback. Students completed an anonymous survey at the end of the required clerkship which measured comfort assessing risk, evaluating and diagnosing, and treating peripartum patients compared to before the curriculum.

Results
Of the 29 students who have experienced the curriculum so far, 92% felt more comfortable making risk assessments, 100% felt more comfortable diagnosing, and 100% felt more comfortable treating psychiatric illness in peripartum period.

Discussion
A three-component curriculum may have important implications for medical student education in women's mental health.

Conclusions
More rigorous curriculum evaluation, including ongoing assessment of the curriculum and longitudinal follow-up of the participants is planned. Next steps include assessing whether students incorporate this learning into their professional identities and future medical practice as they move through medical school and on to residency training.
*If selected, we would be able to demonstrate the online presentation used in the clerkship on iPads during the poster session.

References

Davisson L, Nuss M, Cottrell S. Women's health curriculum for internal medicine residents: development, implementation, and evaluation. J Grad Med Educ. 2010; 2(3):398–403.

Dindo L, Elmore A, O'Hara M. The comorbidity of Axis I disorders in depressed pregnant women. Arch Women's Ment Health. 2017 Dec; 20(6):757-76.

Gopalan P, Glance J, MD, Valpey R, et al.: Development of a Women's Mental Health Curriculum and Evolution To A Women's Mental Health Area of Concentration In A Psychiatry Residency Program. Arch Women's Ment Health. 2018 February; 21(1): 113–116.

Li, H., Bowen, A., Bowen, R. et al. Mood instability during pregnancy and postpartum: a systematic review. Arch Women's Ment Health. (2019).

O'Donnell KJ, Glover V, Barker ED, et al: The persisting effect of maternal mood in pregnancy on childhood psychopathology. Dev Psychopathol. 2014; 26:393–403 22.

O'Hara MW, Wisner KL. Perinatal mental illness: definition, description, and aetiology. Best Pract Res Clin Obstet Gynaecol. 2014; 28(1):3–12.

Osborne LM, Hermann A, Burt V, et al.: Reproductive Psychiatry: The Gap Between Clinical Need and Education. Am J Psychiatry. 2015; 172:946–948.

Osborne LM, MacLean JV, Barzilay EM, et al.: Reproductive Psychiatry Residency Training: A Survey of Psychiatric Residency Program Directors. Acad Psychiatry. 2018; 42:197–201.

Osborne LM, Payne J: Antidepressants, pregnancy, and stigma: how we are failing mothers and babies. J Nerv Ment Dis. 2015; 203:164–166.

P44

Nonsuicidal Self-Injury: Cutting Through the Stigma and Providing Trainees with an Educational Curriculum

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Objectives:
1. Introduce a didactic on NSSI prevalence, current theories, screening and treatment
2. Encourage open dialogue surrounding existing beliefs about NSSI
3. Increase comfort with NSSI screening and referral protocols

Background:
Self-injury is the direct and deliberate destruction of one's own body tissue intended to relieve psychological distress. The majority of self-injury occurs in the absence of suicidal intent and thus is further classified as *nonsuicidal* self-injury (NSSI). Despite this distinction, misconceptions about self-injurious behavior and its relationship to suicide remain prevalent. These misconceptions contribute to fear and stigma around the topic of self-injury, which has detrimental consequences for individuals engaging in the behavior.

NSSI has become an epidemic among adolescents and medical providers are uniquely positioned to identify these individuals and offer appropriate interventions. However, studies have found that approximately half of medical providers endorse feeling prepared to address NSSI and an even fewer report regularly inquiring about it in their practice. Adequate training in NSSI can reduce negative biases, increase empathy, and improve quality of care among medical providers. It is therefore imperative to educate medical trainees about NSSI in order to decrease preventable morbidity and mortality.

Methods/Innovation:
One-hour didactic composed of anonymous surveys, open discussion and a formal lecture designed to educate medical students about NSSI. The lecture component will present definitions, epidemiology, prevalence and theories surrounding NSSI based on a literature review of current data. Students will also be trained in how to administer validated screening tests to identify NSSI in their patients and be provided with resources regarding the referral process.

Results/Evaluation:
The intervention will be evaluated through surveys administered before and after the NSSI didactic. Three surveys in total will assess the following of the participants: 1. personal exposure to NSSI, 2. current attitudes about NSSI and 3. current understanding of NSSI. In addition, subjective evaluation of the proposed curriculum will be assessed through facilitator led open discussions before and after the NSSI lecture.

Discussion/Conclusions:
The goal of this proposed intervention is to expose medical students to accurate information about NSSI early on in their training to reduce misinformation and increase provider comfort with the topic to ultimately better serve patients.

References:

Emelianchik-Key, K., Byrd, R. J., & La Guardia, A. C. (2016). Adolescent Non-Suicidal Self-Injury: Analysis of the Youth Risk Behavior Survey Trends. *The Professional Counselor*. https://doi.org/10.15241/kk.6.1.61

Favazza, A. R. (2012). Nonsuicidal self-injury: How categorization guides treatment. *Current Psychiatry*, 11(3).

Hamza, C. A., & Willoughby, T. (2013). Nonsuicidal Self-Injury and Suicidal Behavior: A Latent Class Analysis among Young Adults. *PLoS ONE*.https://doi.org/10.1371/journal.pone.0059955

Muehlenkamp, J. J., Claes, L., Quigley, K., Prosser, E., Claes, S., & Jans, D. (2013). Association of Training on Attitudes Towards Self-Injuring Clients across Health Professionals. *Archives of Suicide Research*. https://doi.org/10.1080/13811118.2013.801815

Nock, M. K., & Favazza, A. R. (2009). *Understanding nonsuicidal self-injury: Origins, assessment, and treatment.Understanding Nonsuicidal Self-Injury: Origins, Assessment, and Treatment.* https://doi.org/10.1037/11875-000

Taliaferro, L. A., Muehlenkamp, J. J., Hetler, J., Edwall, G., Wright, C., Edwards, A., & Borowsky, I. W. (2013). Nonsuicidal Self-Injury among Adolescents: A Training Priority for Primary Care Providers. *Suicide and Life-Threatening Behavior*,*43*(3), 250–261. https://doi.org/10.1111/sltb.12001