



26th Annual AMSA Poster Session

ABSTRACT BOOKLET

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Welcome

It was our pleasure to welcome you to the 26th Annual American Medical Student Association (AMSA) Poster Session. AMSA, along with our sponsors at ScholarRx, Kaplan MCAT, and the AMSA Reproductive Health Project, was delighted to host this year's Poster Session in an entirely virtual format. We had one of our biggest programs to date, with 129 accepted abstracts in 7 categories:

- Abortion-related and Reproductive Justice Projects
- AMSA Academy Scholars Programs and Institutes
- Basic and Translational Science
- Chapter Activities
- Community Development and Service Projects
- Curriculum Development and Educational Projects
- Patient-Oriented and Epidemiology

We would like to thank the volunteer judges who kindly lent their time in providing feedback and evaluations, both on the day of the Poster Session and prior to the event: Alex Tan, Ali Bokhari, Alison Case, Aliye Runyan, Betsy Brookins, Christina Kelly, Isaiah Cochran, Janette Gomos Klein, Jeff Huebner, Jeff Koetje, Jessica Pan, Keanan McGonigle, Kelly Thibert, Mary Beth Levin, Matt Moy, Pavan Madan, Perry Tsai, Rachel Gordon, Tao Le, and Zuri Obado.

We would also like to thank the AMSA National Leaders who served as Student Facilitators: Aisha Chaudhry, Eboni Peoples, Fiza Farrukh, Hannah Hendrix, Jason Fang, Karin Zikra, Laura Shepherd, Peter Papaioannou, Puja Mohan, Robert Heusner, Thomas Pak, and Zoreed Mukhtar.

We hope that you enjoyed this year's Poster Session, and that you also find this Abstract Booklet useful.

Sincerely,

The AMSA Poster Session Steering Committee

- Aisha Chaudhry*
- Ariana Feuvrier*
- Benjamin Duong*
- Keya Shah*
- Mariana Ndrio*
- Mattie Renn*
- Peter Papaioannou*
- Puja Mohan*
- Zoreed Mukhtar*

Burnout in Medical Students

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Background: Burnout in medicine begins in medical school, which leads to negative health outcomes, increased healthcare costs, and increased medical errors. Currently, the populations most at risk, underlying causes, and best methods to combat student burnout are poorly understood. Thus, our objective is to 1) understand the populations most at risk for burnout using the Maslach Burnout Inventory (MBI), and 2) elucidate factors contributing to burnout such that targeted wellness interventions may be employed.

Methods: A panel of medical students with prior experience in medical student wellness were invited to share factors which they observed contributed to feelings of burnout. Factors were compiled for review, and 17 were consolidated into a multiple-choice format along with demographic questions (sex, race, stage of medical school), and assessment of burnout via the 2-item MBI, which asks whether students feel burned out from work or studies (emotional exhaustion subscale -EE) or feel more callous toward people since beginning medical school (depersonalization subscale -DP). This survey was distributed to nine US medical schools. Descriptive statistics were used to interpret responses.

Results: Of 5500 invited medical students, 1182 (21.5%) completed the survey. Forty-six percent (541/1182) met burnout criteria, scoring high on both EE and DP. Seventy-six percent (894/1182) scored high on EE and/or DP. Forty-seven percent (337/718) of females versus 43% (195/450) percent of males, as well as 49% (149/306) of Asians, 46% (312/672) of White/Caucasians, and 33% (21/63) of Black/African American students met burnout criteria. Forty-three percent (284/667) of pre-clinical students, 55% (144/264) of clinical year students, and 46% (86/186) of students on advanced rotations met burnout criteria ($p = 0.004$). Factors selected by at least 40% of students when describing their own feelings of burnout included: decreased engagement in hobbies (54%), stress about grades/evaluation (52%), lack of sleep (47%), feeling socially disconnected (46%), feelings of inadequacy (45%), stress about applying to residency (42%), and lack of exercise (40%).

Conclusions: US medical students report that decreased engagement in hobbies, stress about grades/evaluation, lack of sleep, feeling socially disconnected, feelings of inadequacy, stress about applying to residency, and lack of exercise contribute most to their feelings of burnout. Targeted intervention in these domains will most effectively combat burnout.

A big thank you to our sponsor for this award:



Identifying Venom Peptides with Therapeutic Potential Using VenomSeq Technology

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Background: Recently, venom peptides have become attractive candidates for the development of therapeutics to benefit human health. For example, the drug ziconotide (Prialt®), derived from the venom of the cone snail *Conus magus*, is the first non-addictive, non-opioid peptide analgesic approved by the FDA to treat chronic pain in 2004. Despite their pharmaceutical potential, characterizing bioactive venom peptides poses several challenges due to the scarcity of reference databases to identify novel venom peptides and the lack of high throughput assays to identify molecular targets. The goal of this project is to establish a pipeline using collaborative databases that predict the functionality of novel venom peptides.

Methods: With human cells that are treated with purified venom peptides, a new computational pipeline called VenomSeq is used to generate putative associations between novel venom peptides and known drugs via perturbational differential gene expression analysis using RNA sequencing. This determines which genes and transcriptional regulatory modules are being modified in the cells by the venom peptides. The novel expression profiles are compared to open-source databases of known drug expression profiles in order to deduce possible molecular targets and mechanisms of action.

Results: Using the VenomSeq approach, 9 pure venom peptides were tested on IMR-32 cells, a human neuroblastoma cell line. It was found that the venom peptide Mki 8.7 had the most robust differential gene expression profile, with 25 statistically significant gene perturbations. The other experimental peptides showed few or no significant gene perturbations. Mki 8.7 showed similar activity to several known drugs. For example, thapsigargin is an inhibitor of the sarco/endoplasmic reticulum Ca²⁺ ATPase (SERCA) pump and a tumor promoter in mammalian cells.

Conclusions: Mki 8.7 is a purified venom peptide that causes differential gene expression in human IMR-32 cells. The results indicate potential mechanisms of how Mki 8.7 targets IMR-32 cells. The next step is to test Mki 8.7 in various enzymatic and ion channel assays to confirm the computational predictions of the peptide's molecular targets. If the VenomSeq pipeline is shown to be a reliable method of predicting the molecular targets of Mki 8.7 venom peptides, it will be used with more synthesized venom peptides. By predicting the specific activity of venom peptides, we can narrow down the venom peptides that have the most therapeutic potential, such as non-addictive pain management.

A big thank you to our sponsor for this award:



Looking beyond the L&D ward: are birthing centers the key to improving pregnancy outcomes in patients of color?

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¹Trinity Medical Sciences University

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Background: “Research... acknowledges the... role that racism-related stress plays in negative birth outcomes and the unique sources of stress experienced by African-American women.” BIPOC patients experience the highest rates of adverse events associated with pregnancy (e.g. premature birth, emergency caesareans, low birth weight). We aim to highlight the expansion of home/birthing center births to BIPOC and identify methods that have already been successful in reducing these adverse events as a guide to be used by health professionals in an effort to decrease perceived stress associated with pregnancy.

Methods: We conducted a systematic literature review through PubMed and EBSCO electronic databases to collect information regarding pregnancy outcomes. Text such as “race”, “health equity”, “management”, “childbirth”, “pregnancy outcomes”, “birthing centers”, “cortisol”, “stress”, with the use of Boolean operator “AND”, were used to select relevant studies and articles elaborating on adverse pregnancy outcomes in relation to their race. Inclusion criteria of the literature review: 1) scholarly reviewed or peer-reviewed source, 2) relevant articles within the last 10 years, and 3) articles published in English language only. The results section will show findings obtained from the literature review.

Results: (1) Prenatal home visits: maintain continuity of care without need for transportation, also reducing stress associated with visiting the hospital and seeing a different provider at each visit. (2) Building strong interpersonal relationships between the patient and birthing center staff: POC are more likely to experience perceived stress resulting in higher rates of adverse events, so by providing an intimate and welcoming environment, perceived stress can be reduced. (3) Group prenatal care: centering offered by birthing centers has been utilized to foster community/autonomy, particularly amongst BIPOC patients, diminishing the perceived stress and leading to decreased rates of LBW. (4) Increase the number of birth centers owned/run by POC: improve culturally-competent care as only 3% of birthing centers are run by POC and research shows patients have better outcomes with racially-concordant providers, subsequently reducing stress associated with pregnancy/childbirth. (5) Overall quality of care improved in use of birth centers versus hospital births: Centers for Medicare & Medicaid Services Strong Start for Mothers and Newborns Initiative found improved outcomes among Birth Center participants including higher rates of VBAC, lower rates of caesarean births, lower preterm birth rates, fewer ED and hospital visits, and lower perceived stress levels.

Conclusions: Reducing levels of cortisol in POC is imperative for improving outcomes in pregnancy. This can be accomplished through efforts by birth centers/midwives to alleviate perceived stress surrounding the prenatal and birth experience using a variety of methods to increase comfort and autonomy throughout the pregnancy.

A big thank you to our sponsor for this award:



Student-Perceived Preparedness in Contraceptive and Abortion Counseling

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¹Indiana University School of Medicine

Background: Upwards of 25% of women will seek an abortion by age 45; however, 17% of accredited American medical schools lack any formal abortion-related curriculum, and only 50% offer a clinical elective exposing students to abortion counseling and procedures. The gap between the large number of women seeking this care and the small amount of curriculum designed to prepare students to effectively counsel and provide this care is stark, and it represents an urgent area of study and curriculum re-design.

Methods: We performed a cross-sectional survey of students at all levels of medical training to assess student-perceived level of preparedness to provide non-directive counseling on reproductive health topics, such as contraception and abortion. Preparedness was measured on a 6-point preparedness scale (1=very unprepared and 6=very prepared). Mean scores were analyzed as a whole and stratified by training level. We also performed a comparative analysis of the Association of Professors of Gynecology and Obstetrics (APGO) abortion-related learning objectives (LOs) and the corresponding LOs in our didactic reproductive health course curriculum at our institution.

Results: Our preliminary survey population (n=57) included majority female (66.7%) and underclassmen (MS1 = 42.1%, MS2 = 31.6%), and varied in intended specialty. Mean preparedness to provide contraception and abortion counseling score was 2.26 ± 0.55 . When stratified to include only students in their clinical years (MS3/4, dual degree), mean preparedness score only slightly increased to 2.97 ± 0.75 . Our curriculum analysis revealed that LOs from our didactic reproductive health course covered all 5 APGO LOs on Family Planning, but did not cover 2 of the 4 APGO LOs on Pregnancy Termination.

Conclusions: We identified gaps in our institution's Pregnancy Termination curriculum, as defined by the nationally recognized APGO LOs. We also identified that current didactic and clinical training at our institution inadequately prepares medical students to provide comprehensive reproductive health counseling to women, based on mean self-reported preparedness scores. The next step is to disseminate a more in-depth survey from Feb-Mar 2021 to the same student population to further evaluate student perceptions about preparedness for reproductive health counseling compared to preparedness to counsel about hypertension management to determine whether student preparedness in family planning significantly lags preparedness in other areas of medicine. Our ultimate goal is to positively influence curriculum enhancement in comprehensive reproductive health care at our institution.

A big thank you to our sponsor for this award:



Effect of Integrative Medicine practices on symptoms and quality of life in patients with Psoriasis

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Background: I pursued this project motivated by my interest in Dermatology as a specialty, as well as bringing to the conversation the possibility of adopting integrative medicine in the approach to the patient with chronic diseases. The primary question that's been addressed is: "Is integrative medicine effective in improving symptoms and quality of life in patients with psoriasis?". The vision of this project is to achieve a holistic approach in the management of chronic dermatological diseases, while the mission is to present the current knowledge available on the implementation of alternative medicine in the treatment of psoriasis and finally the values conducting this review are honesty, objectivity, integrity and responsibility.

Methods: A literature review was carried out in the PubMed and Cochrane Library databases with the keywords integrative medicine OR complementary medicine OR alternative medicine AND psoriasis OR psoriasis OR psoriasis. Only full-text clinical trials published between 2011 and 2021 were selected, 11 results were obtained, of which 5 were on-going clinical trials. Duplicate publications and those that did not meet the criteria mentioned were discarded. From each selected article it was extracted the main question, the participants, methodology, relevant findings, conclusions and limitations. The results of the impact of different integrative medicine practices on symptoms and quality of life of patients with psoriasis were synthesized.

Results: Among the alternative medicine modalities used to improve psoriasis manifestations are Traditional Chinese medicine, cognitive-behavioral therapy, auricular therapy combined with optimized yingling formula, fire-needle therapy, oral curcumin or meriva and unani formulation. All the articles found reported the results using the Psoriasis Area Severity Index (PASI). With Traditional Chinese Medicine plus narrow-band medium-wave ultraviolet B radiation, 23.9% of patients achieved PASI 75, and 46.7% achieved PASI 50. With cognitive-behavioral therapy and narrow-band UVB phototherapy, 65% of the participants achieved PASI75 compared with 15% of standard UVB. In the oral curcumin clinical trial, with 2g per day of Meriva plus topical methylprednisolone aceponate 0.1% ointment, 92% of patients achieved PASI 50 and 48% PASI 75.

Conclusions: The effect of different forms of complementary medicine on psoriasis symptoms has been studied and there is growing interest in the topic due to the other ongoing clinical trials. These therapies seem to be safe and effective in improving the lesions in moderate-to-severe psoriasis and in quality of life. Nevertheless, these studies have limitations such as small sample size or short treatment period, so more research is required on the subject.

Local wound infiltration with liposomal bupivacaine decreases post-cesarean pain scores

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Background: Surgical patients are routinely prescribed opioid analgesics that are strongly associated with drug overdose deaths. Liposomal bupivacaine is a long-acting local anesthetic that received FDA approval in 2011 for local surgical site infiltration to promote post-operative analgesia. This anesthetic has demonstrated an improvement in post-operative pain control in various surgical realms, indicating a decreased need for opiates and subsequently decreased risks. However, few studies have investigated its use at the time of cesarean delivery.

Methods: In this retrospective study, patients for the liposomal bupivacaine group (LBG) were selected from patients who underwent a cesarean delivery (CD) between May 2019 and December 2019 and received intra-operative local wound infiltration with liposomal bupivacaine. Patients in the LBG were included if they were between 18 and 45 years of age, had a BMI < 60, and received liposomal bupivacaine as documented in the electronic medical record (EMR). Patients in the control group (CG) were selected as matched controls using the EMR and underwent a CD within one week of their matched LBG counterpart and were within three weeks of their gestational age at time of delivery. With the exception of the liposomal bupivacaine administration, patients in both groups received the standard post-operative care, which included intrathecal morphine. Comparisons were analyzed with t-test, Chi-square, or Fisher's exact with SPSS.

Results: Fifty-seven patients met LBG inclusion criteria. Fifty-nine matched control patients were selected from the EMR. Primary outcomes assessed in this study included patient opiate use in morphine-equivalent doses (MED) from 24 to 48 hours post-operatively and patient pain ratings via 11-point Likert Scale averaged every 12 hours. Patients in the LBG had lower MED in all post-operative time frames, though differences in MED were not statistically significant. Patients in the LBG had significantly lower pain scores in the 0-12 hour post-operative time frame ($p < 0.01$) and the 12-24 hour post-operative time frame ($p < 0.01$). In later post-operative time frames, patients in the LBG had equal or higher pain scores. Patients in both groups required similar doses of anti-emetics and alternative pain medications. Two patients in each group had chorioamnionitis. Two patients in the LBG had endometritis. One wound infection occurred in the LBG.

Conclusions: This study demonstrates that local wound infiltration with liposomal bupivacaine at the time of CD can be beneficial in reducing pain scores in the post-operative period following CD. Drawbacks of this study include routine standard of care post-operative opiate pain medication administration, which could lead to lack of significant differences between LBG and CG MED. One potential concern with local wound infiltration is the risk of post-operative seroma and wound infection. In this study, only one patient in the LBG developed a post-operative wound infection, which was not statistically different than the CG. Future research should include a prospective randomized control trial investigating liposomal bupivacaine at the time of CD, head-to-head comparison of liposomal bupivacaine and intrathecal morphine, cost analysis of liposomal bupivacaine, and formal patient and nursing education on post-operative pain control administration and expectations.

AMSA Accessibility Awareness Campaign (AAC)

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Background: Due to the pandemic, AMSA chapters were limited on what we could accomplish. In order to continue our mission to promote awareness about students with disabilities, we have created a virtual awareness campaign designed to inform U.S. college students about disabilities and other conditions in higher education through literature research and the production and dissemination of video modules.

Methods: We began by gathering literature research on common disabilities faced by students in university settings with the help of each member in the AAC. Next, we tailored our literature research appropriate for a general audience and create video modules for distribution. We were able to disseminate our video modules on several platforms including Instagram, Facebook, Twitter, and WhatsApp. Finally, we designed and distributed surveys to receive feedback and constructive evaluation from students to assess our impact on the student body and how we can improve moving forward from Part I and begin Part 2.

Results: The modules and surveys were successfully placed on several social media modalities. Currently, for Part I (completing by March 2021), we have approximately 850 views combined from all modules posted and received over 50 feedback surveys. 83% of the respondents agreed or strongly agreed that the video modules made them think differently about disabilities. 95% of the students agreed or strongly agreed that they would recommend the video modules to a peer or colleague, and 75% of the students evaluated the video modules as overall excellent. Although we are still in the process of the completing our campaign (additional five modules are in development), the preliminary survey results show that our campaign raised awareness and appreciation for accessibility services. We hope to gather more data and feedback from students to move forward in our campaign's goal to raise awareness and create a culture of appreciation for students of all capacities.

Conclusions: The Accessibility Awareness Campaign is an ongoing project. Thus far, the feedback students have provided from certain colleges of our university support the movement of our campaign. The results have exposed the students' unawareness of resources and services provided within their own campus. Nevertheless, once the information was brought to the students in a platform familiar to them, the growth and feedback was positive. For that reason, the AAC project continues to aim towards building a culture of awareness in disabilities and atmosphere of appreciation towards students of all capacities and backgrounds.

Messages from COVID-19: Operating a Crisis Hotline by People in STEMM with Marginalized Identities

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¹*T.H.R.I.V.E. Inc.*

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Background: Instances of anxiety, depression, and suicidal ideation are known to be increased for undergraduates, graduate students, and medical professionals and trainees. The year 2020 was particularly tumultuous for marginalized communities due to (but not limited to): rising unemployment rates, high-risk environments for frontline workers, lockdown orders and economic factors keeping people in unsafe and unsuitable housing environments, negative mental health impacts of social distancing, ever-changing immigration policies, and rampant police brutality and civil unrest after multiple unjustifiable murders by law enforcement sparking national discussions of racial inequity.

Methods: We started as a text-based crisis response effort for members of the LGBTQ+ science, technology, engineering, mathematics, and medicine (STEMM) community and expanded its efforts to serve all people in STEMM with marginalized identities. We created our own training program rooted in inclusive, trauma-informed crisis response and have worked to expand our team three-fold. Our service is confidential and open to anyone over age 18. Due to insurance reasons, minors are directed to outside services. To best protect the groups we serve, our policy is to only contact emergency services for threats of self-violence if requested by the person in crisis. Data and trends are presented in aggregate form, and any identifiable information is removed prior to analysis, congruent with our privacy policy.

Results: Since going online in March 2020, we have fielded over 1000 crisis interactions. Roughly 30% of these interactions touched on acute mental health stressors and required deescalation. Within just 9 months of operation, our hotline received texters from 49 US states and 8 additional countries.

Conclusions: Texters have shared their gratitude for the existence of a hotline where their identity and identity-related barriers are acknowledged and understood. Our organization is working to change the STEMM climate by offering support, resources, and life-affirming conversations to those most at risk of being forced out by inequalities ingrained in academic and professional spaces.

Pilot Medical Student-Led Training Workshops: Osteoporosis Risk Assessment to Prevent Fractures in Underserved Communities

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Background: Over 200 million individuals worldwide have osteoporosis, and the prevalence is increasing. In the United States, reports state that over 10.2 million adults have osteoporosis and over 43 million have osteopenia, representing 54% of the population over age 50. Students may positively impact clinical care and medical education through community-engagement, patient navigation, and education on the United States Preventive Services Task Force (USPSTF) recommendations. This report describes knowledge about osteoporosis in US medical students, which has not been previously examined, and describes our pilot approach to improve knowledge about osteoporosis risk assessment and fracture prevention among student learners.

Methods: Medical students participated in a single, voluntary, medical student-led training workshop in January 2020. Students were given a preworkshop assessment, participated in the training, and completed a postworkshop assessment. The training delivered information on bone physiology, used case-based scenarios to teach utilization of the Fracture Risk Assessment (FRAX) tool, and conducted a counseling simulation using USPSTF guidelines. The assessments included questions regarding osteoporosis knowledge, confidence using the FRAX tool, and confidence in counseling participants about bone health using multiple choice questions and a 5-point Likert scale. Paired t-tests with 95% confidence intervals were used to compare mean differences in confidence from preworkshop to postworkshop.

Results: Fifteen medical students completed the preworkshop and postworkshop assessments. In the preworkshop assessments, confidence utilizing the FRAX tool had a mean of 2.5, while confidence counseling participants had a mean of 2.7. In the postworkshop assessments, confidence utilizing the FRAX tool had a mean of 4.6, and confidence counseling participants had a mean of 4.3. Confidence utilizing the FRAX tool increased significantly with a mean improvement of 2.1 (95% CI: 1.3 to 3.0, $p < .001$). Confidence in participant counseling increased significantly by 1.6 points (95% CI: 0.8 to 2.6, $p = .001$).

Conclusions: Medical students demonstrated strong baseline knowledge about osteoporosis, and they showed significantly increased confidence in utilizing the FRAX tool and counseling patients after the training. Student-led workshops to address specific recommendations for prevention represent a unique opportunity for promoting the use of formal risk assessment tools to improve osteoporosis screening and prevention. Future studies should evaluate for differences in knowledge and confidence between medical students in different years of training, as well as conducting osteoporosis risk assessments at community health fairs and including larger student cohorts.

A big thank you to our sponsor for this award:



Retrospective Analysis of Adverse Events Associated with Non-Stimulant ADHD Medications Reported to the United States Food and Drug Administration

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Background: Attention deficit hyperactivity disorder (ADHD) is one of the most common neurobehavioral disorders in children. Although stimulant treatment is first-line to treat ADHD, some families still choose nonstimulant over stimulant medication and barriers against medication initiation include medication side effect. The goal is to analyze the most commonly associated adverse events (AE) in nonstimulant medications using post-marketing drug surveillance data. We aim to increase awareness, inform clinical management, guide laboratory monitoring, aide patient education, especially among those who prefer nonstimulant treatment.

Methods: A retrospective study of the post-marketing cases of patient adverse drug events with atomoxetine, clonidine, and guanfacine was performed using the Federal Drug Administration Adverse Event Reporting System (FAERS) Database. The data was collected from dates January 1, 2003 to June 30, 2020. AEs that were associated with each drug's side effect monitoring recommendations were analyzed. Reporting rates of the different nonstimulant medication were compared across age group.

Results: The most commonly reported AEs, as defined by FAERS, were ineffectiveness (9.91-14.15%) fatigue (8.93%), and somnolence (8.8-10.16%). Suicidal and self-injurious ideation was reported 5% and completed suicide was reported 0.37% for atomoxetine. Abnormal liver enzyme reports made up about 2.12 % of all AE for atomoxetine. Cardiac disorders were reported 10.44% and abnormal blood pressure (BP) was reported 6.03% for clonidine. Cardiac disorders were reported 11.31% and abnormal blood pressure (BP) was reported 5.91% for guanfacine. Of those taking atomoxetine, suicidal and self-injurious ideation was reported to a similar degree amongst all age groups. Suicidal ideation was listed within the top 20 most reported AEs for all three medications.

Conclusions: It is more likely that patients will experience milder results such as drug ineffectiveness, fatigue, and somnolence. We suggest providing this data to patients to help overcome the stigma of starting medication for ADHD, especially if they prefer nonstimulant treatment. Serious AEs are still reported to a small degree, thus monitoring and patient education remains important. We also recommend educating a wider demographic of patients on recognizing early signs of suicidal thoughts to help avoid rare but possible serious side effects.

“The uterus collector”: Coerced sterilization of women of color in the United States

Ritha Mera¹

¹*Windsor University School of Medicine*

Background: Objective: To examine the historical and current reproductive experimentation on women of color through the lens of medical innovation and eugenics.

Methods: Through online databases, peer-reviewed articles were examined exploring the correlation between historical racism, experimentation and exploitation in reproductive health (specifically coerced sterilization) and current experiences of women of color in immigrant detention centers.

Results: Unfortunately, women of color have been the backbone to reproductive innovation and practices, unbeknown to them. Indigenous, African American and Puerto Rican women have been subjected to gruesome experimentation in the name of medical innovation and eugenics disguised as medicine. Recently, similar experimentation has been reported in immigrant detention centers, as black and brown bodies are consumed and discarded through coerced sterilization.

Conclusions: Coercive sterilization of women of color in the United States has an extensive and convoluted history rooted in historical racism and experimentation on black and brown bodies; continuing in 2020. From historical forced sterilization of minority and poor women to current coerced sterilization in immigrant detention centres, reproductive exploitation is entangled in the fiber of medicine, gynaecological and obstetric innovation and the United States.

(Miss)information: an analysis of crisis pregnancy center websites

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Background: Crisis pregnancy centers (CPCs) are facilities that offer free services to people with unintended pregnancies with the intention of convincing those people to not terminate the pregnancy. Some of these services include free pregnancy tests, free ultrasounds, and information about abortion care. While comprehensive women's health providers are required to meet standards for health and hygiene, quality of care, employee licensure, and dissemination of medically accurate information, CPCs are not held to similar standards. One study of 254 CPCs found that only 17% of them mentioned having a licensed physician or nurse on their staff or advisory board. The National Right to Life Committee (NRLC), one of the largest organizations in the United States pro-life movement, has a chapter in each of the fifty states, several of whose websites contain a list of referrals to local crisis pregnancy centers (nrlc.org). This study uses these referral lists to evaluate the quality of the information regarding abortion on crisis pregnancy center websites.

Methods: Websites of crisis pregnancy centers listed on state NRLC affiliate sites were evaluated for this study. No institutional review board permission was required. Forty-eight NRLC affiliates were identified to have a website. We reviewed those websites to determine if they contained a list of pregnancy centers in the state. If a website for an affiliate was not linked or if the link was broken, a Google search was performed for the name of the NRLC affiliate.

We examined each NRLC affiliate's website for referrals to pregnancy centers. We identified all of the facilities in each list that could be considered a crisis pregnancy center, pregnancy resource center, pregnancy help center, or any other facility whose intended purpose is to counsel people against choosing abortion. We excluded adoption agencies, maternity homes, religious organizations, nonprofits that assist pregnant women and mothers, and any other organization not determined to fall under the definition of a crisis pregnancy center. As with the NRLC affiliates, for any links that were not provided or that were broken, a Google search was performed for the name of the CPC along with its listed city and state.

A standardized tool was used to record information from each website and input that information into a database. We recorded information on the types of services and information offered by the CPC, whether the CPC had specific information on abortion care, abortion methods or contraception, and whether the website made any inaccurate or misleading claims about the link between abortion and breast cancer, mental health concerns, infertility, or any other inaccurate or misleading medical information. These study outcomes were chosen based on other studies that measured similar outcomes. Descriptive statistics are reported, with proportions and 95% confidence intervals where appropriate.

Results: Project in process. Preliminary findings include the following:

- 96% of CPCs studied offered free pregnancy testing
- 77% offered free ultrasounds
- 77% offered free maternity/baby items
- 49% offered these free items on an "earn while you learn" basis, which requires pregnant parents to attend faith classes and counseling sessions to earn their baby items
- 55% state that no abortion is available at their facility
- 55% state that they do not refer for abortions
- 25% state a religious affiliation
- 28% state that they have a licensed medical professional on staff or on their board
- 66% offered post-abortion counseling
- 95% stated that they had information about abortion methods and risks available upon visit to the facility
- 53.1% contained information about abortion on their website

Of the CPCs that had abortion information on their website:

- 88% contained at least one piece of misinformation about abortion care
- 64% had information about abortion "reversal"
- 56% claimed or insinuated that Plan B and/or Ella is an abortifacient
- 72% listed legitimate potential adverse outcomes from abortions without mention of the scarcity of those outcomes
- 12% drew a link between abortion and breast cancer
- 28% stated that abortion can cause suicidal ideation
- 8% stated that abortion can cause suicide attempts
- 76% stated that abortion can cause another mental health condition (anxiety, depression, substance abuse)

Conclusions: Crisis pregnancy centers, despite not having the credentials or standards of medical facilities, routinely perform medical procedures and disseminate information about the practice of abortion care. The websites of these facilities provide a window into the quality of that information, which is, more often than not, plagued by inaccuracy and misrepresented facts.

Assessing Maternal Mortality Knowledge in Medical Students

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¹St. George's University School of Medicine

Background: On average, Black women die at rates 3-4 times that of White women due to pregnancy-related complications. Maternal mortality (MM), also known as pregnancy-related death, is a rising problem in the medical field, but this topic, and reproductive justice in general, is not discussed in detail in most medical school curriculums. Our vision, through an IRB-approved research study, is to assess maternal mortality knowledge in current medical students at St. George's University School of Medicine to determine if a curricular redesign needs to be implemented into the course curriculum.

Methods: Through a survey, questions and responses will help highlight the level of awareness of MM in SGUSOM students. We will then use the gathered level of awareness to create learning objectives to be implemented into the curriculum, if need be. Our goal is to provide this knowledge to SGUSOM students so they can implement it into their own behavior as future health professionals, and be advocates for reproductive justice.

Results: We hypothesize that there is a lack of awareness amongst SGUSOM students regarding the high maternal mortality rates in the US, and towards Black women, compared to rates in other developed countries, due to a lack of maternal mortality education within the SGU curriculum. We also hypothesize that current SGUSOM students will be interested in learning about maternal mortality within their curriculum, seeing as this is a vital topic that will prove to be important in further studies and practices. If survey results show that medical students have adequate knowledge of MM and wish to receive more education on the topic, a follow up survey will be given in order to assess preferred methods of learning, and we will contact the SGU Curriculum Committee to discuss curricular changes to implement maternal mortality awareness. If results show that medical students have adequate knowledge of MM and do not wish to receive more education on the topic, further surveys will continue to assess if there is a collective interest in extracurricular MM activities, such as guest speaker seminars, club meetings, optional lectures, etc.

Conclusions: The intention of this study is to eventually use a knowledge assessment tool to implement curricular changes throughout multiple medical school curriculums to raise awareness about maternal mortality. After the distribution, collection, and analyzation of the survey and its results, the intention of this study is to highlight the need to raise awareness of MM in all medical schools so students can implement it into their own behavior as future health professionals, and be advocates for reproductive justice.

Caribbean Medical Students' Perceptions on Reproductive Health: A Call for Action

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Background: The goal of the Caribbean Medical Students' Insights: Reproductive Health Survey is to better assess the interest, education and expectations in various reproductive health care topics among 1st, 2nd, 3rd and 4th year medical students at Caribbean Medical Schools. In addition, to take a look at the difference in responses between certain genders, age groups, religions, political association and income levels. The mission is to use the data to submit a formal request to Caribbean Medical Schools to include reproductive health topics in the curricula as recommended by the American College of Obstetricians and Gynecologists.

Methods: Data was collected from a survey adapted from Meg Starcher and Makenzy Sufficool who adapted the survey from Medical Students for Choice. First - fourth year students attending Caribbean medical schools were asked to complete an anonymous questionnaire distributed by Google Form from January - February 2020. Data analysis will be performed using Microsoft Excel formulation.

Results: Project is still in process but data collection will be complete by March 2020. However, from our early findings, of the M1, M2, M3, M4 students surveyed more than half reported having little to no knowledge on several different reproductive health topics: location of abortion services, surgical abortion procedures, consent laws on abortion and waiting period laws in your state/province. More than half of the students also supported the idea of adding reproductive health care topics in several areas to the 1st and 2nd year medical school curriculum. About 89% of students hoped to learn about these topics during medical school, while 65% hoped to learn about these topics in residency. The correlation between response and demographic data will be coded and analyzed upon completion of data collection.

Conclusions: These findings highlight the desire of medical students to improve reproductive health education during their medical school years versus in residency.

Demythify Medicine: Magnifying the Misinformation of Reproductive Health

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Background: The goal of the project is to make medicine more accessible to the public and healthcare students by uncovering the myths of medical terminology and concepts. I believe that confusion and misinformation surrounding healthcare causes a great deal of disconnect within society and its the role of those in healthcare to educate and assist the public.

Methods: My project utilizes social media along with graphic designs to convey difficult medical and healthcare concepts, like abortion or sexism in medicine, by researching information from reputable sources. I make sure to create infographics that are easy to read and simplistic for people to be able to understand these complicated topics. I created an instagram account to update on recent events in the medical community as well as ongoing medical issues that affects everyone. My focus is mainly advocacy for reproductive health with the underlying issues of sexism, racism, and implicit bias.

Results: My project is ongoing as a social media campaign to increase the awareness surrounding reproductive health as well as legislature that impacts medicine. The likes, reshares, and interactions with my infographics indicate the outcome of the project, as well as individual posts. One of the posts was received very well due to close to 300 likes and nearly 60 reshares as it discussed sexism in medicine.

Conclusions: I believe this project has a bright future as a source of information for the public. I have been able to connect with medical students across the world, as well as medical professionals, to continue to support and share my work which increases the view of my project. I am currently bringing my project to the island of St. Maarten to combine my infographics with local education gaps on reproductive health to really make an impact, both virtually and in reality.



Destigmatizing the “A” Word

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Background: Despite the health benefits of safe abortion options, the practice of abortion has raised ethical, religious, social, and political concerns, with many individuals’ understanding of abortion rooted in a complex amalgam of these ideologies. In order to identify an impartial approach to effectively and accurately educate patients on abortion, these beliefs must be addressed. With the insights provided and obtained through surveying methods, we will be able to better conclude the root of this controversy and assist those looking for information by identifying more streamlined approaches to providing accurate and informative data on abortion and abortion care.

Methods: We will use social media for recruitment and google forms to analyze the current, varying views regarding abortion among American-based college students and young professionals (ages 18-30.) This data will be used in developing a more targeted, evidence-based approach to providing abortion education. Upon submission of the survey, survey takers will be provided an abortion fact sheet.

In addition to the surveys, to gain further insight into how to enhance patient education and discussion regarding abortion, interviews will be conducted with individuals working in abortion-related fields. Depending on availability, we will conduct more in-depth interviews with experienced providers to see if they have recommendations to assist with increasing health literacy in this area. Interviews may be with a medical student, patient care guide at an abortion clinic, activist, and an OB/GYN.

Results: Two engaging interviews with a layperson and patient care guide have ensued, with more to come in the following weeks. It was surprisingly helpful to start conducting interviews prior to sending out the survey because each one better enlightened us to add new questions to the survey. For instance, we originally only asked what your stance on abortion was at this moment. But this can be a dynamic choice that has transitioned over the years. How can we best capture the dichotomy of someone’s past and present belief system without limiting it to the here and now?

Conclusions: How did we conceptualize our ideas on abortion, where did we obtain this information, and how can we close knowledge gaps and perceptions in a respectful, inclusive manner? Answering these questions has an impact on individual lives and implications for our society as a whole. It is expected that we will receive mixed responses, but with this project, we hope to open up the topic for discussion rather than keep it hidden away.

Effect of Coronavirus (COVID-19) on Pregnancy and Delivery; a Systematic Review

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Background: This study is aimed at conducting a systematic review on the effect of COVID-19 on pregnancy and delivery and to reject or accept the study hypothesis, which are;

- COVID-19 affects pregnancy and delivery.
- Pregnant women have higher risk of getting infected with COVID-19 than the general population.
- Pregnancy and childbirth could aggravate or increase the risk of COVID-19 infection.
- COVID-19 can be transmitted vertically from mother to child prenatally and/or at the point of delivery.

Methods: A comprehensive literature search was conducted in databases including World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), Illinois Department of Public Health (IDPH), National Institutes of Health (NIH), American College of Obstetricians and Gynecologists (ACOG), Royal College of Obstetricians and Gynecologist (RCOG) and PubMed. Study designs used in articles analyzed includes case reports, case series, case study, case-control study and reviews.

Results: The first two articles shows no risk of COVID-19 infection in pregnant women in relation to the general population. The third article shows no changes in the course of the COVID-19 infection before and after delivery. The rest of the article, from the fourth to the tenth, shows that among 188 pregnant women used for the study in total with maternal age range 26-40, 171 confirmed cases, 17 suspected cases, 173 neonates were born alive, infection with COVID-19 in pregnant women caused preterm labor (25.4%), premature rupture of membrane (7.5%), fetal distress (8.7%), neonatal death (1.7%), and other complications (4.6%) with no evidence of vertical transmission and no maternal death.

Conclusions: Infection with COVID-19 in pregnant women could affect the pregnancy causing preterm labor and fetal distress. Pregnant women do not have higher risk of getting infected compared to the general population. Pregnancy and childbirth do not aggravate or increase the risk of COVID-19 infection. There is no evidence of vertical transmission of COVID-19 between mother and child.

Family Planning in the United States: Establishing Equity in Abortion Access

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Background: During my previous research studying which US state has the highest rates of cardiovascular disease, I found that there was a noted higher prevalence in the Southern US compared to other regions in the US. In doing so, I researched which social determinants of health contributed to these findings. My primary aim for this project is to parallel my previous research by determining which US state has the most and least restrictive abortion laws and understand how this relates to social determinants of health.

Methods: My objective is to determine which state has the most restrictive and least restrictive abortion laws and compare and contrast the barriers to appropriate access and its consequences. I chose the Northeastern US as the primary region of comparison due to personal interest. In the event that the state with the most restrictive abortion laws is within the Northeastern US, I will use the same project framework, but do a comparison with the US state with the most lenient abortion laws. Since there are multiple social determinants of health, I plan to focus on the three determinants that carry the greatest impact to patients and their families. In presenting these findings I hope to highlight any disparities in abortion access and suggest methods in which to help alleviate or rectify them.

Results: The primary demographic for those seeking abortions are low-income, young adults (aged 18-24 years old) who racially identify as White. It was determined that Alabama has the most restrictive abortion laws and New York has the most lenient abortion laws. Alabama's main restrictions include: a 48-hour waiting prior to obtaining an abortion, inability to obtain an abortion after the second trimester, and required parental involvement for minors. The most impactful barriers to abortion access are: physician and hospital restrictions, lack of public funding and private insurance coverage, and provider refusal.

Conclusions: These results indicate the increased need to incorporate more age-appropriate pre-conception care into secondary schooling and the standard medical curriculum. Local initiatives should be developed and implemented in order to educate more vulnerable communities on effective family planning. Encouraging mentorship between physicians and aspiring advocates for reproductive health justice can help lead to legislative change in order to increase available funding and/or accessibility to those who require appropriate family planning resources.

Impact of Medical Students' Sociopolitical Leanings on Their Perceptions of Abortion Education in Louisiana

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Background: Medical organizations, including the American College of Obstetricians and Gynecologists (ACOG), state abortion care should be integrated into medical school and residency curriculum. Still, abortion education is inconsistent across medical schools. The purpose of this study was to determine if Louisiana medical students' sociopolitical leanings influenced their perceptions on abortion education in preclinical and clinical curriculum.

Methods: Students from 4 Louisiana medical schools were administered a quantitative and qualitative survey regarding perceptions on abortion education in medical school curriculum. Students' sociopolitical demographic backgrounds were collected.

Results: 400 of 428 surveys were evaluated. Students identifying as "politically conservative" were less likely than those identifying as "politically liberal" to support legal issues in abortion care (OR 0.53, 95% CI 0.37-0.76), economic and racial disparities in abortion (OR 0.48, 95% CI 0.36-0.63), and adolescent abortion (0.52, 95% CI 0.4-0.67) inclusion into curriculum. Students identifying as religious were less likely to believe that medical abortion (OR 0.64, 95% 0.44-0.94) and surgical abortion (OR 0.61, 95% CI 0.42-0.89) should be included.

Conclusions: Overall, Louisiana medical students desire more abortion education in their medical curriculum. However conservative and religious leaning students are more hesitant. The majority of Louisiana medical students go on to provide medical care in Louisiana; thus, a lack of abortion education may pose additional barriers to future patients seeking care. The integration of abortion care into the medical curricula as well as the negative implications women and their families face due to lack of care may help students with conservative and religious sociopolitical standpoints ease into curriculum change.

Knowledge and attitudes towards induced abortion in women aged 11 to 59 years from the El Fundo community (Mirador Norte) of the Bani municipality, Peravia province, Dominican Republic, in the period August-September 2020

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Background: Abortion in the Dominican Republic is criminalized in article 317 of the penal code, however, the implementation of this practice has never ceased to exist. In 2017, the Ministry of Public Health reported that 9% of all maternal deaths were caused by abortions that resulted in complications. The purpose of this research is to guide sexual education programs and the use of contraceptive methods, as well as to develop public policies that guarantee women's reproductive rights and total well-being.

Methods: Cross-sectional, prospective, observational and analytical study. A sample of 385 people was selected, with a confidence level of 95% and a margin of error of 5%, to which the questionnaires were applied. The questionnaire variables included age, sex, socioeconomic status, knowledge about abortion, opinion on abortion, and contraceptive use. A form made by the authors for data collection was used, which had the informed consent attached.

Results: 62% of the respondents had an intermediate level of knowledge about induced abortion. 41.81% of the participants cited the existence of toxic relationships as the main biosocial factor influencing the induction of abortion. 100% of the upper class had an intermediate to high level of knowledge, in contrast to people in poverty and extreme poverty, of whom only 77.3% had intermediate to high knowledge.

Conclusions: Most participants have an intermediate level of knowledge regarding induced abortion. The socioeconomic stratum is closely related to the level of knowledge about induced abortion, with a p-value = 0.043. Among the biosocial factors that most influence decision-making about the induction of an abortion are toxic couple relationships, unwanted pregnancies and low socioeconomic status.

Meta-analysis on the Effects of Male Partner's Role Throughout the Pregnancy on Birth Outcome

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Background: In this quantitative meta-analysis study we aim to revise and consolidate the literature available that surveys the effects of male partner's role throughout the development of the pregnancy, on birth outcome. We would like to identify the proper variables that define the male partner's roles, as well as the maternal and neonatal birth outcome; With the final purpose of carrying out a proper observational cross-sectional study of the variables of interest afterwards.

Methods: We are examining the investigations and research available in various online databases that have studied the variables of interest. We will be defining the variables, choosing keywords and work cited for our background literature, and designating inclusion and exclusion criteria. Also, we attempt to find the heterogeneity among the different studies available. Finally, we will interpret the results and discuss the conclusions of our study.

Results: So far, we have found a significant body of evidence that supports the relationship between our variable, of the effects of male partner's role throughout the development of the pregnancy, on birth outcome. Although our study is still under investigation, we have found a vast amount of research that examine our variables of interest in different populations.

Conclusions: We are still working on our conclusion.

Osteopathic Medicine and the Postpartum Woman

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Background: Osteopathic medicine is one of two recognized schools of medicine in the United States. Because of the unique nature of Osteopathic Manipulative Techniques (OMT) and their applicability to a wide range of patients, OMT may be valuable in the care of postpartum women. Osteopathic medicine is a patient specific, patient centered, and a holistic approach to providing care; we hope to shine a light on its relevancy and pragmatic use in women's health.

Methods: This project will showcase Osteopathic Manipulative Medicine (OMM) in the realm of postpartum care through a virtual symposium. This symposium will explore the use of OMM for a wide range of symptoms that postpartum women may endure - from musculoskeletal pain to psychiatric concerns. The event will be advertised to our classmates at the New York Institute of Technology College of Osteopathic Medicine as well as our peers in the scholars program, where they will learn and interact with our presentation. A faculty member whose expertise lies in utilizing OMT in the treatment of pregnant and postpartum women will speak on their experience providing Osteopathic Manipulative Techniques in this realm.

Results: The symposium will be held on February 15, 2021. An initial survey will be sent to students to gauge their prior knowledge of topic before presentation. We would like to compile the results to assess students' understanding of OMT as an option for OBGYN care.

Conclusions: Two of the most common complaints among women both during and after pregnancy include physical and psychiatric symptoms, often negatively affecting their quality of life. As future osteopathic physicians, we hope to educate our fellow allopathic peers on the access to non-invasive options in the realm of women's health.



Reproductive health disparities amongst Latinx populations: Issues of policy, bias, and education

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Background: As the United States faces the realities of an ever-changing political system, a political system that holds within its grasp the power to determine the care afforded to many individuals regarding their healthcare, many within sectors of medicine, political policy, and activism have taken a special interest in individuals' reproductive rights and the reproductive services available to those across the country. A review of such rights and services brings up not only injustices facing reproducing individuals but also how these injustices disproportionately affect people of color. The Latino population is one of the fastest-growing in the United States. Despite this, members of this community have been barred from receiving equitable services, especially within the healthcare sector. Latinx reproducing individuals are at an increased risk of this disservice on account of specific policies and biases that exist at local, state, and federal levels.

Methods: This study aims to provide an in-depth analysis of the current disparities facing Latinx populations through the presentation of statistically significant clinical research data, real-world policy investigations, and primary accounts from both patients and healthcare providers. While the latter research technique proved harder to achieve in an era of COVID-19, significant insights were gained through the use of previously cited narratives.

Results: The resulting findings display a discouraging pattern of adverse reproductive health outcomes amongst the Latinx population in comparison to non-Hispanic white populations. More specifically, a thorough examination of existing policies paints a picture of an overall environment of insecurity, irregularity, and injustice for those Latinx individuals who seek access to reproductive health services. These issues are further complicated due to varying sub-populations within Latinx populations, some of which face even steeper barriers on account of their status. As a result of these disparities, Latinx reproducing individuals are caught in an endless cycle of ailments and adverse outcomes, barred from the services needed most.

Conclusions: While the injustices facing Latinx reproducing individuals is becoming more readily apparent, solutions to the problems, while often easy to devise, are proving difficult to achieve. Supporters and activists assert that changes need to be made both federally, to expand access and rights, and culturally within the healthcare system itself. Such efforts will need decisive and incessant action on the part of not only individuals within the political realm, but also all healthcare sectors.

Rural Reproductive Health: An Analysis of Education and Access for Young Alabama Women

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Background: Teens and young women of Alabama consistently have poor outcomes related to their reproductive health. In the vastly rural state, many of the women disproportionately affected are low-income and minority groups. Measures such as teen birth rates, preterm birth rate and infant mortality are much higher than the national average. Strict abortion legislation within the state limits healthcare providers and discourages women from seeking out services, if available at all. Examining what measures have been taken, evaluating their success and considering future application to susceptible populations is important for progress.

Methods: A literature review of PubMed using search terms “sex education”, “teen pregnancy”, “contraception”, and “reproductive health” was performed, particularly focused on the state of Alabama. Well-established and credible resources such as Guttmacher Institute, Alabama Public Health Departments, and American College of Obstetrics and Gynecology were taken into consideration.

Results: Abstinence-only sex education fails and comprehensive education with family, peer and community engagement has shown to be most impactful. Young mothers have considerably less chance of high school graduation and poor chance of obtaining a college degree. Allocating more funding and training for family planning initiatives has a significant positive impact for young women and their infants. Often times in rural areas that lose hospitals with obstetric services, prenatal care falls to primary care physicians and can overwhelm their practices. The state of Alabama has more restrictive abortion policies in place than supportive measures, which provide expanded healthcare coverage and have been shown to improve outcomes for women, mothers and infants.

Conclusions: A multifaceted approach would have the best possibility of expanding reproductive health resources for teens and young women in Alabama. Utilization of communities and peers in rural areas would be the favored method for reproductive health education. Healthcare providers should be aware of the limitations their patients might face, be knowledgeable about state resources and engage in shared decision-making with their patients to provide the best care. Proper reproductive health training should be given in medical education and to advocate for government support for widespread access to these resources. Providing comprehensive sex education and adequate access to healthcare resources young women need sets the foundation for their future. Educated women with the resources they need have more control over their education and have improved quality of life for themselves and their children.

The Impact of Perceiving Reduced Access to Sexual Reproductive Healthcare on Mental Wellness in the Wake of the COVID-19 Pandemic

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Background: Past pandemics have wielded a deleterious impact on women's access to sexual reproductive health care (SRH), resulting in profound and long-lasting impacts on women's health. In line with that trend, the COVID-19 pandemic has exacerbated obstacles to accessing such care, in particular abortion. This study assesses the relationship between women's perceived access to SRH and that perception's impact on their health, specifically their mental wellness, in the context of the COVID-19 pandemic. To better understand such obstacles, this study focuses on the role of misinformation in the wider cultural conversation and the range of logistical challenges that can complicate a person's confidence in their ability to access SRH.

Methods: Participants will be cisgendered and non-cisgendered women aged 18-49 years old, able to read and comprehend English, able to provide online informed consent, and recruited via email from the student population at one of the researcher's institutions. Researchers will provide a URL link to an online survey formatted on Qualtrics software. The survey instrument poses multiple choice and qualitative questions relating to participants' sociodemographics, perception of changes in access to reproductive health with regards to COVID-19, and self-reported wellness. Some questions are from validated surveys while the majority are questions that have been newly developed. This study will sample 200 participants to generate comparable data to other similar quantitative studies.

Results: Data collection will be completed by March 2021. Results will be analyzed from data generated from survey responses using SPSS software. This survey will eventually be conducted in locales characterized by obstacles to accessing SRH, particularly abortion. Based on the results, it is anticipated that the findings will illustrate an inverse relationship between perceiving one's access to SRH to be restricted and the quality of one's mental wellness, with particular attention to misinformation and logistical difficulties as influencing factors.

Conclusions: COVID-19 is unique due to its multifarious consequences, creating a cascade of implications and uncertainties that women, in particular, have had to face and attempt to overcome. By elucidating the experiences and feelings of women in relation to their perceived access to SRH in the context of the COVID-19 pandemic, the findings may highlight the way in which access to health care intersects with mental wellness. This is a key relationship that, when understood, can inform the provision of sexual reproductive health care delivered by providers practicing in areas with well established difficulties to accessing these services.

The Puerto Rican community in the face of abortion: moral and conditioned positions in a population of 1000 respondents

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Background: In Puerto Rico, there are no educational platforms on abortion. The positions about abortion are conditioned in the different spheres of our government and citizenship. The Puerto Rican woman faces needs when deciding that she wants to have an abortion since she does not have the health providers or the corresponding care.

Methods: In this investigation, a survey of 21 questions was carried out on 1,023 people in Puerto Rico. The questionnaire was 21 questions, open to the general public, through social networks and digital platforms. Participants were men and women 18 years of age and older. Within the questionnaire, the posture of people regarding abortion, the reasons and level of education on the subject of reproductive health were analyzed. This survey sought to promote participant's reasoning and critical analysis about abortion and accessible health services.

Results: Lack of information and education is one of the biggest challenges facing our generation. So far, according to the results, 67% of people acknowledge having sought information and 21.4% acknowledge having never been educated on the subject of abortion. It is important to note that 44% of respondents have positions against abortion partially. Therefore, their positions in favor of accessible and regulated reproductive health are conditioned by reasons of sexual violence.

Conclusions: Our results demonstrate the lack of education about abortion in our country and the importance of offering accessible and quality health services. The population studied does not demonstrate an informed and analytical stance regarding safe abortion. We have developed education strategies and legislation in favor of the reproductive health of women in our country.

Training in the Public Health Institutes which train nurses on healthy abortion and family planning can be a tool to ensure, protect and legalize women's access to reproductive health care

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Background: A problem of stigmatization, unsafe abortion and a lack of providers to respond to it and the training of nurses who are numerous in our countries can change the situation. we aim to do para-academic sessions for these nurses in order to train them to perform a healthy abortion and destigmatize it

Methods: The data were collected from an adapted survey of medical students for Choice with the National Council of the Order of Physicians in Burundi and from Doctors and Nurses of ten hospitals in the province of Gitega, Burundi's political capital.

Results: According to the database of the National Council of the Order of Physicians in Burundi, there are 2,208 doctors out of a population of eleven million (11,000,000), or less than 1 doctor per ten thousand inhabitants. The survey of the number of doctors and nurses in ten hospitals in the health province of GITEGA found that only two hospitals had 10 doctors and 70 nurses. The remaining eight hospitals had between 3 and 7 doctors out of 80 to more than 100 nurses.

When these doctors were asked if they were receiving voluntary abortion consultations, 90% responded negatively and 10% positively. As for nurses on the same issue, 70% said they receive a lot of consultations for voluntary abortions. On the question of whether they performed the abortion, 10% of doctors said no and 5% of nurses agreed and 65% of nurses said no. On the question of whether they have learned anything about abortion, the 5% have read it on the internet and the 65% know nothing about it.

Conclusions: These results demonstrate the need for medical training on abortion and family planning in medical schools and especially in public health institutes because it is these institutes that are full of many of the providers who receive and are always in contact with patients. Once these nurses are trained, they will even be able to participate in the destigmatization of abortion and will easily perform healthy abortion in developing sub-Saharan countries.

Women's Initiative at Poznan University of Medical Sciences

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Background: I began this project due to the critical need for sexual and reproductive health service awareness at my university and in my community. I attend medical school in Poland, where abortion rights and reproductive rights are being severely threatened. I collaborated with a new organization - the Women's Health organization - at my university to address the gaps in access to such essential health services by students and our university. We are currently building upon the project by working to supply sanitary products free of charge to those who need them in our university.

Methods: Initially, I carried out a survey on awareness and access to sexual and reproductive health services in Poznan, specifically targeting students at my medical school. After the survey results were assessed, I worked with the president of our women's health organization to create a flyer that contains the most necessary information on such services - ranging from wellness exams to help with sexual and domestic violence as well as emergency contraception and abortion options, which we now continue to update regularly. The flyers have been distributed throughout the university and shared online by various organizations. We are in the process of carrying out our 'period project' in which (when Covid-19 restrictions have opened our libraries) will be placing sanitary products in restrooms so that they may be accessed by our students. This project will both help to make girls more successful by eliminating barriers in studying and combat menstrual stigma. After a few months, we plan to begin a joint program with our city's women's homeless shelter.

Results: Our survey results clearly show the serious gap in awareness and accessing of sexual and reproductive health services in female students here at PUMS. Being such a critical area of health, and being in a critical age group in accessing that help (females between the ages of 17 and 35), this is a problem. Since publicizing our flyer, students have reached out for more information, and to join our cause. The school is enthusiastic with our initiative and excited that we will start supplying sanitary products beginning in February.

Conclusions: This is the first project of its kind at UMP/PUMS and we hope it will grow into a movement of female students taking charge of and advocating for adequate sexual and reproductive health services. Moving forward, we hope to create a point of contact for students in need of information, to be able to directly connect them to the necessary services.



Your Reproductive Rights: An Awareness Initiative for the Los Angeles Community

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Background: The goal of this project is to distribute brochures to families that want to learn more about their reproductive health rights and helpful resources in the LA area. The brochure also details some of the current developments that are happening with Reproductive Health for families that are encouraged to become more involved. This aims to lessen the disparities that exist when receiving reproductive health care in the Los Angeles community, especially for individuals who are low-income or homeless.

Methods: The project's informational brochures will be distributed at community service events that the University of California, Los Angeles AMSA chapter participates in such as food banks, pop-up clinics, and insurance fairs. These events have been historically attended by low-income individuals who want to know more about healthcare opportunities and resources. Representatives from our chapter will distribute the brochures and gather information from individuals about how accessible clinics and hotlines are to them. This information will then be used to advocate for more accessible resources based on the needs of our community.

Results: Due to the ongoing COVID-19 pandemic, distribution of brochures and gathering on information was not able to begin as planned in Fall of 2020. However, we anticipate that we will be able to begin distribution at the beginning of April 2021 or Fall 2021 by the latest.

Conclusions: At this time, the project is still in progress, but the vision is to obtain crucial information through discussions with the project's target population in order to better serve their needs.

Christina's Story: Overcoming Healthcare Disparities Faced by Transitioning Transgender Youth

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Background: Disproportionality in access to healthcare for transitioning transgender youth is an urgent issue that impacts the well-being of this underserved population and must be addressed to guarantee that they get the care that they need. This project addresses evaluating the efficacy of access to current healthcare treatment, both psycho-social and medical, before, during, and after transitioning. By determining the factors that affect the well-being of transitioning transgender youth and how best to support and serve this vulnerable and stigmatized population, this project values the human rights of those who seek to claim their gender identity and obtain the healthcare services and protections they are entitled to receive.

Methods: The target population for this project is transgender youth. My project process includes researching the topic, reviewing literature, collecting data, and interviewing. I reviewed demographic data from the peer-reviewed scientific literature related to the transgender youth. I conducted phone, Facetime, and/or Zoom video interviews with transgender youth, mental health professionals, and healthcare providers. All interviews were tape-recorded and transcribed verbatim using an interview guide of 12 open-ended questions.

Results: The outcomes of this project reveal that transgender youth seeking gender-affirming healthcare, both psycho-social and medical, before, during, and after transitioning, often confront barriers and restrictions. Unfortunately, not all healthcare providers are knowledgeable about transgender transitioning or the psycho-social and medical interventions that serve successful transitioning. My research reveals that there is a need for more empirical data to inform clinical practice in this emerging field to address the disparities encountered by gender transitioning youth. Family and community support are also critical for the well-being of transgender youth in the process of gender-affirming transitioning.

Conclusions: Transgender youth who are seeking to match their gender and physical body are underserved and are a poorly/limited researched population. The process of transitioning is complex and requires the networked involvement of team experience experts. Transgender youth require equitable access to gender-affirming services, healthcare delivery systems, and effective partnerships with transgender communities.

Essentially Invisible: COVID-19 exposure and susceptibility in immigrant essential workers in the United States

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Background: Objective: To examine how the COVID-19 pandemic has ravaged through the immigrant essential worker population through the lens of racial inequality and health care disparities in the US.

Methods: Through online databases, statistics and peer reviewed journals were examined; exploring the relationship and correlation between poverty, living in multigenerational homes, fear of legal repercussions, decreased health literacy and access to healthcare and the immigrant essential workforce. As well as the heightened exposure and susceptibility of this community to COVID-19.

Results: Lamentably, the shelter in place or stay at home orders broadcasted throughout the US did not apply to immigrant essential workers. They continued to work throughout the pandemic supplying a significant amount of labor in the essential agriculture and industrial sectors. Consequently, this placed immigrant essential workers in the eye of the COVID-19 infection storm.

Conclusions: The immigrant essential workforce has fuelled capitalism and subsequently COVID-19 infections within this community in the US. Faced with numerous health, social and political disparities COVID-19 infections have increased morbidity and mortality in the immigrant essential workforce. Consequently, the immigrant essential workforce has become invisible casualties in this never ending war against Corona virus. Immigrant essential workers keep the US running and through acknowledging and studying this population, a key piece of the puzzle may be discovered to preventing future infection from reaching this magnitude.

Final-year Medical Students' Knowledge and Attitudes Towards Breastfeeding: A First Step in Strengthening the Role of the Physician in Breastfeeding Promotion

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Background: Given the low rates of exclusive breastfeeding at six months (4.7%) in the Dominican Republic, the promotion of breastfeeding is a national public health priority. Health professionals play a critical role in providing the education and encouragement necessary for breastfeeding to occur. Unfortunately, far too little attention has been paid to the limited breastfeeding education in local medical schools. This study assesses final-year medical students' knowledge and attitudes towards breastfeeding, aiming to provide a basis for developing a curriculum for medical schools.

Methods: After the medical faculty's approval, a modified version of the Australian Breastfeeding Knowledge and Attitude Questionnaire (authorized by the survey author) was distributed between December 2020 and January 2021 to final-year medical students via digital student channels. Data on breastfeeding training, learning preferences, effectiveness, confidence, knowledge, and attitudes were reported quantitatively. Pearson's correlation was used to test the relationships between students' knowledge and attitudes and their perceived effectiveness and confidence in offering breastfeeding support.

Results: By the end of the survey period, data had been collected from 53 students. Not all participants answered all questions. 52.83% (28/53) rated their previous training as adequate but would like to know more. The most common sources of information about breastfeeding were medical courses (77.36%, 41/53), while the most useful source was clinical clerkships (52%, 26/50). The majority indicated case studies (60.38%, 32/53) as their preferred learning format. 73.58% (39/53) agreed that it is necessary to have a class exclusively about breastfeeding, and 75.57% (40/53) would be interested in being part of it. When asked to rate on a 1 to 5 scale their perceived effectiveness in meeting the needs of breastfeeding women and confidence in assisting those with problems, the mean scores were 3.62 (SD=0.98) and 2.72 (SD=0.88), respectively. The average number of favorable responses to breastfeeding knowledge statements was 16.86 out of 35, and only 25.71% of the statements were correctly answered by more than 70% (21/29). The average number of favorable responses to attitude statements was 16.01 out of 19. No statistically significant correlation was found.

Conclusions: Despite the reported favorable attitudes towards assisting patients and receiving breastfeeding education, students' limited knowledge and perceived confidence suggest the need for a breastfeeding curriculum. The results in detail allow identifying the topics to be prioritized when designing interventions to strengthen physicians-in-training's knowledge and counseling skills to support breastfeeding.

Four Clinical Phases of Breast Cancer in Brazilian Women

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Background: Breast cancer is the second cause of cancer death in women worldwide. In Brazil, one of the diverse countries in South America, breast cancer is less diagnosed and the leading cause of death among women, especially in Porto Alegre due to limited coverage of screening programs. Therefore, Brazilian patients are being diagnosed with advanced breast cancer. The aim of my project is to:

- analyze the factors and barriers associated with late diagnosis and treatment of breast cancer in Brazilian women, and
- call for crucial early detection, diagnosis, and treatment

Methods: My research project includes a literature review of my topic on Brazilian women with late diagnosis of breast cancer. I collected data from interviews with health professionals, medical and clinical oncologists, and global health experts. I reviewed data from the Brazilian indices indicators, Brazilian Institute of Geography and Statistics, and Brazilian publications Instituto Nacional de Câncer.

Results: My key findings are:

- Late screening and diagnosis of Brazilian women with breast cancer have increased their mortality rate.
- Preventive care and first signs of symptoms should be a priority for public health and can save lives.
- Quality breast imaging services are not available to access by all citizens.
- Poverty, low schooling and racial ethnicity are dramatic differences in healthcare delivery and outcomes.
- Breast cancer research is limited in Brazil due to the country's diverse and ethnic cultural background.

Conclusions: In Brazil, the health system is guided by both private and government institutions. However, the limitations of this health care system negatively affects diagnosis, which leads to advanced in stages and increased the mortality rate of Brazilian women with breast cancer.

Health Inequality: An Appeal to Uproot Systemic Racism in Healthcare

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Background: The healthcare system as it exists is flawed with respect to systemic racism. Former years of unethical research and differential treatment in addition to current implicit and explicit biases tremendously impact the care of minoritized patients of color. These practices and behaviors need to be uprooted and replaced with more inclusive and fair policies and care. This project is an attempt to highlight the need and increase awareness amongst my colleagues and future leaders in medicine.

Methods: Examples of Systemic Racism in Healthcare:

Our Roots: Evidence of Racist Practices/Research in Healthcare

(Tuskegee Syphilis Study “Bad Blood”; Henrietta Lacks “Immortal Cells”; Dr. James Marion Sims “Racism and Gynecology”; Dr. Susan Moore “COVID-19-One of Us”)

Fruit from the Tree: Deceit, Distrust, Disease, Death

(Cycle continues)

What’s in the soil: Social/Corporate Determinants of Health

(The errors and what we can improve)

Results:

A few ways for medical students to help uproot systemic racism in healthcare:

1. Educate yourself and others: Grade school did not fill us in.
2. Get involved: Advocate and Demand Change.
3. Support healthcare organizations, educational systems that promote economic, racial, and social justice. Request such of your organization.
4. Exercise your privilege. Become an ally.
5. Create opportunities for positive, meaningful change.

Conclusions: Reflecting on the ground-shaking year of 2020 in culture and medicine and its exposure of mistreatment on behalf of people of color, I believe it is clear that systemic changes in healthcare are long overdue. The gap in healthcare disparities is widening and lives are unnecessarily being lost. We must uproot not only the conscious bias, but also seek to eliminate the unconscious. Regrettably, we cannot change the past, however, it is our every move that determines the future.

IBD-SS: Web-Based Monitoring and Management System for Inflammatory Bowel Diseases

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Background: In the Dominican Republic, patients with diseases that require chronic management such as inflammatory bowel diseases, are designated to the High-Cost Diseases Department of the Public Health Ministry. The processes these patients need to exhaust are lengthy and repetitive to obtain a place in the program and begin receiving their treatment, as well as to continue receiving it for the time required. As the Final Project for AMSA's Public Health Scholars Program, I decided to develop an intervention to address this issue, in order to optimize these tasks for patients and physicians involved.

Methods: The intervention requires the design of a renewed systematic approach with the inclusion of web-app technologies. This includes a monitoring and management system for the use of providers of high-cost medication, primary care physicians, and specialists. Patients will have access to applications for the program through a landing page form and through their diagnosing specialist, while the Public Health High-Cost Department will be able to approve, deny, and modify patient's requests. Physicians will be able to order medications according to the patient's need and give a correct follow-up.

Results: To satisfy these needs, the High-Cost Web-Based Monitoring and Management System is created, which bases on the requirements gathered from patients and public health professionals, making it an accessible tool from anywhere in the country. It is a free web platform including a landing page and a web-app (IBD-SS) to monitor patients and medication data through the Public Health Network System. It improves the current processes of the patient receiving their dosage of medication as required by synthesizing into steps that can be done digitally and the database assures patients are not lost during treatment.

Conclusions: Inflammatory Bowel Disease patients are a delicate demographic that requires high-cost medication. The High-Cost Web-Based Monitoring and Management System is a multi-user platform tool that allows patients to have greater accessibility and follow-up in their process of medication, optimizing and upgrading the current manual process. In the Dominican Republic, a systematic approach modification such as this intervention is required in order to guarantee better outcomes and at the same time, obtaining a national network system that is efficient for patients, physicians, and providers.

Looking for Zzzzz? Chronic Insomnia and Complementary Medicine: A Systematic Review

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Background: Chronic insomnia is a debilitating condition leading to lower quality of life, leaving patients to struggle with these symptoms for years, partially due to inadequately available treatment modalities. Currently Cognitive behavioral therapy for Insomnia (CBT-I) and pharmacotherapy are considered first line treatment, and studies have demonstrated that CBT-I is more useful than pharmacotherapy in long-term insomnia. Due to the inadequacy of CBT worldwide, this highlights the need for complementary medicine to be used as adjunct, and more evidence-based studies need to be performed to evaluate and confirm these methods.

Methods: A systematic review will be conducted by searching the Pubmed database for articles related to chronic insomnia and the alternative methods of complementary medicine to treat the medical condition. The following keywords and inclusion/exclusion criteria were used: “chronic insomnia”, free full text, randomized controlled trial, last 5 years, English language, complementary medicine. Cochrane risk of bias assessment (ROB 2.0) will be used for quality assessment of the randomized clinical trials. PRISMA guidelines and flowchart will be used.

Results: Preliminary search for studies was done, and 57 randomized clinical trial studies were chosen for quality appraisal. Early findings show that there is evidence-based research in the improvement of chronic insomnia with the use of Acupuncture, cupping, mindfulness/biofeedback, movement/exercise, herbal, and other supplements. We will be discussing these studies further and understanding the challenges of treating chronic insomnia in adults.

Conclusions: This article identifies four treatment approaches of complementary medicine that have similar efficacy as CBT in treating chronic insomnia. In this article, knowledge will be expanded based on current randomized clinical trials available on the use of acupuncture therapy, supplements, mindfulness- based intervention and exercise/aerobic intervention as treatments for chronic insomnia.

Mental Health and Alcohol as a Coping Mechanism of Students in Poland in the time of Covid-19

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Background: The increase in stress and anxiety caused by Covid-19 and its restrictions has forced us to seek various coping mechanisms, namely alcohol, which can themselves exacerbate stress and anxiety. Additionally, being in a foreign medical school, stresses are often amplified being away from our home cultures. A 10 minute online survey was created for all medical students in Poland - the goal of which is to assess existing associations between the current pandemic and alcohol use, anxiety, depression, and other mental health factors.

Methods: The survey includes the following groups of questions - demographic information, the PHQ9 questionnaire for depression, the GAD7 questionnaire for anxiety, assessment of coping mechanisms based on 'Brief COPE' measures, and questions assessing how much students were affected by Covid-19 and the imposed restrictions. The survey is offered to medical students studying in Poland, in both English speaking and Polish speaking programs (available in both languages). The survey has been shared on social media platforms (via school organizations like our local AMSA), shared by class representatives to each class, and sent by email to students at various schools. SPSS is being used to statistically analyze the data and results will be used for presentation, but also to create an action plan for how medical schools in Poland can tackle mental health problems amongst their student body.

Results: The survey includes our university and thirteen other English-speaking medical programs in Poland. Advanced analysis will be performed on February 11th, when all survey responses have been collected, and the project will be completed in March. Though clear associations have not yet been determined—early findings from the first 119 responses can be observed. A summary of this preliminary data shows that experience of depression and anxiety are very common, and many students are experiencing difficulty with coping. Specifically - 22.3% are consuming more alcohol than before, 49% of students scored moderate or above on the PHQ9 depression scale, and 35% moderate or above on the GAD7 anxiety scale; 51.3% of students have known someone that has died from Covid-19. Further analysis will assess associations between various factors and mental health outcomes.

Conclusions: Bringing awareness to poor mental health and providing the necessary resources to students could prove invaluable in the journey to addressing deficits of medical student wellness. Applying this survey's data in support of expanding student resources around psychological well-being at a university level could benefit all students and aid in developing healthy coping mechanisms. With a persistent decline in physician wellness in recent years, this proactive approach to addressing mental health in early stages may alleviate irreparable damage in the future.

Reduction of Dermatologic Health Disparities Through The Improvement of Medical Education

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Background: People with darker pigmented skin disproportionately experience worse health outcomes than their lighter pigmented counterparts in the diagnosis and treatment of melanoma. According to the American Cancer Society, Black patients have a 67% five-year melanoma survival rate while whites have a 92% survival rate. This stark difference has been attributed to the lack of representation of skin diseases in darker pigmented skin during medical training. The aim of this project is to explore the health care disparities between patients with light and dark pigmented skin suffering from melanoma and how education tools can be implemented to reduce those differences.

Methods: First, a literature review of melanoma prognosis and survival rates between populations with differing skin pigmentation in the United States will be completed as provided by the American Cancer Society and the Center for Disease Control (CDC). Next, further investigation will be conducted into physician reports of adequacy of dermatological training when diagnosing patients with dark pigmented skin. Finally, a review of educational resources such as text books, Visual Clinical Decision Support Systems (VCDSS), and crowd sourced reference tools will be utilized to explore how to reduce this health care disparity.

Results: Findings indicate a greater delay of diagnosis and higher mortality rate for melanoma in patients with darker pigmented skin. According to studies published in the Dermatologic Clinics Journal and the Journal of the American Academy of Dermatology, 47% of dermatologists reported they did not receive adequate training on skin conditions in darker pigmented skin and only 65.9% of dermatological program directors reported the utilization of skin of color specific training materials. Resources are available to integrate with current training protocols for greater exposure to skin cancer manifestation in darker pigmented skin. Here are a few of those resources: a cultivated list of textbooks is available through the Skin of Color Society, VCDSS such as VisualDx, Skin of Color webinar series produced by the New England Journal of Medicine, and social media accounts such as Brown Skin Matters.

Conclusions: Patients with darker pigmented skin diagnosed with melanoma, experience worse health outcomes and a greater mortality rate than patients with light pigmented skin. Understanding differences in disease manifestation across skin with varying levels of pigmentation is critical to the successful diagnosis and treatment of disease. Specifically, increased education and exposure to melanoma across different populations may decrease the mortality rate in patients with darker pigmented skin. Resources are available to enhance dermatological training in skin of color and should be utilized.

The Future of Public Health: A Movement Driven by Moral Determinants of Health

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Background: As part of the Public Health Scholars Program's (PHSP) final project, students are to interview inspiring public health professionals whose work and passions have helped address one or more of their moral determinants of health (MDOH). In a paper titled "The Moral Determinants of Health," the author describes it as the "moral law within" us, varying by person, but ruling our ambitions and actions, often taking into account social determinants of health (SDOH).

Methods: At the beginning of the PHSP course, I created my own list of moral determinants of health. This includes social change, education and service, LGBTQIA+ competency, racial justice, among others. Professionals from different backgrounds in the public health field working to advance one or more of my MDOHs were selected. Interviews were conducted following a script focusing on their respective contributions to their specific public health issues. The script included discussions about their background, goals, and work. The next step was addressing specific MDOHs, different issues, resources or lack thereof, and the importance of public health in their lives. Finally, interviews concluded with asking participants about their specific moral determinants of health and advice for future students who want to involve themselves in their type of work.

Results: Subjects' background exposed them to needs that could be remedied with public health knowledge and preparation. Goals and work tended to focus on specifics rather than generalizations. Public health was a recurring tool for ensuring that 'dreams were not just dreams.' When addressing each specific MDOH, answers would vary. Most individuals felt strongly about their specific MDOH and wanted to focus on addressing immediate issues to create long-term effects. Advice for future students included a variety from common answers like education and exposure to life-long advice, such as "jump in head first."

Conclusions: Often health professionals are focused on completing their degree in order to "make a change," but they do not recognize the importance of establishing moral determinants of health early on in their career to concentrate their goals and work. Even though discussions were based on personal experiences, there was an overarching determination to take action against the disparities at hand. The interviews for PHSP's final project emphasize how having our own moral determinants of health is vital to create change within our communities throughout our journey in medicine and public health.

The Intersection of Public Health and Emergency Medicine: A Qualitative Interview With Dr. MR

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Background: This project was completed as part of the AMSA Public Health Scholars Program in an attempt to highlight the intersection between emergency medicine and public health. More specifically, it unpacks the multifaceted nature of an individual's career as it relates to clinical practice, research in injury prevention and the creation of a non-profit organization dedicated to securing Personal Protective Equipment (PPE) for frontline healthcare workers fighting COVID-19.

Methods: Inspired by her accomplishments as both a physician and public health professional, I wanted to learn more about the career of Dr. MR. Dr. MR is an emergency medicine physician, injury prevention researcher and co-founder of two non-profit public health organizations. In order to adequately capture the complexity of her career, I conducted a one-hour qualitative interview virtually over Zoom. I used pre-written questions to guide the interview with the intention of learning more about her career roles, as well as the rewards and frustrations that accompany them. The interview was recorded with consent, and subsequently transcribed for publication.

Results: Throughout the interview, we discussed Dr. MR's roles as an emergency clinician, injury prevention researcher and innovator, and co-founder of the American Foundation for Firearm Injury Reduction in Medicine (AFFIRM) and GetUsPPE. We discussed COVID-19 in America and the anticipated change in response under the new administration in 2021. In an attempt to showcase the importance of public health and need for contribution from those outside of politics, Dr. MR listed ways individuals without MDs or MPHs can help contribute to fighting the pandemic. The interview concluded with inspiring words from Dr. MR about how medical students can get more involved in public health, even without prior formal education. She discusses the importance of using medical school to "try on different hats" in order to find one's passion outside of his/her/their academic curriculum.

Conclusions: As part of the AMSA Public Health Scholars Program, this interview was conducted to inspire medical students and community members alike in the complexity of and vast opportunities that accompany a career in public health and emergency medicine. In the midst of an ongoing pandemic, Dr. MR highlights the importance of public health professionals, politicians and volunteers working together toward a common goal. She specifies tangible ways to get involved and make a real difference, empowering individuals to find their public health niche within their respective healthcare professional goals.

A Metadata Analysis of Brain Microbiome Across Different Neuropsychiatric Disorders

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Background: The brain is generally regarded to be a sterile environment, protected by the blood-brain-barrier (BBB), which prevents toxins and pathogens from entering that could cause life-threatening illnesses. However, the presence of the herpes simplex virus (HSV) in postmortem brain samples from patients with Alzheimer's Disease (Allnutt, 2020) and reports of bacteria in human postmortem brain samples from subjects with Schizophrenia (Roberts, 2018) suggests a complex relationship between microbes and the development of neuropsychiatric diseases (Allnutt, 2020). The aim of this study is to determine, using a bioinformatic approach, whether bacteria and viruses (i.e. a brain microbiome) are present in the brain postmortem and if its composition in healthy individuals differs from those diagnosed with a neuropsychiatric disorder.

Methods: In this metadata analysis, we examined a total of 1,325 postmortem brain samples from 11 different transcriptomic (RNAseq) studies carried out in postmortem brain tissue from subjects diagnosed with schizophrenia, major depression, bipolar disorder, Alzheimer's disease, and non-psychiatrically ill controls. These files were subjected to two different but complementary forms of analysis: the diversity (alpha and beta) measures were used to align with the conventional ways to analyze microbiome in the ecological studies while the RNASeq Differential Microbiome analysis used the conventional up and down regulation of microbes as the end measure. Alpha diversity measured diversity within the sample and beta diversity measured diversity between the samples. The differential microbiome was used to determine reads that map to and did not map to the human genome.

Results: Alpha diversity analysis across 964 comparisons found significant sex differences between males and females as a variable and beta diversity analysis across 964 comparisons found significant sex differences between subjects with schizophrenia in particular. Differential microbiome analysis found significant numbers of up-regulated taxa and down-regulated taxa compared between conditions, suggesting that certain bacteria may be more prevalent than others in cases versus controls. This project is ongoing and will be completed by April 2020.

Conclusions: This study takes a bioinformatic approach to examine whether reports of bacterial and viral expression in the brain in subjects with neuropsychiatric disorders may be associated with the development of disease. Preliminary results of a significant number of reads mappable to the microbiome in human RNASeq datasets suggest that there is a presence of a brain microbiome and that its taxonomic composition may vary across different neuropsychiatric conditions. Future analysis will compare the bacterial and viral RNA diversity of male and female schizophrenic subjects to male and female controls.

Assessment of the methylenetetrahydrofolate reductase (MTHFR) gene polymorphism C677T as a risk factor in obese and male patients with psoriasis

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Background: Obesity is one of the significant public health concerns associated with numerous comorbidities. Recent evidence suggests that obesity substantially increases the risk of developing psoriasis. However, there are conflicting results about the association of MTHFR gene polymorphism with psoriasis and obesity. This research investigates the correlation between MTHFR C677T polymorphism, obesity, and psoriasis.

Methods: A total of 72 Caucasian male patients with psoriasis vulgaris, and 84 healthy control individuals were investigated. Single nucleotide polymorphism MTHFR C677T was genotyped in patients and controls via conventional PCR and confirmed by PCR+ Strip technology. Clinical and laboratory parameters were examined. Logistic regression models were used to estimate the power (c2), odds ratios (ORs) and Fisher Exact test. The study was approved by the Ethics Committee of Medical University - Pleven and all patients provided informed consent.

Results: MTHFR C677T genotype (TT) was highly prevalent in obese psoriasis patients in comparison to controls (OR 2.75, c2 8.313, p 0.04) and non-obese patients with psoriasis (OR 3.4055, c2 4.026, p 0.05). Obese carriers of the MTHFR C677T polymorphism had a higher BMI (29.6 versus 26.7kg/m²) in comparison to non-carriers and a higher PASI score (29.06 versus 26.16), as well as higher fasting blood glucose, TAG, and LDL cholesterol levels.

Conclusions: Carriage of the TT genotype of MTHFR polymorphism 677C>T was significantly associated with psoriasis vulgaris in the obese male patients. Severity of psoriasis was higher in the patients carriers of the TT genotype of MTHFR polymorphism 677C>T in comparison to non-carriers. The impact of polymorphism could be related to the availability of vitamins like folic acid (B9), B12, B6, B2, absorption of vitamins, minerals, essential fatty acids and amino acids that interact with folic acid and should be taken into account for treatment. Significantly higher levels of glucose, TAG, LDL cholesterol, hypertension, and PASI score in the obese carriers of MTHFR polymorphism 677C>T suggests association with metabolic syndrome.

Biased ligands of CXCR3 promote differential signaling mechanisms and functional outputs mediated by the phosphorylation barcode

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Background: This project sought to investigate the phosphorylation barcode as a mechanism underlying biased signaling at CXCR3, a receptor which is highly expressed on T cells and implicated in a variety of disease states, including autoimmune disorders, infectious diseases, hypersensitivity reactions, atherosclerosis, and cancer. CXCR3 signals through three endogenous ligands, CXCL9, CXCL10, and CXCL11. Elucidation of the mechanisms and physiologically relevant functional effects of biased signaling at GPCRs could aid greatly in the development of therapeutics which both induce more efficacious effects and lack significant side effect profiles, as GPCRs are estimated to be the target of one-third of all small-molecule drugs.

Methods: We created various mutant CXCR3 constructs with phosphorylation deficient or truncated C terminal tails, which we used to probe the role of the phosphorylation barcode in biased chemokine signaling. We used TRUPATH, an open-source suite of 14 optimized bioluminescence resonance energy transfer (BRET) Gαβγ biosensors, to interrogate G protein signaling and bioluminescence resonance energy transfer to assess β-arrestin 2 recruitment to WT CXCR3 and the phosphorylation deficient CXCR3 mutants following stimulation with CXCL9, CXCL10, or CXCL11. We used western blots to assess ERK1/2 phosphorylation following stimulation of WT CXCR3 and the phosphorylation deficient CXCR3 mutants with the endogenous ligands. Finally, we determined phosphoproteomic profiles of cells following stimulation of CXCR3 with its endogenous ligands.

Results: We found differential G protein signaling induced by the three endogenous ligands of CXCR3, with the phosphorylation deficient mutant receptors demonstrating differential effects on signaling based on the ligand stimulation. We found that, of the endogenous ligands, CXCL11 induces the greatest β-arrestin 2 recruitment to CXCR3. All phosphorylation deficient CXCR3 mutants demonstrate reduced β-arrestin 2 recruitment. ERK1/2 phosphorylation was found to be potentiated at all phosphorylation deficient CXCR3 mutants at CXCL10 and CXCL11, but not CXCL9, at 5 minutes. Phosphoproteomics revealed a significantly more inflammatory signaling profile for CXCL10 over CXCL9 and CXCL11.

Conclusions: Phosphorylation ensembles composing differential phosphorylation barcodes of CXCR3 are important for the induction of G protein signaling, the recruitment of β-arrestin 2, and the downstream phosphorylation and subsequent activation of MAPK signaling. These ensembles impact signaling differently based on the identity of the ligand stimulation, suggesting their importance in the regulation of biased signaling. Phosphoproteomics highlighting the inflammatory signaling profile of CXCL10 corroborates significant prior evidence for the role of CXCL10 as an especially inflammatory chemokine.

Delayed Anterior Chamber Inflammatory Reaction (DACIR) from Cataract Surgery Pack Debris

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Background: To effectively identify the source and treatment for a delayed type of immune reaction after routine cataract surgery occurring in a cluster of 28 eyes from 26 patients.

Methods: 26 patients presented with increasing inflammation from 1 week to 3 months post-cataract surgery. All lot numbers of injectable medications and sterilization techniques were reviewed to rule out TASS. A foreign body was identified in 13 of the 28 eyes in the anterior chamber or in the wounds. Treatment options included topical steroids, intraocular injection of steroids and antibiotics, or an anterior chamber washout. Anterior chamber washouts included the use of eye stents for those patients with steroid responsive glaucoma. All patients were followed over a period of 12 months or until complete resolution of inflammation. Visual acuity and intraocular pressure were documented at each visit. Surgical method was modified to prevent the complications of foreign bodies entering the eye, which included the off label use of intracameral Moxifloxacin in all cases, replacement of surgical packs to a different brand, use of individual peel pack or metal basins, and the use of filter needles to draw up fluids from basin or medicine cups.

Results: Three different approaches were used to facilitate resolution of the inflammation; topical steroids, intraocular or periocular steroid injection, and anterior chamber washout. The average time to presentation after surgery was 19.3 days, and overall time to resolution was 4.29 months; topical steroid drops (n=29) had time to resolution of 4.4 (± 2.8) months, anterior chamber washout (n=8) had resolution of 4.25 (± 2.30) months, and steroid injections (n=5) had an average of 1 month. Complete resolution of the reaction was seen in 28 out of 29 eyes. One case has ongoing trace cells beyond 12 months despite all treatments. Steroid injections were proven to be the most efficacious treatment option with an average time to resolution of 1 month versus 2.9 or 4.3 months for washouts or drops respectively. Final average postoperative visual acuity was 20/32 (± 19.10), and no patient experienced loss of BSCVA.

Conclusions: Delayed Anterior Chamber Inflammatory Reaction (DACIR) describes a type of reaction not commonly seen after cataract surgery. We identified disposable supplies used during cataract surgery from the sterilized surgical packs to be a source of debris that was similar to that found inside many of the affected eyes. The association of this delayed and prolonged type of reaction to a foreign body type of reaction can be made clinically from these findings.

Dopamine receptor 2 knockout in cholinergic interneurons attenuates L-Dopa induced dyskinesias in Parkinson's disease

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Background: Parkinson's disease (PD), a progressive neurodegenerative disorder characterized by dopamine neuron (DAN) loss, is treated with dopamine precursor L-Dopa. While L-Dopa attenuates PD motor symptoms such as akinesia, long-term administration of L-Dopa eventually causes a debilitating side effect known as L-Dopa induced dyskinesia (LID) in 90% of medicated PD patients. We hypothesized that pathophysiological changes to cholinergic interneurons (CIN), DAN targets in the basal ganglia, via activation of Dopamine Receptor 2 (D2) may underlie LID development and aimed to isolate this mechanism for potential improvements of PD treatments.

Methods: To understand the role of CIN D2 expression in the development of LID, we used a transgenic mouse model with selective loss of D2 on CIN (DRD2^{-/-}:ChATCre⁺) in combination with the 6-hydroxydopamine (6-OHDA) model of PD to produce unilateral DAN loss in the brain. Chronic L-Dopa administration in these hemiparkinsonian animals produces a well characterized model of LID for assessing the effects of therapeutic agents. The severity of LID was quantified using a validated Abnormal Involuntary Movement (AIMs) scale which examines four forms of dyskinesia (locomotion, axial, limb, orofacial) on a graded rating scale from 0: None to 4: Continuous. General CIN activity was also quantified using p-rps6 expression, a marker for neuron activity.

Results: In 6-OHDA mice treated with L-Dopa and selective knockout of D2 from CIN, there was a significant reduction in AIMs as compared to heterozygous (DRD2^{+/-}:ChATCre⁺) 6-OHDA controls treated with L-Dopa. Additionally, expression of p-ERK in CIN, a marker correlated with LID severity, was reduced in D2KO CIN of the dorsolateral striatum. 6-OHDA lesion together with L-Dopa treatment produced greater general CIN activity as measured by p-rps6 in heterozygous controls compared to unlesioned/L-Dopa naïve controls. D2KO on CIN prevented this increase in CIN activity following 6-OHDA and L-Dopa treatment, such that average CIN activity levels in D2KO CIN remained closer to baseline after 6-OHDA and L-Dopa treatment.

Conclusions: We concluded that abnormal CIN activity is linked to LID as heterozygous 6-OHDA mice had higher levels of general CIN activity following L-Dopa administration. Additionally, given that 6-OHDA mice treated with L-Dopa with D2KO on CIN showed reduced LID levels compared to controls, we concluded that D2 expression on CIN is necessary for the development of LID in a PD mouse model following L-Dopa treatment. Additionally, our results indicate that D2KO from CIN was able to maintain baseline activity in CIN, thus preventing the formation of LID.

Epigenetic Effects of High Fat Diet on Intestinal Tumorigenesis

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Background: Obesity has been postulated to accelerate cancer development in part through epigenetic mechanisms. Previous mouse models showed that obesity induced by weeks of high-fat diet drives epigenetic changes in colonic epithelium resembling cancer progression. However, it is unknown if short-term exposure to high-fat diet can induce early tumorigenic changes in the epigenome before appreciable obesity develops. Using ChIP-Seq analysis of histone acetylation, we examined the epigenomes of small intestinal epithelia of mice fed with either high-fat diet or low-fat diet for three days.

Methods: 30-day-old ApcMin/+ and Apc+/+ male mice were fed either high-fat diet or low-fat diet for three days. Their small intestinal epithelia were harvested for ChIP-seq analysis of histone modification H3K27ac. The R package DESeq2 was used to identify regions of differential enrichment of H3K27ac, which were termed variable enhancer loci (VELs), between the two diets and the two genotypes. The associated genes and biological functions of VELs were inferred using Genomic Regions Enrichment of Annotations Tool. RNA-Seq will be performed on the same tissue samples to confirm these epigenetic changes are associated with transcription changes.

Results: ChIP-Seq has been completed, but RNA-Seq will still be pending by March 2021. The data showed diet type but not genotype was associated with significant H3K27ac differences. Apc+/+ mice on high-fat diet showed increased H3K27ac in 1306 VELs and decreased H3K27ac in 230 VELs compared to Apc+/+ mice on low-fat diet. ApcMin/+ mice on high-fat diet showed increased H3K27ac in 1056 VELs and decreased H3K27ac in 371 VELs compared to ApcMin/+ mice on low-fat diet. No significant VELs were identified when comparing ApcMin/+ mice on high-fat diet to Apc+/+ on high-fat diet or when comparing ApcMin/+ on low-fat diet to Apc+/+ on low-fat diet. Most gene ontology terms enriched among the VELs were related to lipid metabolism. Other noted processes include carbohydrate metabolism, glucuronidation, insulin response, nucleoside metabolism, and cell cycle phase transition. Some VELs were found near cancer-associated target genes of the Wnt signaling pathway, including MYC, AXIN2, VEGF, MET, TIAM1, and SOX9.

Conclusions: Our results showed that as early as three days on high-fat diet can induce epigenetic changes in murine intestinal epithelia that impact many genes affecting lipid metabolism and also a select number of proto-oncogenes. Close similarity between H3K27ac profiles of ApcMin/+ and Apc+/+ mice when controlling diet may suggest that more than three days of high-fat diet is needed for significant differences to develop between the two genotypes.

Impact of statin therapy on cardiorespiratory fitness (VO₂peak)

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Background: The primary aim of the study is to investigate how statin therapy blocks cardiorespiratory adaptations to exercise training. Cardiorespiratory fitness as VO₂peak. will be measured before and after 12 weeks of aerobic exercise training. The hypothesis is that statin therapy interferes with the cardiorespiratory adaptive responses to exercise.

Methods: This study is focus on adults that are currently inactive and taking statins in order to lower their cholesterol. During the 12 weeks that they are exercising with us they are given either a placebo, 20mg, or 80mg of the medication. The exercise plans are calculated in terms of a target heart rate and target time and are based on the VO₂ peak received during on-boarding training..

Results: At this time no statistics have been calculated; however are in progress and will be finished for convention.

Conclusions: Preliminary data showed that there was an impact on the VO₂ while taking statins. The goal of this study was to determine if it is dose dependent.

Mutations of hCRY1 in Circadian Rhythm

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Background: The circadian rhythm is a phenomenon that is observed within all living creatures and there are key molecular players involved in maintaining it. The hCRY1 protein (human CRY1) is a key molecular player containing two critical regions, PHR and CTD, in which the PHR regulates circadian rhythmicity, and the CTD regulates circadian period length. Using this, we attempted to understand how different parts of the hCRY1 protein impact the circadian rhythm phenotype.

Methods: To do this, plasmid DNA containing hCRY1 cDNA was isolated from E.coli (*Escherichia coli*). This plasmid DNA was then mutagenized so that an allelic variant of hCRY1 could be imitated. The mutagenized cDNA was expressed as part of the pLV6-puro-CRY1 lentiviral vector. This vector was introduced into DKO MEFs (Double Knock Out Mouse Embryonic Fibroblasts) to detect circadian rhythm expression. In order to measure the phenotype expressed by the allelic variant, levels of bioluminescence from the lentiviral reporter were observed.

Results: It is predicted that with the allelic variant we have created and chosen, Gln545Lys5Term, there will be changes in circadian length due to the frameshift mutation yielding in loss of residues impacting CTD region (within exons 11 and 12 of hCRY1).

Conclusions: Our results will gain a better understanding of the genetics involved with sleeping disorders due to mutations in hCRY1. This work will allow genotypes of sleeping disorders to be established. It may also help predict whether someone is likely to have a sleeping disorder. With greater understanding of the hCRY1 gene, there can be new therapeutics developed in order to tackle these sleep disorders, allowing more options to personalized care.

The Role of Nrf2 in Regulating Pancreatic Beta-Cell Proliferation and Mass

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Background: Diabetes is a disease that occurs when the body cannot appropriately produce enough insulin (Type 1) or respond to insulin secretion (Type 2). Every year, approximately 34.2 million people in the U.S. are diagnosed with diabetes, and face an increased risk of heart disease, stroke, kidney failure and death. Both Type 1 and Type 2 diabetics suffer from insufficient functional beta-cell mass. Since beta-cell proliferation is a major contributor for increasing beta-cell mass, there is an urgent need for developing therapeutic interventions that would increase functional beta-cell mass. Nuclear factor erythroid 2-related factor (Nrf2) is a transcription factor that plays a critical role in cell protection against oxidative stress. Therefore, we are exploring the effect of CDDO-Me, a known potent inducer of the Nrf2 pathway, on human beta-cell proliferation in vivo.

Methods: 500 human pancreatic cadaveric islets were transplanted into the kidney capsule of euglycemic immunodeficient NOD SCID or Rag 1 ^{-/-} mice, thereby avoiding graft destruction. 17 days post-operation, the mice were intraperitoneally injected with increasing doses of CDDO-Me for 7 days. On day 8, mice were euthanized, and their kidney capsule was embedded and immunostained for Ki67 (a proliferation marker) and insulin. The percent of beta-cell proliferation was calculated by counting the number of Ki67 positive cells out of the total insulin-positive cells in each section.

Results: Human beta-cell proliferation was increased (by 2.75 +/- 0.16-fold) in mice injected with 1 mg/kg CDDO-Me compared to mice injected with vehicle control (n=5, p<0.05).

Conclusions: Our results illustrate that treatment of adult human cadaveric and mouse pancreatic islets with the Nrf2 activator, Keap1 inhibitor, CDDO-Me, significantly induces beta-cell proliferation. An increase in beta-cell proliferation can be linked to an expansion of beta-cell mass. Our next steps are to investigate the effect of CDDO-Me on alternate models of beta-cell proliferation (i.e. neonatal stages). Pancreatic islets, involved in either major form of diabetes, suffer from glucotoxicity and present beta-cell functional failure and cell death. Future investigative steps regarding CDDO-Me/Nrf2 beta-cell specificity and its association to beta-cell mass test the efficacy of CDDO-Me as a therapeutic intervention for diabetes.

Achievements of a Medical Simulation Program During the Covid-19 Pandemic

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Background: Medical simulation can be characterized as an active form of teaching in which students acquire clinical skills in a safe, controlled environment with no possibility of direct harm to patients. The incorporation of medical simulation into academic programs has the potential to reduce unnecessary risk to both patients and students while also increasing students' clinical competency and reducing healthcare costs [1]. We report on the current initiatives and accomplishments achieved by our medical school's AMSA chapter regarding the use of medical simulation.

Methods: Our school's Simulation Society consists of approximately 25 active members who attend meetings and participate in simulations. The leadership team consists of second- and third-year medical students responsible for tracking membership attendance, maintaining an open line of communication with the members, providing didactic lectures, preparing case simulations, organizing team practices for upcoming competitions, and hosting workshops for skills such as intubation and advanced cardiac life support. The lectures cover all major organ systems (cardiac, respiratory, neurologic, gastrointestinal, etc.), while the clinical simulations cover a broad range of emergency situations, including trauma, sepsis, myocardial infarction, pulmonary embolism, cerebral hemorrhages, etc. The society provides 5-6 general lectures, 2-3 lectures to train competitors, and runs 8-10 simulations each semester in preparation for competitions and for future clinical rotations.

Results: In the past, our Simulation Society has sent many teams to both regional and national competitions. In 2019, two teams competed in a regional competition, winning second and third place among ten total teams from four local medical schools. We planned to compete in national competitions last year, such as in the American Medical Student Association (AMSA) competition, but the competitions were canceled due to the Covid-19 pandemic.

Conclusions: During the Covid-19 pandemic, our chapter has been able to offer virtual lectures based on various medical conditions, realistic in-person simulations utilizing state of the art facilities available on our campus, as well as physical exam workshops for our first-year medical student members. By adapting to online teaching modalities and by following social distancing guidelines for in-person simulations, we have been able to incorporate practical medicine into our members' education before they will be responsible for managing patients' care. This will better prepare members for third-year clerkships and post-grad residency by helping them develop clinical decision-making skills and allowing them to practice prioritizing actions in a realistic but controlled environment.

Advocacy and Activism: Bringing Awareness to Diverse Topics in Healthcare

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Background: Healthcare professionals must serve as leaders who educate the general public on a wide variety of issues both in the community and globally, and this can be achieved through advocacy and activism. The establishment of an advocacy program allows members the opportunity to engage with and advocate for issues that intersect healthcare and society.

Methods: To drive the program forward, prominent healthcare professionals, leaders in the local community, and officers of the local AMSA chapter impressed the importance of advocacy and activism to general members through chapter meetings and social media platforms. Recruitment into the program occurred through interest forms, an official application, and virtual groups based on advocacy topics such as rural and public health, the opioid crisis, women's health, vaccinations, mental health, and others. Upon sorting individuals into their groups of interest, rules and guidelines were set to ensure productivity and publicity for any rising project. Currently, groups meet regularly to facilitate thoughtful discussion surrounding their topic.

Results: The efficacy of the advocacy program will be evaluated through direct feedback from participants, group-specific projects, and a presentation of the group's findings and accomplishments to the chapter officers and potentially the general membership. As the program expands to include a diverse population of students, responsibility and authority will be delegated to advocacy group leaders. The anticipated, long-term outcomes of the program include potential inclusion of findings in policy reform at the regional and state levels, as well as increasing the reach of advocacy through networking with local entities.

Conclusions: In developing advocacy groups centered on diverse issues, the local AMSA chapter seeks to improve awareness and encourage members to bring about the change they wish to see for the betterment of healthcare and society. Ultimately, a foundation grounded in a fundamental understanding of various topics in healthcare, obtained through advocacy and activism, will provide members the tools needed to make a positive impact within the regional, state, national, and global levels of healthcare.

Development of a Mentorship Program to Enhance Opportunities for Pre-Health Students

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Background: In the midst of the COVID-19 pandemonium, the absence of adequate social interaction echoes the stress and anxiety that many pre-professional healthcare students experience in determining the prospects of their next career step. From building pre-health experiences to achieving admission into a desired professional school or health program, mentorship allows students to develop a personal relationship with an individual who can provide guidance to increase knowledge and build skills for future goals. The AMSA Mentorship Program (AMP) seeks to pair interested members with a mentor who can give direction in becoming a successful health professional.

Methods: First, interested members completed the AMP application, which asks about education level, personal interests and hobbies, and traits desired in a mentor. Mentors were then recruited from a large pool of healthcare students and professionals in the local community, and each mentor was paired with a mentee based on similar interests and desirable qualities of a mentor/mentee as listed in the AMP application. Oversight over AMP was given to the Social branch of the local AMSA chapter, and the respective leaders launched AMP through a virtual orientation. Mentees are now encouraged to reach out to their mentors directly, and the Social branch will periodically reach out to mentees to ensure that a healthy mentorship is being established. Participants of AMP will provide feedback via an end-of-semester comprehensive survey.

Results: The direct outcomes of AMP aim to provide members the opportunity to enhance their understanding and healthcare experiences through an individual-based mentorship with a healthcare student or professional. In assessing participation from a diverse group of participants, we foresee a few pitfalls such as lack of active involvement by some participants. The anticipated, long-term outcomes of the program aim to cultivate stronger relationships and networks between the pre-health and professional healthcare communities.

Conclusions: The significance of AMP stems from the support and care that individual members receive through direct mentorship. In casting vision for pre-healthcare students moving forward, AMP serves as a gateway to numerous opportunities and insights that will allow its participants to become stronger applicants to their professional programs and pivotal leaders in the dynamic field of healthcare.

Mentorship in the Era of COVID-19

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Background: As medical students, we have the responsibility of guiding those who are the next generation of aspiring physicians striving to enter medical school. In order to achieve this goal, we recognized the need for a stronger relationship between our fellow medical students and the premedical students of our associated undergraduate university. Factors such as being a new medical school and the undergraduate campus being at a separate location have contributed to this need.

Methods: Planning for the mentoring program “Pre-med Partners” began in January 2020 through coordination with the pre-medical advisor of Quinnipiac University’s undergraduate campus. One recruitment cycle occurs each semester with a total of two each academic year and involves matching mentors from the Frank H. Netter MD School of Medicine with mentees based on similar interests, backgrounds, and future goals in medicine. The first cycle occurred in July 2020 and pairings were made by September 2020 and the second was completed in November 2020 with the matching taking place in January 2021. Anonymous monthly feedback surveys are collected from both mentors and mentees to address any concerns and seek suggestions for improvement.

Results: After two cycles of recruitment thus far, we have 61 mentors and 44 mentees involved in the program. Events hosted over zoom this year included a talk given by a Quinnipiac research faculty and admissions committee member regarding undergraduate research with consideration of COVID-19 restrictions and a wellness social hour involving mentors sharing their experiences with mentees. In the coming months we will be hosting an introduction to anatomy in medical school event taught by our anatomy curriculum director and the “Think like a doctor” event series. The first “Think like a doctor” event will involve teaching undergraduate students basic patient interviewing skills and the second will focus on case discussions. These events are designed to stimulate the students' interest in medicine by giving them a glimpse into a physician’s thought process and introducing them to interviewing techniques used everyday in healthcare.

Conclusions: Mentorship is an essential component of a student’s growth and development throughout their journey in medicine. The Premed Partners Mentorship Program has provided opportunities for mentees to develop a longitudinal relationship with a medical student who can provide valuable insight into the intricacies of medical school and guidance along this challenging path.

Navigating a Virtual Landscape: AMSA at NYMC Redesigns Community Engagement

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Background: AMSA at New York Medical College (NYMC) has held many recurring events in the Westchester, NY community over the years, including serving meals at the Ronald McDonald House, organizing health fairs with Westchester Medical Center, hosting advocacy panels and presentations with physicians and medical leaders, and facilitating discussions on race, ethnicity, and culture among medical students.

Methods: In 2020, the NYMC AMSA chapter reevaluated their goals for the academic year in light of the COVID-19 pandemic. The three committees, Community and Public Health (CPH), Global Health (GH), and Race, Ethnicity, and Culture in Health Action (REACH), planned throughout the summer and started the school year strong by recruiting six new medical students to the executive board through the school club fair. Through the fall, AMSA members collaborated with other NYMC clubs to promote voter registration and helped over 300 people in registering and voting in the 2020 elections, ranking NYMC as 12th out of the 80 medical schools participating in the Vot-ER campaign. In the winter of 2021, NYMC AMSA partnered with Making Authentic Friendships (MAF), an organization that connects people with special needs, and planned a joint exercise event accessible to people with different physical and mental abilities. This event allowed medical students to engage and enjoy time with people who are of differing abilities, who are part of a community that may be part of their future patient base.

Results: Through the MAF partnership, AMSA NYMC hopes to create an open dialog between medical students and community members with physical and/or mental disabilities. In the future, the chapter will plan monthly meetings for those who identify as female to discuss a wide variety of topics surrounding women's health and the experience of patients with disabilities. We hope this partnership will help students develop a deeper understanding regarding the treatment of this specific medically complicated population.

Conclusions: AMSA at NYMC has shown resiliency through the pandemic and redesigned their connections with medical students and the local community. Pivoting from in-person volunteer events and discussions, the chapter remained successful throughout 2020-2021 with virtual opportunities. As we look forward to continuing to build our chapter at NYMC, we hope to rejoin with the Ronald McDonald House and to collaborate with other campus and extramural organizations to plan local health fairs and community events.

Promoting Inclusiveness through a medical oriented sign language course

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Background: Language barriers can represent a significant hardship for interaction, especially in the healthcare environment. The lack of proper communication deprives patients of optimal assistance, which can result in important information being missed unintentionally. Therefore, the deaf and hard hearing community, although having the same rights as hearing people, are at higher risk for adverse health outcomes

Methods: AMSA INTEC Chapter values inclusivity and self-development and seeks to promote itself as a source of education and learning; This is why we decided to implement, alongside the organization RDEnSeña, a basic 8-week medical-oriented sign language course. Students were able to learn basic sign language communication skills such as saying ‘Hello’, ‘Yes’ and ‘Thank you’ to being capable of obtaining a full clinical history and performing a physical examination on a deaf and/or hard hearing patient.

Results: Normally, we would have gathered in a classroom and interacted face to face with the instructors, but being still in an ongoing pandemic, a few changes and regulations had to be implemented, like adapting the class to a virtual environment. The changes presented with some difficulties such as internet connection issues, and a lack of participation from the students since interaction was somewhat more difficult virtually than in person. At first, most students were shy and hesitant to participate, however, as time passed by the engagement among the students increased. The difficulties of an online course did not stop us from achieving our final goal, learning sign language for our patients.

Conclusions: After the course, many students were able to interact with deaf patients and expressed feeling “accomplished”, “happy”, “thankful”, “excited”, and so many more emotions by being able to do so. Just like they felt happy, they expressed their patients joy and surprise to find out they didn’t need an interpreter because their doctor knew sign language. This was our goal, we accomplished it. We made society and medicine a little more inclusive, we are changing society one patient at a time and could not be more proud of it.

SharkPups: A Multi-Faceted Mentorship Outreach Program

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Background: Following a hiatus, we reinstated and revamped the SharkPups program to become a cornerstone initiative for premedical mentorship outreach. The principal structure of the program is to pair current medical students in the Kiran C. Patel College of Osteopathic Medicine (KPCOM) and Allopathic Medicine (NSU-MD) programs with pre-medical undergraduates at Nova Southeastern University (NSU) and to assist them in navigating through their undergraduate years, medical school, and beyond. The core goal of the SharkPups program is to establish long-lasting relationships between current and future medical students to ensure their success in medical school and beyond.

Methods: Our initiatives consisted of expanding our outreach by increasing the number of mentors and mentees followed by incorporating satellite programs tailored to benefit the various stages of future medical students. We began by focusing on the ever-expanding population of students in the NSU Dual Admission Doctor of Osteopathic Medicine (D.O.) program to ensure a smooth matriculation into medical school. We accomplished this by a biannual panel, run by current second and third-year KPCOM students, focusing on successful study strategies, MCAT preparation, the medical school application, and the interview process.

Results: The expansion of the SharkPups program included adding 111 of mentees and 179 KPCOM and NSU-MD mentors and for the first time, a surplus of available KPCOM mentors. With such a positive response from current KPCOM students who wanted to become mentors, we achieved a 2:1 ratio of mentor to mentees in many pairings. NSU-MD mentors maintained a 1:1 ratio. Following our first satellite program, we conducted a follow up survey for constructive feedback. Of the forty Dual Admission students that attended the panel, thirteen showed immediate interest in joining the SharkPups program.

Conclusions: After receiving constructive feedback from our panel with the Dual Admission students, we have recognized the value of introducing medicine at an earlier stage in one's education. Therefore, we are choosing to begin a SharkPups mentorship program between high school students, undergraduates and medical students to expand this mission. By bridging the gap between high schoolers, undergraduates, and medical students, we are establishing long-lasting foundations and fostering a community of togetherness within the future of medicine. This will create the base for networking opportunities, lifelong friendships, and professional partnerships in the future as well as provide a vertical line of support from the daunting days of high school to eventually becoming a confident resident and successful attending

University of Wisconsin Madison AMSA Pre-Medical Chapter: Accomplishments and Aspirations

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As the local Pre-Medical Chapter at UW-Madison, we curate initiatives related to the advocacy, education, and networking pillars of AMSA. In Advocacy Club, we focus on increasing awareness of political happenings and how they affect health outcomes. We highlight current events through biweekly Healthcare Happenings newsletters and encourage members to educate themselves on these issues. Advocacy Club has also brought two proposals (medicaid expansion & gun violence prevention) to the Wisconsin Legislature. We will be hosting a healthcare reform panel in April, which will incorporate policy experts' and physicians' perspectives to address Wisconsin's health disparities.

This past year, Advocacy Club created two sub-groups. Women in Medicine discusses pertinent issues affecting women and designs workshops surrounding imposter syndrome. Social Justice in Medicine analyzes pressing societal problems through a medical perspective.

Our Book Club increases literature awareness for members by exploring topics of global medicine, inclusivity, and modern healthcare. Likewise, the Health Across Culture Club works to navigate cultures and ethical standards within healthcare. To assist in understanding global healthcare, we organize annual shadowing trips. Accommodating the pandemic, we started pen pals with future physicians in Uganda to connect on healthcare efforts abroad to further connect global healthcare efforts.

Our AMSA chapter hopes to help all members reach their goals. Our Critical Analysis and Reasoning Club (CARS Club) does this by improving skills required for a successful MCAT and connecting those with similar motivations. We have also created a module dedicated to preparing medical school applications.

To create a supportive environment, we embrace networking by hosting events for the broader pre-medical community such as the Midwest Aspiring Physicians Conference, where we invite guest speakers, panelists, and host resource booths. Our Mentor-Mentee program with the UWSMPH AMSA chapter develops connections with current medical students who assist us through our journeys. In 2020, we created the AMSA WI Alumni Page, which connects us with those who have graduated.

Our members strive to give back to the community through volunteering events and philanthropic fundraisers. This past year, we supported the Wang Foundation, the Leukemia & Lymphoma Society, the Wisconsin Black Initiative Fund, and the Typhoon Relief Fund for Central Vietnam.

Overall, our pre-medical AMSA chapter dedicates itself to upholding the pillars of AMSA through advocacy, education, and networking efforts. We pride ourselves on the quality of our work and look forward to continuing to progress in these areas in the future.

Valuable teaching opportunities offered by AMSA health clinics for medical students during the COVID-19 pandemic

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Background: The COVID-19 pandemic has disrupted school activities forcing learning to become virtual. This has caused medical students to have limited opportunity to interact with patients to hone their patient-doctor skills. The health clinic was organized to teach medical students various objective standard clinical examination (OSCE) skills, ranging from body mass index calculation, blood pressure reading, blood glucose measurement, and also the appropriate method of taking a patient history. The aim of the health clinic is to provide an avenue for students to improve their skills on history taking, patient interaction, and develop clinical competence during the pandemic.

Methods: In the health clinic, students were taught OSCE clinical skills while following COVID-19 safety protocols. The health clinic ran for a period of 4 days, with a total of 20 students in attendance. The clinic was taught by lecturers, practicing physicians and clinical students. Surveys were distributed before and after the health clinic to assess the baseline of students prior to the clinic and evaluate for improvement after the clinic.

Results: The feedback from both students and instructors was positive. Overall, students showed an increase in confidence and feedback from the survey showed that students were satisfied with the clinic. Students also expressed that they felt the clinic prepared them for future activities like the annual community health fair. The instructors were happy that the clinic gave them a chance to teach their students in an in-person learning format. They found it rewarding to see students put into practice what was being taught. The instructors noted that they felt more involved in the lives of their students and that this encouraged a stronger teaching relationship.

Conclusions: This project made students more confident in their patient-doctor interaction skills and aided in establishing a more effective student-teacher relationship. There have been requests to organize more clinics and create more interactive activities. We believe activities like this prepare students for their clinical years in medical school and should be introduced into the curriculum in medical schools.

What Are the Next Steps? Health and Racial Justice Organizing in 2020

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Background: University of Illinois College of Medicine's AMSA Chapter was led by four women of color in 2020, including 2 immigrants, 3 URiM women, and 1 Muslim woman. Reflecting on our experiences of isolation and lack of belonging in the medical education system, our vision was to incorporate true diversity on campus. We created a yearlong multi-component project centering the principles of health justice, accessibility, and transformative systems.

Methods: Our efforts were buoyed by AMSA's role in the creation of the Umbrella Coalition at the University of Illinois College of Medicine in 2019. This non-hierarchical group of marginalized students (BIPOC, women, LGBTQ+, students with disabilities) provided an informal platform for more connection and community and to create programming for a more civic-minded and politicized student body. In 2020, AMSA leaders continued to meet and communicate with leaders across other politically progressive and marginalized identity-based groups to synergistically tackle issues, especially during the covid-19 pandemic and the racial justice movement in the summer of 2020.

Initiatives:

1) Racial Justice

-Advocacy Chat with Dr. Linda Rae-Murray

-Immigrants: By Us, For Us - Panel with immigrant allied healthcare and social workers to counteract the messaging around racial discrimination during covid-19 pandemic

-Collaborating with UIC White Coat for Black Lives chapter and Chicago Health Coalition for Black Lives to hold political education sessions that aim to politicize medical education curriculum

2) Wellness

-Self-Care for Student Activists workshop led by invited guest speaker

-Collaboration with wellness and disability advocates to call on College of Medicine to increase the number of ramps and improve physical accessibility

3) Civic Engagement

-50 Ways to Fight Gender-Bias - centering LGBTQ+ and WOC experiences for Women's History Month

-Email Outreach to all College of medical staff, students, and faculty to encourage filling out the Census

-Collaboration with #MedOutTheVote to register students and check registration status prior to March Illinois primaries

-Mail-in Ballot and voter information emails prior to general elections in November

Results: Promoting different topics such as wellness, social justice, and civic engagement enabled us to attract a broad audience. Transition to the virtual curriculum made it possible for us to engage professional speakers from across the country. However, due to the first-years not being on campus during the Fall semester, there is a threat to the sustainability of these programs. Collaborating with marginalized identity groups, other advocacy organizations, and student activists enabled AMSA to have an authentic voice and advocacy rooted in grassroots movements.

Conclusions: A collaborative, justice-rooted group of medical students can effectively organize with grassroots advocacy organizations. One of the key visions for medical student advocacy should be to break down silos between different institutions. In addition, bidirectional partnerships between progressive policy organizations (such as AMSA, SnaHP, MSFC) and organizations centering students with marginalized identities (SNMA, LMSA, APAMSA, MSPA) enable us to leverage collective power and change the face of medical education.

A Pilot Study of the Parent Education Component of a Growth Mindset Intervention in Arabic-speaking Parents

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Background: Educational psychology research has shown that having a “growth” (ie, abilities can be improved through effort) rather than a “fixed” (ie, abilities are based on talent) mindset of intelligence is associated with better academic outcomes for children. Recent work shows that growth mindset (GM) may also be applied to domains such as health. Interventions promoting GM have targeted adolescents; little is known on how to promote GM in young children, including how best to teach parents. Our objective was to pilot the parent education component of a GM intervention with a group of Arabic-speaking parents in an underserved urban community in northern California.

Methods: A convenience sample of Arabic-speaking parents was recruited through community outreach. Parents (N=25) completed 3 interactive education sessions that included videos, activities, and discussion. Homework reinforcing GM included parent-child activities. Parents completed pre-/post- surveys based on validated questions of fixed vs. GM for intelligence and health. Parents rated both domains for themselves and for their child. GM was defined as mean score ≥ 4 , fixed as < 4 on a 7-point Likert scale. Correlations evaluated associations between parent and child intelligence and health mindsets scores. X2 evaluated proportions with growth vs. fixed mindset (for intelligence, health) post-education intervention compared to baseline.

Results: Parent and child intelligence and health mindset scores were highly correlated at baseline, $r=.72$ and $.71$, $ps < .001$. Post-education, there was an increase in percent with GM for parent intelligence (56 vs. 83%, $X^2(1)=3.6$, $p=.059$), child intelligence (68 vs. 89%, $X^2(1)=2.56$, $p=.11$), and parent health (76 vs 83%, $X^2(1)=.34$, $p=.56$), but not for child health (88 vs 83%, $X^2(1)=.19$, $p=.663$). These differences were not statistically significant, but showed trends for significance for intelligence, especially for parents. Qualitatively, at baseline participants had several questions about the surveys. Post-intervention, participants expressed satisfaction with the sessions, a desire to include children in sessions, and for additional education on several child development topics.

Conclusions: Parent and child ratings were highly correlated across domains, likely due to shared method variance. Post-education surveys showed a trend for greater percent with GM for intelligence but not for health. The ability to detect differences post-intervention may have been limited by small sample size and high baseline rates of GM, especially for child health. Our pilot study suggests that 3-session parent education is a feasible approach to teach parents in community settings about GM concepts that children may learn about in school.

Analysis of the potential long-term benefits of a community health fair

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Background: Community health fairs provide screening and preventative healthcare at no cost to individuals who might not otherwise receive such measures. Many who attend these fairs do not have a primary care physician, and there is limited research on the impact that these fairs have on attendees establishing primary care (1). Presented here are the outcomes of such a health fair.

Methods: The patient population included uninsured 63d63 63r63e63s63i63d63e63n63t63s63 63o63f63 63t63h63e63 63c63o63u63n63t63y63.63 63T63h63i63s63 63c63o63n63s63i63s63t63e63d63 63o63f63 63p63a63t63i63e63n63t63s63 63w63i63t63h63 63p63r63e63v63i63o63u63s63l63y63 63e63s63t63a63b63l63i63s63h63e63d63 63c63a63r63e63 63a63t63 63t63h63e63 63c63l63i63n63i63c63 63a63s63 63w63e63l63l63 63a63s63 63p63a63t63i63e63n63t63s63 63w63h63o63 63h63a63v63e63 63n63o63 63e63s63t63a63b63l63i63s63h63e63d63 63p63r63i63m63a63r63y63 63c63a63r63e63.63 63R63e63c63r63u63i63t63m63e63n63t63 63u63t63i63l63i63z63e63d63 63p63o63s63t63e63r63s63.63 63i63n63 63E63n63g63l63i63s63h63 63a63n63d63 63S63p63a63n63i63s63h63.63 63d63i63s63p63l63a63y63e63d63 63i63n63 63t63h63e63 63c63l63i63n63i63c63.63 63l63o63c63a63l63 63b63u63s63i63n63e63s63s63e63s63 63(63S63a63l63v63a63t63i63o63n63 63A63r63m63y63.63 63f63o63o63d63 63b63a63n63k63s63.63 63c63h63u63r63c63h63e63s63.63 63e63t63c63.63)63.63 63a63n63d63 63o63n63 63s63o63c63i63a63l63 63m63e63d63i63a63.63 63S63c63r63e63e63n63i63n63g63 63b63o63o63t63h63s63 63c63a63l63c63u63l63a63t63e63d63 63p63a63t63i63e63n63t63s63 63B63M63l63.63 63m63e63a63s63u63r63e63d63 63H63b63A63l63c63 63a63n63d63 63b63l63o63o63d63 63g63l63u63c63o63s63e63 63t63o63 63s63c63r63e63e63n63 63f63o63r63 63d63i63a63b63e63t63e63s63 63m63e63l63l63i63t63u63s63.63 63a63n63d63 63c63h63e63c63k63e63d63 63b63l63o63o63d63 63p63r63e63s63s63u63r63e63 63f63o63r63 63h63y63p63e63r63t63e63n63s63i63o63n63.63 63M63e63n63t63a63l63 63h63e63a63l63t63h63 63w63a63s63 63c63h63e63c63k63e63d63 63b63y63 63a63d63m63i63n63i

Results: 76 patients attended the health fair. The average blood pressure was 128/83, and the average BMI was 32.77. The average monthly income was \$1,010. There were 7 screening booths, and patients visited an average of 5.28 booths. The most visited booths were hypertension (67 patients), mental health (66 patients), diabetes mellitus (65 patients), and BMI (64 patients). 32 patients were vaccinated. 35 and 33 patients were screened for HCV and HIV, respectively. Most importantly, 50 patients had never been seen at the clinic before (65.8%); of these patients, 40% scheduled a follow-up appointment.

Conclusions: This health fair allowed our clinic to identify many attendees with chronic health concerns who would greatly benefit from immediate treatment and to schedule them an appointment to establish primary care. A better understanding of patient motivations for attending health fairs will provide insight into how to access a wider population; thus, at future fairs, it is important to gather data on how patients heard about the fair, their reason for attending, and whether the event encouraged them to establish care at the host clinic.

Assessment of Self-Efficacy in CHAMPIONS 2020 Virtual Program Cohort enrolled during the COVID-19 Pandemic

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Background: The COVID-19 pandemic presents an interesting problem in the continuation of traditional summer pipeline programs. The CHAMPIONS NETWORK (Changing Health through Advocacy & eMPloyment In Our Neighborhoods) seeks to address health disparities by recruiting high school students ages 16-18 from under-served communities to act as health advocates.

Methods: Students were trained over six weeks to conduct COVID-19 follow up calls. The quantity of calls completed by the students was calculated. Students also participated in pre and post surveys. Univariate analysis was conducted to study the distribution of survey responses, followed by bivariate analysis.

Results: The 2020 cohort was made up of eighteen students (22% African American, 17% Asian, 11% American Indian/Other), and 55% identified as Hispanic, from fourteen neighborhoods throughout Chicago. The students shadowed 52 calls, co-piloted 47, and piloted 21 total calls. When comparing pre-survey to post-survey results, the average percent increase in students who strongly agree with the statement, "I am confident in my abilities to reduce health problems in my school/community" was 235% (an increase from 20% to 67%, RR=3.3; 95% CI: 1.3 - 8.5). Despite the program being carried out virtually, these results were consistent with the averages from 2016, 2017, and 2018.

Conclusions: This virtual experience proved to be just as enriching as in person, and it provides convincing evidence to continue remote advocacy and employment opportunities. With a future COVID-19 vaccine on the horizon, CHAMPIONS will prepare future students to address vaccine hesitancy during this critical period.

Community Engagement: Vaccination Education Campaign in Tampa Bay Community

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Background: With the challenges infectious diseases has presented towards the United States, it is undeniable that public health interventions via vaccinations has helped keep the spread of diseases from reaching drastic levels. The need for vaccinations is ever more dire now that we are facing a global pandemic due to SARS-CoV 2. However, despite this, the prevalence of illnesses attributed to vaccine-preventable diseases continues to burden U.S. populations significantly and remains to be one of the main objectives of Healthy People 2030, especially towards the outreach of more vulnerable populations. Increase in vaccination coverage is needed, along with methods that can be utilized to reduce growing health disparities for high risk patients living in underserved communities.

Methods: Goals of this project are aimed to target three important aspects of vaccine education: (1) Describe common types of vaccinations utilized and how they work, (2) Investigate misconceptions regarding vaccinations and challenge these skepticisms, and (3) Discuss role of vaccines in preventing the spread of communicable diseases towards vulnerable populations

The target audience for this outreach project consists of patients visiting free and low-cost health care services in the Tampa bay community of Hillsborough County.

Results: First, literature review regarding types of vaccines and immunization coverage will be investigated at the regional and state level via the NIS, BRFSS, and other tools, as provided by the CDC. List of common infectious diseases preventable with vaccinations will be researched, and misconceptions regarding vaccinations will also be addressed.

Then, a multimedia approach will be designed to educate the community regarding vaccinations translated in both English and Spanish. The first of these deliverables consists of a QR linked website that will provide detailed information regarding types of vaccines and their current application in preventing the spread of highly contagious diseases, such as with the COVID-19 outbreak (and as a primary prevention strategy in public health). Lastly, this project will seek to collaborate with various health clinics in the community that serve the target population by distributing flyers and brochures that will help inform patients regarding the purpose and effectiveness of vaccines, as well as addressing potential concerns.

Conclusions: It is intended that this project will reach out to the community who may lack access to information regarding vaccinations. Further research will be carried to determine potential strategies aimed at reducing health disparities in vaccination coverage.

Evaluation of eating habits and their nutritional influence in pediatric patients ages from 2-10 who attended the primary care center of las Carreras, during August – October 2020

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Background: Las Carreras is a poor rural community with a lot of history on their lands, but also their economy is not good, their people make a living from small agriculture, craftsman, and informal labor. As we know, the future of the country is in the hands of children so proper child development is imperative, and that includes a good nutritional state. This research seeks to know-how is the nutritional status of the pediatric patients, taking into consideration their eating habits and their family's income.

Methods: This research was the prospective, cross-sectional, observational, descriptive, primary source, bibliographical, in which the sample studied, consisted of 52 pediatric patients between the ages of 2-10 years. The samples were calculated with a 95% of a confidence interval. The instrument used to obtain the data was a protocol made by the researchers and consultants. The collected variables were weight, height, age, gender, food organized in group types and frequency intake; BMI, muscle area, and fat areas were calculated in order to know the nutritional state and it was reported in percentiles. The Family income was classified in social strata, based on the world-bank and United Nations development program in the poor, vulnerable, middle class, and residual

Results: Forty-eight percent of the sample was found to be malnourished, with 29 percent underweight and 19 percent overweight. The 66 percent of underweight belong to girls, and 75 percent of overweight were boys. In eating habits, overweight and underweight ingested more than the recommended portions of fast food, soda, and candies. The least consumed food types were seafood, fruits, and vegetables. Based on social strata, 55 percent of underweight children were classified in the poor strata, and 50 percent of overweight were classified as vulnerable.

Conclusions: The highest food intake type was fast food, candies, and soda. The highest percentage of data in the poor and vulnerable strata was in undernourished nutritional status, even due to deficit and excess. It is recommended that physical and nutritional education programs be developed in the community using the resources they have as farmland and farmyard animal to improve their nutritional status by ingesting the amount or types of foods recommended for the proper development of children.

Fighting ALS: One Voice at a Time

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Background: Amyotrophic lateral sclerosis (ALS) is a neurodegenerative disease characterised by increasing loss of voluntary muscle movement due to worsening muscular paralysis. More than 80% of people living with this form of MND develop difficulties with their speech, which affects their ability to communicate, their self-identity and quality of life. The University of Queensland-Ochsner medical students have established a voice bank, which is the process of creating a custom synthetic voice, individualized to the patient, through the use of speech synthesis software. This inventory of thousands of words is used to synthesize a voice that sounds much like their own. They are then able to download their voice and use it when their voice is eventually lost to the disease

Methods: ModelTalker System is a revolutionary speech synthesis software package developed by the Nemours Speech Research Laboratory (NSRL), designed to benefit people who are losing or who have already lost their ability to speak. The Ochsner Voice Banking Program is a volunteer initiative that was developed in 2016 and has been run by students from the University of Queensland – Ochsner Clinical School. Utilizing this software from the NSRL and recording equipment provided by the ALS Association of America, our medical students have helped people with ALS by recording their voices in a specialized audiology booth. Once recorded, the voices are sent to the software manufacturer, ModelTalker to help preserve each voice for future use on any computer device through typed commands.

Results: Currently we are in the process of collecting and analyzing data on the total number of patients, average number of phrases, voices and volunteer hours that this endeavour has benefited since 2016.

Conclusions: More than 80% of people living with this form of MND develop difficulties with their speech, which affects their ability to communicate, their self-identity and quality of life. Our efforts hope to help maintain the self-identity in many of our patients that suffer from ALS.

Good Skin Knowledge Dermatology Education Project: Expanding a Local Community Outreach Project Nationally

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Background: Education about skin health, sun safety, and common skin conditions is lacking among children and adolescents. Proper skin care is essential to help reduce or prevent consequences such as permanent scarring, pigment changes, and skin cancer. Additionally, misconceptions about common skin conditions affect mental health, social interactions, and academic performance. The goal of this initiative is to promote healthy skin habits, improve self-esteem, and encourage understanding of basic dermatologic topics amongst the youth.

Methods: The authors taught four lesson plans to two Girl Scout troops (aged 5-12 years old) from December 2018 to April 2019. The sessions integrated the American Academy of Dermatology (AAD) Good Skin Knowledge curriculum with interactive activities created by the authors. Four topics were covered including 1) Basic Skin Knowledge, 2) Acne, 3) Healthy Sun Habits, and 4) Plants and Bugs.

Results: In partnership with the AAD, two pilot training sessions on how to teach the curriculum were given to 28 medical students during December 2020. The session opened with an introduction on volunteering by our physician partner, followed by an overview of each of the four lesson plans, and closed with follow-up points and tips for contacting Girl Scout troops and community partners. The lessons have been adapted to be performed virtually to ensure the safety of all involved parties and conform with national guidelines set forth by the Centers for Disease Control and Prevention. 78.6% (22/28) of attendees completed the post-training survey. 86.4% (19/22) of attendees stated they strongly agreed or agreed they were confident that they were ready to conduct the training to the Girl Scouts or other community groups. Following the pilot sessions, six more sessions were scheduled during February 2021. A total of 237 students signed up for the trainings, including students from medical schools across the country and a handful of those from schools abroad.

Conclusions: Here, we illustrate the progression of a small community service program developed by medical students into a national outreach initiative. Educating adolescents about their skin is important to improve well-being and quality of life. These sessions provide a fun and engaging experience that allows participants to learn general facts about the skin and common skin conditions. They also promote skin health, positivity, and diversity. Further, this initiative provides medical students the opportunity to engage with their community and develop their teaching skills.

Medical Students Combat Health Disparities Within Their Community Through Oral Health Surveys

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Background: Dental caries is correlated with water fluoride levels and low socioeconomic status, so it is imperative to bring awareness to fluoride intake as it relates to health disparities within the Hampton Roads. While community water fluoride levels in the United States are governed, available CDC data in Suffolk, VA, shows endemic level 6.26ppm fluoride drinking water concentration that exceeds the range known to cause mild dental fluorosis by roughly 500% and skeletal fluorosis by 300%. This project aims to educate medical students on oral health problems and implement fluorosis screening as part of the Head, Ears, Eyes, Neck, and Throat- Physical Examination.

Methods: The study aims to extrapolate data from water quality reports online from organizational websites such as CDC.gov for Hampton Roads areas in Virginia. A sampling of fluoride concentrations from 31 private wells in the Suffolk, VA area, will also be used to evaluate non-municipal exposures, in addition to community exposures, to fluoride in that locality. Additionally, the prevalence of patients with confirmed diagnoses related to excess fluoride exposure will be obtained from the TriNetX® online healthcare platform to determine how fluoride impacts systemic health within the community. Pre-clerkship medical students will administer a survey to the entire M.D. student body at Eastern Virginia Medical School following Institutional Review Board approval to assess the current medical student knowledge about oral and systemic fluorosis. The research team will analyze the survey data to generate extra-curricular competencies at student-run clinics to increase medical students' understanding of oral health and improve overall patient health in their local communities, including underserved populations.

Results: The well water sampling shows elevated fluoride levels up to 4.04ppm in Suffolk, VA. Extrapolation of data from TriNetX® show 10 patients out of over 3 million diagnosed with mottled enamel indicative of dental fluorosis. Although 9,750 patients were diagnosed with dental caries, only 340 patients were seen for application of topical fluoride varnish by a physician or other qualified health care professional. Additionally, 720 patients matched the search criteria for skeletal fluorosis.

Conclusions: The data show a moderately significant number of patients diagnosed with fluorosis using TriNetX® and elevated non-municipal fluoride in Suffolk, VA. However, use of topical fluoride treatment by the physician or qualified health care professional is focused on the pediatric population who are most at-risk for enamel fluorosis. Therefore, the data shows a need for oral health and fluorosis education in the Hampton Roads area.

Overcoming Language Barriers and Health Care Inequalities: Lessons in Global Health in a Bi-National Island

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Background: Our Lady of Altagracia Maternity Hospital is a public hospital located in the heart of Santo Domingo, the capital city of the Dominican Republic. Since its opening, it has established itself as the most well-known maternity hospital in the country, serving both Dominican and Haitian patients from low-income settings. Our Lady of Altagracia also serves as a teaching hospital for medical students and pediatric and OB/GYN resident doctors. In recent years, an influx of immigrant patients has created a significant language barrier between doctors and immigrant patients impeding optimal health service. With limited resources, a translation team is not feasible, therefore, we aim to evaluate low-cost options to minimize the language barrier in order to improve doctor-patient communication and quality healthcare.

Methods: We translated standard medical postnatal care recommendations from Spanish to Haitian Creole and formatted them to fit onto a flashcard. The cards were printed and placed in the postpartum department, where doctors and nurses could easily access them in order to handout to Creole speaking mothers. The translated cards covered topics such as directions for neonatal care, neonatal vaccination, and signs/symptoms of clinical alarm for mothers and babies. To counteract illiteracy, we also pre-recorded the Haitian Creole instructions into an audio format on a tape-recorder and gifted it to the maternity ward to record any further instructions and to play existing translations to patients.

Results: Patients responded favorably to the incorporation of the Creole language flashcards. With printed translated instructions, we minimize the possibility of faulty interpretation of vital medical information and ensure their full understanding. By including patients, students, and doctors into the translating efforts we are trying to provide a sustainable, low-cost solution that could expand into other services offered in the hospital setting such as elective surgery, NICU, and outpatient consultations.

Conclusions: Lessons learned from global health should be studied in order to ensure optimal care for all patients in a bi-national island with poor immigration control such as the Dominican Republic. As medical students in a program focused heavily on Global Health, we should also focus on solving existing limitations found in low-income settings in order to improve the services provided to our patients. Although these language cards are just one small step in improving the communication between Spanish-speaking healthcare providers and Creole-speaking patients, it has proven to have an immediate positive impact on patients.

Physical activity, COVID-19, and medical students: habits and perspectives before & throughout the pandemic

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Background: Physical activity has shown to improve the health and wellbeing of medical students. COVID-19 has increased isolation and decreased access to recreational centers that facilitate many forms of exercise (weight training, indoor cardio, boxing, etc). It remains unclear whether “school-from-home” has changed medical student physical activity. The purpose of this study was to elicit physical activity perspectives and assess the change in exercise habits of medical students.

Methods: An anonymous email survey was sent to students of 9 United States medical schools: Harvard Medical School, Geisel School of Medicine, UMass Medical School, Tufts Medical School, University of California San Francisco School of Medicine, Wayne State School of Medicine, Boston University School of Medicine, Cornell Medical College, and University of Rochester School of Medicine. Responses were collected from 12/27/2020 - 1/17/2020. Questions covered demographics, exercise habits, and perspectives about physical activity. Descriptive statistics were used to depict responses and mean values were compared using t tests.

Results: 1182/5500 (21.5%) invited students consented and completed the survey. On average, students reported 171 minutes/week of vigorous physical activity (heavy lifting, aerobics, fast bicycling) prior to COVID-19, versus 114 minutes/week throughout the pandemic ($p<.0001$). Students on average reported 160 minutes/week of moderate physical activity (walking, bicycling at regular pace) prior to COVID-19, versus 112 minutes/week during the pandemic ($p<.0001$). The top reported activities throughout COVID-19 were walking/hiking (~2 days/week reported mean), running, and bodyweight training (both ~1 day/week reported mean). 896/1182 (75%) of students reported they were currently dissatisfied with their levels of physical activity; reasons included lack of time (639/1182; 54%), lack of exercise facility (571/1182; 48.3%), COVID-19 related barriers (566/1182; 47.9%), and personal choice (187/1182; 15.8%).

Conclusions: Medical students have been less active throughout the pandemic and the majority are dissatisfied with their current levels of physical activity. Social isolation and “school-from-home” may encourage more sedentary lifestyles; it remains unclear whether this will result in permanent changes in behavior. Since physical activity has shown to improve wellbeing and decrease burnout of medical students, it is important for medical schools to encourage and/or provide support for COVID-safe modes of exercise (community challenges, socially-distanced/outdoor equipment, virtual classes).

Racial Inequalities in the United States Healthcare System as Exposed by the COVID-19 Pandemic

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Background: The pandemic and the racial justice movement have brought to light the ugly reality of the unequal burdens endured by Americans. The tremendous pressure to manage and eradicate COVID-19 created fissures in the healthcare system that lead to inequitable distribution of resources, and thus greater suffering endured by minority communities. This project intends to highlight these racial inequalities experienced during the pandemic and to show that they existed long before the first patient became infected.

Methods: Journal articles and reports were first collected that detail the unequal distribution of resources to minority communities and the devastating outcomes minority communities had to endure. Articles were then compiled that highlighted instances prior to the pandemic where minority communities had experienced similar lack of resource allocation and poorer disease outcomes. Finally, connections were drawn between these examples to expose the systematic nature of racial inequality in the healthcare system.

Results: The unequal distribution of resources during the COVID-19 pandemic has led to shortages of personal protective equipment and basic medical supplies for impoverished minority communities. While there is no evidence that SARS-CoV2 interacts different based upon the patient's race, it certainly is evident that minority populations are incredibly overrepresented in fatalities and complication rates from the virus. Prior to the pandemic diseases from across the medical spectrum have plagued minorities with higher complication and mortality rates compared to their white counterparts. Traditionally, lack of funding within these communities have left patients stranded without access to medication or care providers.

Conclusions: It would be far too easy for those in power to blame the inequality of the healthcare system's response on the massive stress caused by the pandemic. This purpose of the project is to hold the system accountable for its past and current failings and serve as a beginning step in addressing the systemic mistreatment of minorities at the hands of the healthcare system.

Simulation Society Preventative Health Fair

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Background: Heart disease and diabetes mellitus continue to be among the top 10 leading causes of mortality in the United States. These two conditions accounted for 740,327 deaths in 2018, which makes them the cause of about one in four total deaths. As these health problems are preventable with regular health check-ups, diet, and exercise, it is imperative that we improve awareness and detection of these conditions. We have developed an event to screen for warning signs and educate the local community about the importance of health monitoring and prevention related to heart disease and diabetes mellitus.

Methods: We will organize a free event for anyone to have their blood glucose and blood pressure measured. We will assess their current level of health literacy, then provide information on the importance of health maintenance including appropriate diet and exercise. We will also discuss the importance of regularly scheduled health screenings. If patients need to find a primary care physician, we will provide them with contact information for local healthcare services. For those without insurance, we have a student-led volunteer health clinic with which we will collaborate. This will allow us to better connect the local population with the healthcare they need.

Results: We will collect patients' basic demographics, assess their healthcare literacy, and gauge any barriers to preventative health services. This data will help us to better understand the community and provide more patient-centered information and resources at future events. The data will be collected by the AMSA event in April 2021.

Conclusions: It is no surprise that community-wide disease prevention improves health outcomes, but it also saves money and resources for the healthcare system. We can improve health outcomes for a fraction of the cost by shifting focus from late-stage disease management toward public awareness and primary or secondary prevention. Health disparity is especially apparent in our community given the local citizens with high poverty rates existing alongside well-off vacationers enjoying the beach. The most effective way for us as future physicians to make a lasting impact on society is to provide outreach programs such as this to raise awareness and help to diminish the impact of these deadly but preventable diseases.

Student-Run Clinic Aiding Underserved Russian-Speaking Population in Establishing Health Care Independence through a Global Pandemic

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Background: Sacramento is one of the most diverse cities in America, with a large Russian-speaking community who remains underserved by the healthcare system. Many Russian-speaking families immigrate to Sacramento without having a clear understanding of the norms and services that allow for a smooth transition to life in America. The goal of opening Nadezhda Clinic was to provide free, accessible, and culturally competent care to the Russian-speaking community, not only offering essential healthcare, but also providing education, interpretation services, health insurance enrollment, and a sense of community.

Methods: Nadezhda Clinic was established in 2019 as a student-run clinic to support the Russian-speaking community by providing free healthcare with Russian-speaking providers and helping patients establish health insurance, using advertising and word-of-mouth to recruit new patients. Nadezhda Clinic had to close in-person services in March of 2020 due to COVID-19 and utilized newly available grants and funding opportunities to transition to an electronic medical record and continue providing care through telemedicine. In July, the clinic reopened virtually, reconnecting with its community and providing ongoing medical care to its patients through video visits and care package distribution. It also expanded services to provide monthly educational group sessions on various health topics and distribute vital information about public health measures to reduce the spread of COVID-19 in the Russian-speaking community.

Results: In Nadezhda Clinic, over 50% of patients are uninsured and 68% do not speak English. Over the course of in-person and telemedicine visits, of the 24 patients referred to Sacramento Covered since the clinic has opened for help getting insurance, 10 have been able to obtain insurance thus far. From the opening in August 2019 to February 2020, the clinic had 25 new patients and saw an average of 5 patients per clinic date (once a month). With the transition to telemedicine, from July to December of 2020 the clinic gained 12 new patients and averaged 4 patients per clinic date.

Conclusions: This data shows that although the clinic is still expanding and reaching new patients, many patients are still uninsured, progress has slowed, and fewer patients are being seen per clinic day. Transitioning to telemedicine has helped expand the clinic educational services and increased ease of access but cultural and social challenges persist. More effort needs to be made to promote insurance enrollment, reach out to the community to expand the patient population, and encourage trust in telemedicine visits.

Using a Values Framework to Approach Advocacy: The USA Healthcare Project

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Background: Historically, activists have proposed specific policies to reform the American healthcare system, such as the ACA, Medicare For All, Single Payer, and the UK model. While important, they are easy targets for opponents to criticize on specific details. USA Healthcare, founded in 2020 by physicians and students, proposes focusing on shared values needed to achieve justice. I and others in our AMSA chapter have joined the team.

We believe that most Americans would agree that healthcare should be Universal, Simple, and Affordable – USA. Universal means everyone and every medically necessary treatment, test, and medication is covered. Simple means everyone is automatically enrolled for the full range of services. Affordable means patients will pay fair prices that do not burden them.

Methods: Our previous successes include a set of professional Youtube videos that introduce USA and the need for change. As medical students, we published an op-ed in USA Today ahead of the presidential debate to be held on our campus, proposing USA as a framework for reform. We conducted a workshop called “The Way Forward: Values Centric or Policy Centric?” at the Medicare for All Strategy Conference. Finally, we harness social media with accounts on Twitter, Facebook, and Instagram with one team member dedicated to these activities.

Results: Immediately, USA Healthcare will continue to support Medicare for All legislation in every viable pathway, including legislation and demonstrations. We will counter misinformation with proactive campaigns and incorporate the USA framework into current legislation and roadmaps. This year, we aim to produce materials to reach a wider audience, including the public, health professionals, students, and representatives. We will offer interactive workshops meetings of health advocacy groups.

In the long term, we need to change minds on the value of a healthcare system that is Universal, Simple, and Affordable. Narratives and empathy are promising, but we will further explore evidence-based methods using cognitive psychology, behavioral economics, and marketing. We will also engage movements of social justice and democracy reform.

Conclusions: Of course, we need detailed policy, but we should learn from our experiences and change how we build support for reform. When we agree that “USA” should be the goals of any healthcare proposal, we can use the framework to evaluate proposals, build coalitions, and communicate with our communities. Whichever way proposals evolve based on the political environment, we must ask ourselves if they will achieve Universal, Simple, and Affordable healthcare.

Wisconsin Views on Addiction and Mental Health

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Background: Growing up in a very rural and conservative portion of Wisconsin, I found addiction and mental health were traditionally ignored. Therefore, I have often wondered if there is a correlation to certain social demographics and views on addiction.

Methods: Surveys were distributed via the Brown County Alcohol & Drug Coalition 4 Change, and collected using the online survey platform, Qualtrics. Data was interpreted to match answer patterns with self-proclaimed demographics.

Results: Approximately 88% of participants agree that addiction is a mental illness. Less than 50% believe that factors like education level and income contribute to addiction, while more than 50% believe family history and where the person grew up do contribute to addiction. Approximately 90% of participants do not believe addiction is the result of a character flaw or personal choice.

Conclusions: The majority of people who were surveyed do see alcohol and drug addiction as a mental illness. Some people still fail to recognize social factors such as education and income as high risk determinants of addiction. There appears to be no correlation between any one demographic and views on addiction, however small sample size and lack of diversity among participants may be contributing to false representations, as well as participants selecting “self-proclaimed” demographics which may be subjective. Other limitations may include selection bias due to the organizations I worked with giving access to participants who may have already been seeking to change views and policies on substance abuse.

Advancing Structural Competency Knowledge in Medical Education (ASK-ME)

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Background: Medical education falls short in training students to understand and act upon the systems that shape patients' health and illnesses. For healthcare professionals to counteract healthcare disparities, they must be aware of and respond to the environmental circumstances and structural violence that impact patient decision making. Integrating a structural competency curriculum into formal medical student education may be a solution.

Methods: The curriculum for this pilot study was adapted from the structural competency curriculum developed by the Structural Competency Working Group. We plan to implement the curriculum with fourth-year medical students (N=120) on their Medicine in Society (MIS) at Ochsner Health in Louisiana. Students will participate in two learning activities and will be assessed on their structural competency understanding with evaluations involving the pre- and post-Clinical Structural Competency Questionnaire (CSCQ), written reflections, and a presentation. Students rotating in MedVantage Clinics during their MIS rotation will complete additional sections of the CSCQs.

Results: Preliminary findings based on reflective essays from the medical students that underwent the structural competency curriculum training in pilot studies included the following recurring themes. The first being that students had a better understanding of the concept of structural competency, noting that "physicians seem to contribute to naturalizing th[e] health gap and inequality by using implicit biases that we may not have recognized." The medical students that rotated in the MedVantage Clinics explained that the experience both improved their clinical skills as a future physician, as well as provided them with a platform for application of the principles covered in the course. Another common theme was that the students learned to emphasize structural competency over cultural competency, mentioning that this knowledge "could alter outcomes by addressing the structures and finding solutions." Future studies will continue with reflection responses and will include CSCQs given before and after completion of the course.

Conclusions: Based on previous cohorts of medical students enrolled in this curriculum, integration into UQ-Ochsner's MIS block was shown to be an effective way to deliver this training to medical students, using Zoom for didactics and discussions. Students performed clinical duties and gave presentations in their assigned clinics as part of the MIS course requirements from the University of Queensland. Written reflections on the course allowed students to more deeply process the concepts of this course, while the presentations engaged students to actively address the social determinants of health and structural competency with clinic patients.

An Analysis of the Top 150 Medical Podcasts in the United States

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Background: Over the last decade, Free Open Access Medical education (FOAM) podcasts emerged as a supplemental tool in medical education. The COVID-19 pandemic further highlighted the need for quality, asynchronous educational options. Previous work suggests >85% of U.S medical students and residents listen to at least one medical podcast. Published recommendations for creators are based on research investigating the response to specific podcasts, and preference surveys. Our project aimed to analyze the top 150 medical podcasts to identify areas of opportunity, and to provide guidance for educators seeking to create engaging, widely utilized content.

Methods: On 9/4/20, the top 150 podcasts in the U.S under the subcategory “Medicine” were pulled from the publicly available website, Chartable. Five coders collected data and analyzed podcast content. Inter-rater reliability was scored via kappa-fleiss score using 20% of the dataset and suggested excellent agreement (>0.70) across all variables of interest, including content type, associated organization, host’s background, format, intended audience, specialty, upload frequency, and episode length. Summary stats were calculated using R software.

Results: 78 (52.3%) were founded in 2018 or later. 91 (61.1%) were independent; 11 (7.4%), 11 (7.4%), 10 (6.7%), and 18 (12.1%) were associated with medical journals, hospital systems/universities, medical societies, or test-prep companies, respectively. 94 (63.1%) had only 1 regular host; 89 (59.7%) had a host with an MD or DO. 21 (14.1%) were in a monologue format, 70 (47.0%) were primarily discussion based. 32 (21.5%) and 67 (45.0%) focused on general medicine vs. a specialized medical topic. 108 (72.5%) were intended for HCP’s, with 36 (33.3%) being tailored to students/residents, and 49 (45.4%) being primarily for physicians. The most common specialties represented were IM/Primary Care (22, 20.4%), Emergency, Anesthesia, Critical Care (28, 25.9%), and Pediatrics (9, 8.3%). 140 (94.0%) were uploaded either weekly or biweekly. 73 (49%) had an average length of episodes between 20-40 minutes.

Conclusions: A majority of top medical podcasts are young, independently created, and intended for an HCP audience. There remains a large opportunity for journals and hospitals/universities to be more involved in podcast creation. Top podcasts were largely driven by 1 or 2 regular hosts, discussion-based in format, uploaded weekly or biweekly, and were between 20-40 minutes.

Assessing healthcare provider knowledge of human trafficking

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Background: Human trafficking is a serious problem and healthcare workers are in a position to intervene. This study sought to determine the knowledge levels of healthcare providers who are most likely to be in direct contact with a victim of human trafficking.

Methods: An anonymous survey assessing knowledge of specific topics of human trafficking was developed and distributed online. Demographic information and questions pertaining to training and knowledge of trafficking in a healthcare setting were asked. The primary outcomes were descriptive statistics and secondary outcomes were comparisons among demographic groups. Qualitative methodology via content analysis was implemented on an open-ended question.

Results: The 6,603 respondents represented all regions of the country. Medical, nursing, and physician assistant students comprised 23% of the sample, while 40% were either physicians, fellows, or residents. Less than half the respondents (42%) have received formal training in human trafficking, while an overwhelming majority (93%) believe they would benefit by such training. Overall, respondents thought their level of knowledge of trafficking was average to below average (mean=2.64 on a 5-point scale). There were significant differences in knowledge of trafficking by age group ($p<.001$), region ($p<.001$), and educational training level ($p<.001$). 949 respondents (14.4%) provided free-text comments that further described their opinions.

Conclusions: Most respondents have not had training but felt they would benefit from it. There were significant differences between demographic groups. Further innovation is needed to design a universally appropriate curriculum on human trafficking accessible to all healthcare providers as well as mandatory training programs for all institutions.

Coach retention in UNR Med Coaching Program affects feasibility of longitudinal program

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Background: The current medical education model creates challenges in providing structured foundations of personal and professional development. Having strong coaching relationships can be of unparalleled influence on the development of medical students into modeled physicians. The overarching goal of this emerging Coaching Program is to help students learn to self-monitor and integrate external feedback to reach their full potential. The challenge with sustaining the program is multidimensional with coach recruitment as one of the main factors.

Methods: The 2020-2021 pilot coaching program was initiated with introductory trainings for Class of 2022 students and newly recruited coaches. Coaches participated in a minimum of 4 virtual “checkpoints” where professional development topics were discussed as outlined by the Medical Education Program Objectives (MEPO). Data is collected from coach and student evaluations and ePortfolio entries throughout the year using the Kirkpatrick model.

Recruitment of new coaches for the 2021-2022 year required collaboration with the Office of Medical Education, local county medical society, and marketing team to identify qualified, non-evaluative physicians. Continuing medical education (CME) credits and modification of the student:coach ratio commitment were provided as encouragement for participation.

Results: During the pilot Coaching Program, 10 coaches were recruited and each coach received 7-8 coachees. The coaches were sent an Interest of Continuation form to assess which coaches would like to continue the program for the following year; only 2 chose to come back. Time commitment was the common theme among the coaches who did not return. Despite sharing the values of the program, coaches indicated that decreasing the number of coachees and time commitment required would permit them to continue.

Conclusions: While students express growth and development in their self-reflections, integration of the program into the curriculum demonstrated that this requires on-going investment and commitment from both parties. Time commitment is a considerable factor for coaches and there will need to be a strong emphasis on recruitment of coaches for sustainability and expansion into a longitudinal program. Shifting to a voluntary program and recruiting more coaches will combat these issues and allow us to retain more coaches for future classes.

Do Scribes do Better in Medical School?: A Mixed Methods Study

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Background: Medical scribing is an increasingly common way for pre-medical students to gain clinical experience. Scribes are a valuable part of the healthcare team and have high rates of matriculation into health professional programs. Little is known about the effects of scribing on the success of the student. This manuscript aims to determine the effect of scribing experience on clinical self-efficacy during medical school.

Methods: Perceived clinical self-efficacy was evaluated with validated survey questions using a 5-point Likert-type scale as well as free text responses. The survey was completed by 175 medical students at the Frank H. Netter, MD School of Medicine. Statistical analysis was conducted using SPSS. As part of the mixed methods study, free text responses were analyzed using qualitative analysis.

Results: Quantitative results showed no statistical difference in perceived clinical self-efficacy between medical students with scribing experience and those without. Analysis of free text responses showed that medical students believed their scribing experience improved comfort in the clinical setting and increased familiarity with medical terminology.

Conclusions: Medical students with scribing experience did not demonstrate greater clinical self-efficacy than their peers without scribing experience. However, medical students with scribing experience have a perceived value of their pre-medical scribing experience on their success in medical school.

Examining Medical Student Reflections to Understand Service-Learning Outcomes During Covid-19

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Background: Amidst the pandemic while medical schools had paused clinical rotations, many were asking how medical students can contribute to pandemic efforts as well continue learning. One such approach is student-led service learning projects, which is a well-recognized pedagogy in medical education as it involves service to the community, reflections, and reciprocal learning.

Methods: We conducted a retrospective analysis on the service learning reflections written by 50 medical students at our institution who enrolled in a two or four week COVID-19 Service Learning elective. The course was designed to promote student learning at the same time as provide meaningful assistance to patients, families, faculty, and the broader community affected by COVID-19. We conducted a thorough blinded review of reflections and coded the text based on emerging themes using open coding grounded theory approach. We then used axial coding to construct linkages between data and provide an overall conceptual framework.

Results: Projects ranged from manufacturing PPE, distributing meals to hospital workers, orienting patients to telehealth services, COVID-19 related research, among others. We noted developing themes in communication, compassion and empathy, leadership, and teamwork. In total, we identified 11 different coding bins including, communication, teamwork, technical skills, gratitude, compassion and empathy, leadership, professionalism, organization, risk and reward analysis, and confidence. The number of takeaway themes and lessons extracted from the reflections ranged from one to five per person. The most reported lesson was communication, with it written about 38 out of 120. Of the 49 students analyzed, 29 of them reported on lessons that they would specifically implement moving forward. The number of lessons they wrote about ranged from one to three, with one lesson reported most often. The average number of lessons reported was 1.66. Of the themes written about for future use, communication was still the number one most reported.

Conclusions: It is clear from our analysis of student self-reflections that they are self-aware about how they were able to actively help COVID-19 management and in addition, they thought deeply about how they grew from the experience personally, especially communication. Overall, this qualitative study on student reflections post-completion of their COVID-19 Service Learning showcases the significance of promoting active, self-directed learning in academic medicine, especially during a pandemic. It is clear that service-learning opportunities offer a dual-purpose: it provides a space for medical students to both help with pandemic relief efforts and also offers learning experience to personally grow as healthcare professionals.

Expanding medical school education of skin conditions to include Black, Indigenous, and People of Color (BIPOC) skin tones

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Background: 2020 was a year full of challenges for many communities and the country at large, with the resurgence and exposure of racial injustice being one of them. The murder of George Floyd at the hands of police officers in May 2020 laid bare the systemic inequalities that people of color face on a daily basis. As medical students who strive to advocate for all our patients irrespective of their background, we wanted to address some of the deficiencies in our medical education when it comes to learning how skin conditions can present differently in people of color.

Methods: In July 2020, our AMSA chapter began the discussion of what we could do at our school to improve the medical care we provide to our BIPOC (Black, Indigenous, and People of Color) patients. We decided to begin the discussion of changing our medical school curriculum by first compiling a thorough index of 40 skin conditions, researched through reputable sources, that can vary in presentation depending on skin color. Once we decided which skin conditions to include, we compiled information about the condition, its pathology, epidemiology, and presentation on both light and dark skin. We then found high quality images from medical textbooks and databases to be used as examples. We created an easy to read presentation and sent it to our Dean of Diversity and Inclusion along with the directors of the course we were hoping it would be implemented in.

Results: We heard back from the Dean of Diversity and Inclusion and course directors that they will be incorporating the contents of our presentation as curriculum changes for future students. This includes increasing the time spent on the dermatology lecture and workshop. The expanded curriculum will be specifically dedicated to ensure that all skin colors are represented in our education. Beyond this specific course, they will be expanding their efforts in ensuring our medical education overall is more representative of BIPOC.

Conclusions: Although it can seem futile to attempt to change systemic inequalities on an individual level, real change almost always begins on a smaller scale. This project gave us the opportunity to impact not only our peers, but also the many patients future alumni of our school will care for. Our work is not finished and much progress still needs to be made, but we look forward to tackling these problems and advocating for our patients, irrespective of their background.

Global Health Conference Board Engagement Transition from In-Person to Virtual Board

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Background: Given the virtual nature of extracurriculars this year, we want to investigate the toll this has placed on boards and organizations such as MedPACT, specifically the Global Health Conference Board. This board plans a global health conference every year and consists of about 20 people. However, this year the board is planning a virtual conference and meets weekly via zoom.

Methods: We want to investigate how the virtual nature has motivated or unmotivated students in their specific roles, how it has affected engagement with the directors and other board members, and how it will affect their engagement with global health generally. We are going to survey the past board which held weekly in-person meetings and compare their results to the current board working under virtual conditions.

Results: Data is in the process of being analyzed and will be done by end of January 2021.

Conclusions: The goal outcome is to analyze the engagement and interaction between GHC board members in a virtual setting compared to last year's in-person GHC board. We hope to identify the best practices in both scenarios and see how to implement them moving forward as we will move back to in-person next year.

How Do I Talk about Diet and Exercise? Development of a Curriculum Guide to Integrate Nutrition, Physical Activity, Emotional Wellness, and Sleep into Medical Training

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Background: Unhealthful lifestyle behaviors are major contributors to the most common and costly chronic diseases afflicting Americans, such as type 2 diabetes, cardiovascular disease, and many cancers (1, 2). Yet, physicians do not adequately address lifestyle behaviors (e.g. nutrition, physical activity, stress resilience practices, and sleep) in clinical practice despite believing it is important, citing insufficient skill and confidence as barriers (3, 4). Our objective is to develop a curriculum guide that expands the role of lifestyle training in undergraduate medical education through the proposal of a comprehensive and evidence-based set of learning objectives (LOs) and competencies.

Methods: We founded our university's first Nutrition, Metabolism, and Lifestyle Vertical Integration Group (NML VIG) charged with producing a curriculum guide proposal for LOs and competencies to be vertically integrated into the 4 years of medical school. The NML VIG is divided into 5 working subgroups: (1) Nutrition and Metabolism, (2) Physical Activity, (3) Emotional Wellness and Resilience, (4) Sleep, and (5) Behavior Change Communications. We recruited a multidisciplinary team of 22 subgroup stakeholders in the fields of nutrition, dietetics, biochemistry, exercise physiology, sports medicine, sleep medicine, family medicine and integrative medicine, as well as medical students. This is overseen by 2 co-chairs (1 physician, 1 medical student). We met with pre-existing campus VIGs to define best approaches and practices. In addition to reviewing the literature, we are writing novel LOs, grouping LOs under overarching competencies, seeking peer review, and mapping final novel competencies to our institution's graduation requirements.

Results: Our work is actively in process with the product anticipated in May 2021. Our proposal will be submitted to our university's Medical Education Committee in May 2021, with anticipated integration into a revised 4-year curriculum being released in 2022. We will then share our process methods and curriculum guide so that other undergraduate medical universities can use lessons-learned and adapt the curriculum guide to their own medical education context. Several successes and challenges have already been identified.

Conclusions: It is imperative to increase providers' self-efficacy in addressing the factors that constitute first line therapy for many of our most burdensome chronic diseases--behavior change in the domains of nutrition, physical activity, emotional resilience, and sleep. Widespread adoption of our peer-reviewed curriculum guide will equip future generations of graduating medical students with the knowledge and skills needed to integrate productive conversations about lifestyle behaviors into routine clinical care.

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How should medical students prepare for a clinical dermatology rotation? Advice from dermatology residents

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Background: Skin diseases are commonly encountered in medical practice, yet medical students may have little dermatology training. In order to optimize the dermatology training experience, students may benefit from supplementing with self-study in order to prepare for their clinical dermatology rotations. There is little research on what self-study materials best prepare these students. We aim to identify which resources dermatology residents and fellows have found to be most useful in preparing for clinical dermatology rotations and dermatology residency.

Methods: Forty current dermatology residents and fellows responded to our REDCap-generated survey. Respondents were asked which self-study resources along with clinical rotations they most recommended for preparing for clinical dermatology rotations and residency. Respondents could also provide additional advice through free responses. Data was analyzed using descriptive statistics.

Results: Most respondents (n=36, 90%) reported using outside resources to prepare for clinical dermatology rotations and dermatology residency. Online resources and AAD modules were most used (n=31, 77.5%) and were most recommended (n=32, 80%). However, 67.5% of all respondents also used printed textbooks in some capacity, but low to no cost, usefulness, and easy accessibility of online resources make them more favorable. Multiple clinical dermatology rotations were recommended for preparing for dermatology residency (n= 34, 85%), along with particular clinical rotations, including internal medicine (n=22, 55%) and rheumatology (n=17, 42.5%).

Conclusions: Overall, the AAD modules and online resources are reported most useful when preparing for clinical dermatology rotations in part for their favorable cost and accessibility. In addition, compared to other clinical rotations, multiple clinical rotations in dermatology may be most helpful in preparing for dermatology residency.

Impact of a Longitudinal Community Health Elective on Medical Students

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Background: Providing adequate access to healthcare for medically underserved areas/populations (MUA/Ps) is one of the greatest challenges in public health today. In order to address this issue, a long-term, multifaceted approach is required. Two longitudinal Community Health (CH) electives were developed that allow medical students to volunteer in MUAs during the first 3 years of training in an effort to develop a greater understanding of MUPs, promote greater empathy for MUPs, cultivate an interest in Primary Care, and strengthen a desire to serve MUPs long-term. Students volunteered 80 hours in 15 local charitable clinics, 8 hours with different nonprofits in MUAs, and 12 hours in several community-based, preventative health initiatives. This study evaluated the effectiveness of the CH electives in accomplishing these four course objectives.

Methods: Fifty 4th year medical students from the Class of 2021 completed a survey assessing the impact of their experiences completing the CH electives on 8 metrics. Only 42 students answered all survey questions. This survey used a five-point Likert Scale (Strongly Disagree to Strongly Agree). Qualitatively, students were asked to describe their experience completing the electives.

Results: Of the 42 research participants, 100% reported increased empathy for MUA/Ps, 95% reported increased understanding of challenges facing MUA/Ps, 91% reported increased understanding of challenges facing physicians working with MUPs, 86% reported increased interest in working with MUPs, and 52% reported increased interest in Primary Care. The most common words used to describe the course were “eye-opening”, “rewarding”, and “impactful”.

Conclusions: The CH electives serve as an innovative and education-based strategy to increase medical student empathy for MUPs, increase understanding of challenges facing MUPs and the physicians that work with them, and increase interest in working with MUPs. A reduced percentage of students reported increased interest in Primary Care when compared to the other survey metrics. More investigation is required to further assess this finding.

Impact of Student-Faculty Collaborative Research Efforts on Institutional Research Output

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Background: Over the past decade, research output has become a critical factor in medical students' competitiveness for residency and residency program departmental attractiveness. However, students and faculty at weaker research institutions may find it difficult to produce high-quality research projects, leaving them at a significant disadvantage in comparison with their fellow applicants and programs. Within the past five years, two initiatives were created to build collaborative efforts between medical students, residents, and faculty, and to promote the production of research studies. The purpose of this study is to retrospectively review the research output of these two organizations from their conception period to now, to determine if these groups have improved research output within their respective departments.

Methods: A redcap data collection tool will be created to collect pertinent information. Research projects produced by the two organizations and accepted as oral/poster presentations and/or manuscripts will be retrospectively reviewed. Details on output number of oral/poster presentations and manuscripts; organization conference; journal of publication; and impact factor of journal will be evaluated for each research item. Poster/oral presentations and manuscripts published through the WHRC and MRC will be retrospectively reviewed. Studies not produced through the consortiums will be excluded.

Results: Data collection will take place from February 2020 to April 2020. We plan to describe the impact of collaborative research consortiums on the output of student-led research projects at a low-research output institution. We hypothesize that organized research consortiums lead to a higher output of oral/poster presentations and publications for medical students involved. We believe the results gained through this study can provide a framework for which other institutions can model research programs for medical students.

Conclusions: Medical school research continues to be an increasingly important part of medical student applications for residency. However, many students still face barriers to creating high quality projects. For many students, lack of faculty guidance and support is a key factor which prevent them from participating in research initiatives. Collaborative efforts such as the WHRC and MRC can potentially serve as a forum to reduce these barriers and provide medical students with the tools they need to succeed.

INteractive Virtual Expert-led Skills Training (INVEST): A Multi-Modal Curriculum for Medical Trainees

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Background: Given a dearth of pediatric subspecialists, medical trainees will ultimately be faced with assessing and treating subspecialty conditions, including mental health disorders. Thus, it is critical to develop and test effective, efficient training methods for medical learners to become comfortable with these conditions.

Methods: We developed “INteractive Virtual Expert-led Skills Training” (INVEST), a virtually-delivered subspecialty medical education curriculum leveraging mixed technology to address this need and applied the structure to focus on key skills in assessing pediatric depression and suicidality for the primary care setting. Five waves of medical students/residents (N=149) completed pre- and post-training surveys for self-reported comfort assessment.

Results: Trainees reported significant positive gains in perceived likelihood of encountering pediatric suicidality as well as knowledge/comfort with depression screening and suicidality assessment. Across some competency areas, there was an effect of medical education training level. INVEST shows promise for equipping medical trainees with baseline knowledge regarding pediatric depression and suicidality.

Conclusions: This innovative curriculum allows active training to continue while individuals remain socially distanced, expands educational reach to diverse geographic locations, and has the potential to increase primary care workforce competency in subspecialty high-need areas. While further adaptation and evaluation is necessary, it is our hope that INVEST can serve as a model for many needed medical education areas.

Keep Medical Students Moving: Adapting a Student-led Wellness Program During Covid-19

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Background: Research suggests almost 50% of medical students incur burnout before entering residency, and 33% have a decline in cardiorespiratory fitness during medical school. Each semester, the Student Wellness and Resilience Committee (SWRC) has a 10-week student-led fitness program to promote wellness, with 63-83 participants and a 50% completion rate. During covid-19, with virtual classes and shelter-in-place, we noticed an increase in student stress and adapted the wellness curriculum at UICOM in a student-centric manner.

Methods: SWRC recruits participants for our programs through class listserves and presentations during mandatory class sessions. We rapidly pulled together meetings with the yoga club, Deans, Office of Student Affairs, and student leaders to collect feedback and implement multi-level virtual programming.

- counseling center drop-in chats
- student-led chai chats to decompress
- skills sessions such as basket weaving over zoom
- class-based weekly drop-in zoom chats
- virtual movie watch parties
- adaptation to the fitness program.

These virtual meetings fostered candid discussions and recommendations. This collaborative approach of engaging student government, and other fitness and arts-based organizations early enabled UICOM to have a cohesive approach to student wellness during covid-19.

Results: Since the fitness challenge was the only program connecting students spread across various states during virtual instruction, we increased the length to 15 weeks, with a repository of free, virtual fitness, yoga, and meditation classes shared in weekly emails. Due to shelter-in-place guidelines, instead of 10,000 steps/day, we sustained the goal at 7500 steps/day and made key additions of wellness metrics, such as:

1. Daily active minutes
 2. Space for participants to share other wellness activities, including meditation, dance, yoga, and artwork
- During the covid-19 pandemic, 33% of participants completed the program, 70% walked 7500 steps/day, 80-95% exceeded the recommended 150 active minutes, and 60-66% practiced an additional wellness activity, such as HIIT, yoga, or painting. While increasing the program length reduced the program completion rate by 34%, the challenge of living through a pandemic was a likely contributing factor. Future implementation will incorporate a peer-to-peer buddy system, weekly online classes, and small prizes to incentivize.

Conclusions: Student-led longitudinal fitness programs are an effective and feasible way to promote medical student wellness during the covid-19 pandemic. In addition, it fostered connection and community amongst medical students during a challenging period. Using active minutes and identifying popular forms of wellness, such as HIIT, can guide medical school policies in creating wellness programming for students.

Medical Students' Knowledge of Adverse Childhood Experiences (ACES)

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Background: The incidence and impacts of Adverse Childhood Experiences (ACEs) in the general population have been well documented, however, more recent studies have highlighted the increased incidence of ACEs in African American and multiracial children. Since, these experiences can be linked to higher chronic disease burdens and premature mortality, the question arises on how to best screen, educate and mitigate ACEs to improve health in African American, multiracial and underserved communities. This study focuses on the education of racially concordant physicians-in-training at HBCUs, who are proven to be more likely to practice in underserved communities of color.

Methods: A total of 117 first year medical students at an HBCU participated in this program as a part of their Colloquium Course. This ACEs study consisted of 3 components, a pre-program knowledge assessment survey, implementation of ACEs curriculum (Initiating questions, discussions, formal didactic session and post session reflection) and a post-program knowledge assessment survey. The format of the curriculum was chosen after a review of the literature on best teaching methods proven to help facilitate learning - i.e. student engagement with questioning, discussion groups, repetition of material in an interleaved way, instruction using varied methods of presentation (pictorial, participatory, verbal etc). The pre and post- lecture assessment asked an identical set of 5 key questions each, graded on a Likert Scale, to quantify students' self reported general understanding of ACEs, their knowledge of the associated physical and mental impacts and their knowledge of methods of treatment.

Results: Results demonstrated a significant knowledge deficit in year-one medical students, but also showed that a trauma-informed curriculum could enhance knowledge survey scores by over 50%. The overall average pre-program ACEs knowledge reported on the Likert Scale was 2.64, the average post-program knowledge climbed to 4.02, and the average difference between pre and post-program scores was 1.38. We found that the greatest improvement in knowledge was in the two sections that scored the least in the pre-program evaluation, with student knowledge of treatment of ACEs increasing by 1.6 and student understanding about the effect of ACEs on the brain showing an increase of 1.5. In comparison, student learner's general knowledge of ACEs and the health impacts of ACEs both increased by 1.3 and understanding of mental health issues associated with ACEs improved by 1.2. Medical student qualitative responses, gathered after the session, showed that the learning objectives were effectively communicated.

Conclusions: This study adds to the growing body of literature emphasizing the need to include programming in the social determinants of health as a part of every medical school's curricula. It especially highlights the importance of including such curricula in medical training at HBCUs whose graduates often work in underserved areas where the need for trauma-informed care is critical and where such care can be especially impacting.

Multi-Institutional Study Evaluating Community Service Impact on Medical Student Mental Health

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Background: Mental health has surfaced as a key factor in successful navigation of the learning environment, in particular for medical students. Training of medical students have placed new challenges and stressors on young professionals, including stricter admissions criteria, accelerated growth of medical knowledge, and significant technological advances in medical treatment. Studies corroborate a multitude of stressors that impact medical student mental health. Instead of isolating medical school stressors, investigating pre-medical students' activity yielded community service as a modifiable factor impacted by medical school.

Methods: IRB approval was established with the goal of assessing five United States medical institutions through an anonymous online survey with multiple components including:

- 1) Age > 18, School Attending, Year of Training, Estimated Volunteer Hours reported on AAMC Application, Estimated Volunteer Hours during Medical School Year, Desired Specialty, Academic Probation, Gender;
- 2) MHC-SHF and Community Service Attitude Service are combined into one survey;
- 3) Information for individual institution mental health contacts as well as National Suicide Hotline.

Data analyzed and confirmed for internal consistency with Cronbach alpha's reliability coefficient.

Results: Five medical institutions were surveyed to analyze multiple geographic locations, institutional stressors, mental health, and community service. The survey response rate was 14% (n = 3605 students). The results indicate a broad range of medical student attitudes with distribution in favor of community service. Of the medical students surveyed, an average of 80.28% answered positively (the Likert scale of 5, 6, 7-strongly agree) with the Community Attitude Survey.

Conclusions: Continued assessments of potential mental health variables in the medical student population are analyzed and studied. This is the first application of the Community Service Attitude Survey measuring baseline community service attitude in the medical student population. The study attempts to highlight the importance of community service in the continued intervention and prevention of medical student mental health.

Student Perspectives on Acceptance and Commitment Training within a Medical Education Curriculum

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Background: Despite the growing literature demonstrating the efficacy of Acceptance and Commitment Training (ACT) with higher education populations, there is limited research on the efficacy and/or social validity of ACT among medical students. This population is at increased risk for experiencing time restrictions; social and academic stressors; and conflicting demands leading to multi-tasking. If left untreated, students may develop maladaptive coping strategies that can hinder patient care (e.g., medical error or biased care). Given the complexity of the medical train93i93n93g93 93s93y93s93t93e93m93s93 93a93n93d93 93s93t93r93e93s93s93f93u93l93 93n93a93t93u93r93e93 93o93f93 93s93t93u93d93e93n93t93s93’ 93e93x93p93e93r93i93e93n93c93e93s93,93 93s93t93u93d93e93n93t93 93f93e93e93d93b93a93c93k93 93p93e93r93t93a93i93n93i93n93g93 93t93o93 93t93h93e93 93d93o93s93a93g93e93,93 93d93u93r93a93t93i93o93n93,93 93a93n93d93 93t93i93m93i93n93g93 93o93f93 93A93C93T93 93e93x93p93o93s93u93r93e93 93i93s93 93c93r93i93t93i93c93a93l93 93t93o93 93its impact. This study’s primary goal was to assess medical student perceptions of ACT as part of their professional development and wellness curriculum.

Methods: Medical students from the Class of 2024 were asked to complete a questionnaire survey on a voluntary basis. Questions on the survey were a mixture of open-ended responses and scaled ratings of student perspective on the school’s wellness curriculum and ACT. The survey questions sought to obtain the student impressions on the current state of the wellness curriculum and the mandatory implementation of Acceptance and Commitment Training.

Results: Results on student perceptions are currently being collected and analyzed. Preliminary outcomes of the ACT trainings suggested students have a neutral perception of the curriculum. Further analyses and implications will be discussed.

Conclusions: Medical students expressing neutral perceptions of the ACT trainings is an indicator that students recognize the utility of these trainings. However, students may struggle with the application and integration of these trainings into their daily activities as conflicting demands continue to arise.

The educational impact of the COVID-19 pandemic on medical students in the Southern United States

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Background: Research Questions: 1) Has students' learning been affected by an abrupt change to distanced, online medical education? Have first- and second-year students seen a significant change in their course grades? Have they felt that their pre-clinical education has been affected?

2) If students are succeeding in distanced medical education, what are they practicing? Have they experienced a change in their study habits? Are they studying with other students via the internet?

3) Has students' morale towards medical education been affected? Are they experiencing the same level of motivation in their schoolwork? Do they know someone who has been diagnosed with COVID-19? If so, did this effect their studying or schoolwork?

Methods: Data was gathered online via an anonymous, cross-sectional survey sent to students at 17 medical schools in the Midwest and Southern regions of the United States. A combination of Likert-scale questionnaire style, sliding-scale rating, and multiple-choice questions made up the 26-item survey. Student responders must have completed their first or second year of medical school in the spring of 2020 in order to participate.

Results: 135 students participated in the survey; 82 responders were first-year students (60.7%), 57 responders lived with family (64.2%), and 68 students had their living situation change due to the COVID-19 pandemic (50.4%). Overall, 77.6% of respondents felt that their pre-clinical education was affected by curriculum changes made secondary to the COVID-19 pandemic, and 17.9% of students stated that their exam scores decreased after these curriculum changes. Only 11.1% of urban participants responded that they were experiencing more motivation in their schoolwork throughout the pandemic as compared to the 32.6% of rural-based students. Several trends were noticed between specific institutions, such as UP-KYCOM students ($M = 3.15$) strongly agreeing that they spent more time focused on school during the pandemic, than their counterparts at University of South Alabama COM ($M = 2.43$; $p = 0.042$) had agreed. The majority of second-year students (75.5%) turned to using outside resources more than they did prior to the pandemic. Lastly, trends were seen in those students who answered "YES" to knowing someone diagnosed with COVID-19; only 19% saw an increase in exam scores during the spring semester (No=25.7%) and 1.7% strongly trusted that their classmates were honest in their at-home exam taking (No=8.1%).

Conclusions: Medical students and institutions displayed their resiliency throughout the spring of 2020, although certain groups of students and schools were more drastically affected than others. Data suggests that it would be beneficial for individual schools to poll their own students regarding institutional communication, academic-honesty, and score impacts secondary to the pandemic. Multiple follow-up studies are needed to determine if curriculum changes made in the fall of 2020 were more effective in maintaining student education and wellness.

The ExamSoft Dissection of Extended Test-Time on High-Stakes Exams in Health Professions Students With Accommodations

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Background: The number of students reporting disability requiring test-time extension in medical school has significantly increased since 2016, yet the number of United States health professions students with accommodations remains underrepresented compared to the population they treat. The literature indicates that students taking their MCAT with test time-extension are less likely to pass USMLE Step exams 1-3 and finish medical school in the standard four years but the data on other health professions programs is absent from the literature. This retrospective study aims to better understand how health professions students with test time extension accommodations spend their time taking exams, and to raise awareness of the significant increase in the number of students with learning disabilities in health professions schools, allowing future health professionals with disabilities to match and serve a diverse population.

Methods: This study is a retrospective review of exams data for courses such as graduate Anatomy that offered high-stakes multiple choice questions (MCQs) exams and used ExamSoft software to administer these exams during 2017-2019 academic years (fall, spring, and summer semesters) at Eastern Virginia Medical School in the health professions programs. The following types of data will be retrieved from ExamSoft software by the respective school's Disability Services Officer under IRB approval and following FERPA guidelines: 1) exam takers results for each exam, 2) snapshot viewer data for students with accommodations (SWAs) and their corresponding students without accommodations (SWOAs) and 3) answer key for each exam as Excel spreadsheets. For each exam in a course and each course the following will be calculated: exams average scores for SWAs, average scores for SWOAs, average scores for class quartiles, and corresponding mean differences. From snapshot viewer file the following can be retrieved: (a) percentage of exam time used; (b) number of questions marked for review; (c) total number of exam questions returned to; (c) number of times answers were changed; (d) what answer changes were made: (i) no change; (ii) correct answer to incorrect answer; (iii) incorrect answer to correct answer and (iv) incorrect answer to incorrect answer. The independent variables for this study includes the following: (1) gender; (2) age; (3) MCAT/GRE; (4) undergraduate GPA; (5) regular exam time (RET) versus; (6) accommodation time (AT).

Results: Data collection will not be complete by March 2021 and no initial data is captured at this time.

Conclusions: N/A

The Impact of The Microbe Directory on Undergraduates in Medical and Science Fields

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Background: The Microbe Directory (TMD) is a growing database of annotations on microbial species to provide clinicians, researchers, and other individuals readily available access to quantitative data for metagenomic analyses. The workforce of this project is composed of 300+ undergraduates who annotate microbes and bioinformaticians who provide qualitative control, leadership, and support to the volunteers. TMD provides undergraduate students with the opportunity to become involved in research as well as develop their scientific literacy and knowledge of microbiology outside of a classroom environment. This study aims to assess the impact that TMD has had on the volunteer researchers' scientific skillset, career development, and post-graduate studies.

Methods: Researchers will distribute an online survey produced by the lab to both current undergraduate student volunteers and former volunteers within TMD, in order to gain quantitative data on TMD's impact on them. The survey will span 50 questions regarding the pandemic's impact on their academics, socio-economic situation, and post-graduate educational plans. It will include a variety of question styles including multiple choice, rating on a scale of 1-5, and numerical answers. The survey will first be distributed to a sample of 20 students in order to ensure the validity of the questions. Researchers will then conduct a statistical analysis utilizing the T-test and regression analysis on this data by aggregating the responses and comparing the participants' responses before and after joining TMD, while also comparing variances between cohorts.

Results: Undergraduates pursuing careers in science and medicine require research experience in order to matriculate to graduate programs within their chosen field. The results of this study will determine the impact of TMD on volunteers' ability to acquire the necessary experiences for these programs. These results will also demonstrate the pandemic's impact on volunteers' access to other volunteer opportunities, as well as the impact participating in TMD has had on participants' anticipated major, and changes to postgraduate plans. Data collection is anticipated to be complete by April 2021.

Conclusions: This study will showcase the influence of global science on undergraduates' professional and academic development. By providing remote research opportunities to undergraduates, research teams can include students from different geographic locations and walks of life who can contribute various viewpoints and ideas that would otherwise not be incorporated. This moves scientific research in a more modern, accessible, and equitable direction in which a much larger percentage of undergraduates can participate.

The Importance of Medical Education in Physical Activity: Student Perspectives

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Background: Physical activity (PA) can significantly reduce patients' risk of cardiovascular disease and other conditions; however, only a minority of patients report receiving PA counseling from physicians. PA is not regularly included in medical curricula, and studies suggest physicians do not feel confident in providing PA guidance to patients. We seek to study medical students' attitudes towards the incorporation of formal training on PA counseling into the curriculum.

Methods: An anonymous survey was distributed via email and social media channels to the medical students of 9 US medical schools: Harvard Medical School, Geisel School of Medicine, UMass Medical School, Tufts Medical School, UCSF School of Medicine, Wayne State School of Medicine, Boston University School of Medicine, Cornell Medical College, and University of Rochester School of Medicine. Responses were collected over 3 weeks (12/27/2020 - 1/17/2020). The questions covered demographics and perspectives about medical education in physical activity. Descriptive statistics were used to depict responses.

Results: Of 5500 invited medical students, 1182 (21.5%) fully completed the survey. 1089/1182 (92.13%) of all students, including 183/197 (92.89%) fourth-year students surveyed responded that they had never participated in formal medical school education on PA. 61/91 (67.03%) of those who reported taking a course said it was required. On average, students who received PA training had 2.51 hours of PA education (standard deviation 0.88 hours). 751/1182 (63.54%) students surveyed said that medical school should require formal education in physical activity to graduate. 1010/1182 (85.45%) said that medical schools should require formal training on patient counseling for PA to graduate. 1075/1182 (90.05%) "somewhat" or "strongly" agreed that understanding the effects of PA on the human body is critical for maximizing patient care.

Conclusions: A large majority of the medical students surveyed currently believe that understanding the effects of PA on health is valuable to patient care and that medical education on PA counseling should be required. However, despite this desire for formal training, currently only a minority of medical students report having had dedicated education on PA. Given that physician advice on PA tends to be highly regarded by patients and that physicians who receive PA training have been shown to be more confident in counseling patients, providing medical students with formal education on PA counseling can improve patient care and lead to better patient health outcomes.

Tribal Ambulatory Healthcare Experience

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Background: According to the Association of American Medical Colleges, only 11% of MD-granting institutions have curricula on American Indian health. The Tribal Ambulatory Healthcare Experience (MED-235) is a joint partnership between UC San Diego School of Medicine and the Indian Health Service, which provides medical students with longitudinal clinical preceptorships and a deeper understanding of sociopolitical inequities in tribal communities.

Methods: The Tribal Ambulatory Healthcare Experience is offered to first- and second-year medical students, with a preference given to American Indian medical students. Students are provided with a list of readings and videos that contextualize the factors that influence American Indian health status and give a brief primer on American Indian health policy. Students are then paired with an American Indian physician who gives them a tour of the clinical facility, introduces them to the staff, and familiarizes them with the geography of local tribal communities. Typical clinical responsibilities include eliciting an appropriate focused history, practicing components of the physical exam, presenting patients, and developing a key understanding of acute and chronic disease management. The elective concludes with a reflection paper and an opportunity to engage in clinical rotations at the site as a third- or fourth-year medical student.

Results: The Tribal Ambulatory Healthcare Experience was piloted in 2019 with two first-year medical students. The elective was then suspended the following academic quarter due to COVID-19-related training restrictions. Pilot participants were first debriefed by authors AC and CG and then given a formal course evaluation. Feedback was overwhelmingly positive. One key recommendation was to develop an American Indian health seminar series, suggesting that students came out of the experience with a continued interest in this topic area.

Conclusions: The Tribal Ambulatory Healthcare Experience recognizes that there is poor engagement with the Indian Health Service in undergraduate medical education. This elective offers medical students an opportunity to deepen their understanding of American Indian health and practice, cultural humility with patients from Southern California tribal communities, and may serve as a model for tribal-academic partnerships at other medical schools.

A case of complex regional pain syndrome after an achilles rupture repair that was treated with aggressive physical therapy

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Background: Complex regional pain syndrome (CRPS) is a chronic, debilitating pain condition thought to be caused by heightened sympathetic nervous system activation in response to an injury. CRPS can present with features including pain that is out of proportion to the initial injury or trauma, skin and nail changes, redness, discoloration, and edema of the affected extremity. CRPS can have an incredibly detrimental impact on patients, and it is very difficult to treat due to a lack of understanding of its cause and predisposing factors, so any potential therapeutic intervention is valued.

Methods: The patient is a 44-year-old woman who presented to our neurology clinic with complaints of severe ongoing pain in her right ankle and lower leg associated with swelling, redness, and skin changes. She developed the symptoms following surgery to repair a ruptured Achilles tendon that was then managed with immobilization for eight weeks followed by physical therapy. Her exam was significant for allodynia, hyperesthesia, and vasomotor changes in the R ankle and lower leg, and she was diagnosed with early CRPS 1.

Results: The patient was treated with sympathetic nerve blockade, a total of 2400 mg of gabapentin per day, TENS unit, and aggressive physical therapy. The physical therapy involved treatment four times a week for 6 months with emphasis on desensitization with varying textures and increased weight-bearing activity. Physical therapy also included massages using lymphedema techniques for skin stretching, along with active and passive range of motion exercises. She had complete resolution of her symptoms after the completion of physical therapy.

Conclusions: The result of this case indicates that prolonged physical therapy may have significant clinical value in treating patients with CRPS. We also believe that this case report supports the need for further study on the benefit of immediate passive range of movement exercises in reducing the incidence of CRPS and aggressive physical therapy for 6 months or longer as a treatment for chronic CRPS.

A retrospective multi-center correlational evaluation of Diabetic Wounds of the Lower Extremity (DWLE) in patients attending an out-patient wound center accompanied versus unaccompanied

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Background: Diabetes is a significant and worsening chronic disease problem in the United States. This complex multi-system pathology often results in widespread end organ damage. Foot infections, ulcerations, and amputations are a serious burden of the disease. Patients often need to rely on the assistance of a personal caregiver or family member. The impact of caregiver attendance on the progress of diabetic wounds has not previously been studied. The purpose of this study was to retrospectively evaluate the diabetic lower limb wound outcomes with correlational attendance or absence of a caregiver. The investigator hypothesizes that diabetic wounds of the lower extremity (DWLE) will demonstrate improvement in wound size and are positively impacted by the attendance of a participating caregiver.

Methods: The study was conducted in 3 outpatient hospital based wound centers in North Carolina following IRB approval. Data was collected from a retrospective chart review for all eligible patients treated January 1-December 31, 2018. The sample size was n=85. Patients were categorized into 2 groups, those with >50% accompanied (n=30) or <50% accompanied (n=55) visits by a caregiver. The inclusion criteria was 18-100 years old, male or female, Type 1 or Type 2 diabetes and an index wound of the lower extremity coded as diabetic etiology. Exclusion Criteria was determined to be Peripheral Arterial Disease (PAD) with an Ankle Brachial Index (ABI) < 0.5 without revascularization, consistent with acute or chronic limb ischemia. Inflammatory wounds including pyoderma gangrenosum, malignancy, or hospice patients electing non-curative care were also excluded. Patients lost to follow up were excluded as well. Data was evaluated using descriptive statistics and two sample t-tests.

Results: Both groups shared the common characteristics of type 2 diabetes, obesity, and uncontrolled glucose, with similar wound severity and statistically insignificant wound size. Co-morbid factors and negative healing indicators were present for both cohorts. The most noted demographic differences were Age (p=0.02) (older in the accompanied group) and Race with more than a 35% difference in the unaccompanied group of Native Americans, Blacks and Hispanics. The presence of PAD was the most profound difference in co-morbid factors with more than a 19% higher rate in the accompanied cohort. Both groups experienced nearly identical rates of Healing, however, the unaccompanied group registered almost twice the Visit Count and Weeks in Service indicating increased duration of time for healing. Secondly, this increased clinic encounter frequency also implies an increase in overall cost to the patient and healthcare system. Despite negative wound healing predictors, the >50% accompanied group demonstrated significantly shorter healing times with lower visit counts and fewer weeks in service.

Conclusions: Based on these results, early identification and engagement of a care partner for every patient with a DWLE may prove beneficial in wound healing with faster healing times, fewer complications, reduced morbidity, and lower healthcare costs. Purposeful integration of a caregiver is free and is widely applicable and clinically relevant to diabetic specialty and primary care clinics.

Access to Emergency Care Means the Difference Between Life and Death: The Impact of Healthcare Disparities on Trauma Outcomes in Rural Alabama

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Background: While health disparities in rural areas are well documented, access to emergency services and trauma centers are less known. Our project aims to examine differences in trauma outcomes from motor vehicle crashes (MVCs) based on rurality, road designation (primary roadway/interstate vs state roads), EMS availability and access to definitive trauma care in order to identify communities that could benefit from additional resources.

Methods: We used CDC WONDER database to access the number of MVC deaths by county in Alabama for the years 2011-2017 and calculate the number of MVC deaths per 100,000 people by county annually. Counties were divided into groups based on access to trauma care: 1. Level 1 or 2 trauma center, 2. Level 3 trauma center, 3. Community hospital-non trauma center 4. No hospital. One-way ANOVA found a significant difference (f-ratio 12.453, $p < 0.01$) in mean mortality based on access to trauma care. Using Alabama Department of Transportation MVC crash data, relative risk of MVC mortality was calculated based on whether an accident occurs in the urban or rural part of a county.

Results: Although every county in Alabama has at least one ALS1 (paramedic) EMS service, there continue to be gross disparities in access to definitive emergency care, which can be correlated with increased MVC mortality. Access to a trauma center within a county makes a significant difference in trauma mortality from MVCs within that county. Relative risk of mortality based on whether an accident occurs in a rural or urban part of a county was significant in urban counties, but this relationship was not present within rural counties. The proportion of crashes that result in fatalities are significantly higher in rural counties compared to urban (proportion of fatalities urban = 0.00467; rural = 0.01382; $p < 0.001$). There was a weak relationship between EMS agencies per 100,000 people and MVC mortality per 100,000 ($r = 0.271$).

Conclusions: Reducing motor vehicle mortality will require a cooperative effort between trauma centers, the Alabama Trauma Communications Center, EMS agencies, and driver's themselves. Rural communities should be the focus of further study of accident prevention and trauma care.

Aligning Obstetric and Neonatal Care to Optimally Manage Neonates Exposed to Herpes Simplex Virus (HSV)

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Background: The risk of HSV transmission from mother to neonate is influenced by the maternal infection classification. Genital lesion PCR/culture and HSV-1 and 2 antibodies are key components of the algorithm for evaluation of asymptomatic neonates after vaginal or cesarean delivery to women with active genital herpes lesions. According to AAP recommendations, in an asymptomatic neonate born to a mother with visible genital lesions, IV acyclovir should be started in the neonate if maternal HSV classification is unknown or is suggestive of primary infection, whereas acyclovir should not be started if maternal HSV classification is indicative of recurrent infection. However, ACOG does not recommend routine HSV screening in pregnancy or routine antepartum genital HSV cultures. We present two cases in which neonates were born to mothers with non-classified HSV status requiring unexpected NICU stays and treatment with acyclovir.

Methods: Mothers with herpes infections in pregnancy were found using International Classification of Disease Tenth Revision codes. Two cases of asymptomatic neonates born to mothers with suspected HSV genital lesions were identified from a retrospective chart review. Charts were assessed for maternal HSV classification, neonatal evaluation, treatment, and length of hospital stay.

Results: Case 1: A 27-year-old G2P1001 with a history of positive HSV-2 IgG and suspected recurrent HSV genital lesions presented for cesarean section at 41 weeks. At the time of delivery, the lesions were crusting and PCR/viral culture were not obtained. Due to unknown maternal HSV-1 antibody status, the neonate was evaluated and empiric acyclovir was initiated. Maternal serology resulted positive for HSV-2 and negative for HSV-1. The neonate received 10 days of acyclovir for possible maternal first-episode nonprimary HSV-1 exposure.

Case 2: A 25-year-old G3P1102 with suspected primary HSV genital lesions presented for cesarean section at 39 weeks. PCR/viral culture from the lesions were not obtained. The neonate was evaluated and empiric acyclovir was initiated. Maternal HSV-1 and HSV-2 IgG antibodies resulted positive indicative of recurrent infection. Acyclovir was discontinued after three days.

Conclusions: Timely, accurate classification of maternal HSV status may avoid parental dissatisfaction, neonatal acyclovir exposure, iatrogenic harms, and costs of longer hospital stays.

Allergy Induced Neurological Sequelae (Case Report)

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Background: Allergic reactions are among the most common immunologic diseases in the world. Most manifest as symptoms involving the skin, respiratory and cardiovascular systems. However, this report will discuss the unusual presentation of an allergic reaction, and the perplexing neurological symptoms that followed.

Methods: A 63-year-old female with past medical history significant for hypertension, diabetes, and hyperlipidemia is brought to the ER with tongue swelling after eating tomatoes from her home garden. She has eaten tomatoes her entire life, and does not use organophosphates.

Physical exam shows tongue edema, dysphonia, dysphagia, erythema of the throat, and bilateral hand paresthesia. She has no tachycardia, hypotension, or wheezing. CT is negative for intracranial abnormalities. CTA and perfusion testing are negative for vessel occlusion and perfusion defects, respectively. A tryptase level is obtained and shows slight elevation. She develops acute airway compromise and is intubated.

Results: The patient is extubated the next day. She has mild dysarthric speech but is not in respiratory distress. She has left facial droop and diminished tongue movement. Her strength and ankle reflexes are diminished bilaterally. MRI shows no infarcts, and MRI C-Spine is negative. Labs are negative for Acetylcholine Receptor (AChR), Muscle-Specific Kinase (MuSK), and Lipoprotein Receptor-Related Protein 4 (LRP4) Antibodies. A nerve conduction study shows no significant decrement. The patient is started on IVIG and pyridostigmine. Over the next week, the patient shows gradual improvement in her respiratory function, but strength is still diminished. Outpatient follow up with allergy and neurology is ordered.

Conclusions: Studies have shown that late onset of allergic disease is possible in older patient populations, driven by multiple aging factors. The patient's tryptase level was slightly elevated, however, she showed no signs of cardiovascular collapse. Additionally, follow up with an allergist showed no reaction to tomatoes during a percutaneous test. The allergist suspects the patient developed an aspirin hypersensitivity, which she takes for comorbid conditions.

Furthermore, literature review shows no claims of allergic reactions spurring neurologic symptoms. Lab testing for AChR, MuSK, and LRP4 Abs were all negative. Seronegative Myasthenia Gravis is still possible, however EMG and conduction studies showed no evidence of any denervation and no significant decrement. Another possible explanation could be succinylcholine administration during intubation. It has been documented to cause transient increases in intracranial pressure, which could have resulted in weakness and global deficits, but imaging showed no abnormalities, further cloaking the neurologic symptoms in mystery.

An Isolated Popliteus Tendon Rupture in an Adolescent Female with Six Year Follow Up

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Background: The popliteus muscle is a small, thin, triangular muscle at the posteromedial aspect of the knee. Popliteal injuries most often occur in a traumatic setting with damage to multiple other knee structures. Isolated popliteal injuries, however, are rare. Even more rare is an intrasubstance rupture of the popliteal tendon itself in a skeletally immature pediatric patient (vs. the more common tendon avulsion). To our knowledge, there are no known cases of a female pediatric patient with an intrasubstance popliteal tendon rupture in current literature. This case report aims to illustrate clinical symptoms, imaging, and treatment of an isolated popliteal tendon rupture in an adolescent female.

Methods: NA

Results: An athletic 14-year-old female with no past medical history presented with right knee pain four weeks after a soccer injury. She was playing goal-keeper when she dove for the ball and fell to the ground, striking the back of her right knee with her left knee. The lateral side of the right knee was initially swollen but this gradually improved. She continued to have diffuse pain on both the medial and lateral sides of the right knee. The patient was full weight bearing without a gait abnormality. Knee range of motion was normal and the knee was stable with an otherwise unremarkable knee examination. A right knee MRI demonstrated a complete rupture of the popliteal tendon at the level of the popliteal hiatus. No other injuries to the knee were visualized. The patient was treated non-operatively and gradually returned to normal activities and sports at six weeks post injury. On six year follow up, the patient had no residual pain or instability. She was able to play soccer competitively without limitation.

Conclusions: Isolated popliteal tendon ruptures are extremely rare and difficult to diagnose given non-specific clinical exam findings. While these ruptures can be difficult to visualize on MRI, imaging can help to clarify the diagnosis by ruling out other injuries with similar clinical presentations. In the case of this young and active patient, diagnosis and full recovery without limitations were achieved with six weeks of conservative management. In such cases, absent more extensive injury to the knee, diagnostic arthroscopy would be an unnecessary invasive procedure. We conclude conservative treatment is the preferred primary course of action in the case of isolated popliteal tendon rupture.

Calcific Tendinitis of the Patellar Tendon with MRI correlations

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Background: Calcific tendinitis is a predominantly chronic, cell-mediated disease that has been well-documented in multiple areas of the body, most commonly the rotator cuff tendons. It is exceptionally rare to develop calcification of the patellar tendon. A small number of case reports have described patellar calcific tendinitis, often found incidentally on imaging or with progressive pain. The following case demonstrates an unusual presentation of severe patellar calcific tendinitis mimicking mucoid degeneration and partial tear of the patellar tendon after a sports injury. In addition, three modalities of diagnostic imaging were unable to detect calcific deposition which was only discoverable intra-operatively. We describe this unusual presentation and optimal imaging sequences for diagnosis.

Methods: NA

Results: A 51-year-old male presented three weeks after injuring his left knee while playing tennis. The patient described pushing off with his left foot as he lunged forward for a ball and felt a sudden sharp pulling sensation at his anterior knee. His pain worsened overnight and did not improve over the next month. He had sharp pain with weight-bearing activities isolated to the anterior, infrapatellar left knee over the patellar tendon. Left knee radiographs were unremarkable. Left knee MRI and ultrasound demonstrated large patellar tendon partial thickness interstitial tears and mucoid degeneration. None of these imaging modalities revealed calcification. Surgical exploration of the patellar tendon revealed a large pocket of calcific deposition under pressure which was evacuated prior to tendon anterior-posterior repair. The patient had immediate post-operative resolution of his sharp pain and was full weight bearing at two weeks post-operation.

Conclusions: Calcific tendinitis of the patellar tendon is a highly unusual injury that can present diagnostic difficulty. Commonly used imaging modalities and protocols may be insufficient in diagnosing calcification. If tendon calcification is suspected, consideration should be given to the use of gradient-echo sequences during MRI imaging for definitive diagnosis and treatment optimization.

Ciprofloxacin as a risk factor for Toxic Epidermal Necrolysis: a case report

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Background: Toxic Epidermal Necrolysis is a rare and usually fatal disease, mostly induced by very commonly used drugs such as ciprofloxacin. Not much is known regarding the risk factors of ciprofloxacin and other drugs to induce a reaction like TEN. Therefore, cases like this should be published in order to determine the characteristics leading to the disease and so discover ways of prevention.

Methods: This project was based on the analysis and study of the evolution of a 38 years old latin patient diagnosed with toxic epidermal necrolysis. The study was written using the CARE guide for case reports.

The antecedents, therapeutic intervention, clinical findings, evolution and diagnostic methods were analyzed in order to evaluate the progress of the patient and her condition.

An informed consent was applied with the purpose of expressing to the patient the risks and benefits of her condition and obtaining the appropriate permission to use the data of her case for academic purposes.

Results: On the second day of admission, a urine sample was taken in which the physical examination showed urine with a cloudy appearance, reddish color and bad odor, also the microscope showed abundant bacteria, 20-25 leukocytes per field, 750 hematites per field and the chemical test produced positive albumin (3+) and positive hemoglobin (3+).

At the fifth day of admission, liver and renal function tests were performed, obtaining as results ALT 990 U/L, AST 860 U/L, Albumin 2.9 g/dL, total bilirubin 10.22 mg/dL, direct bilirubin 6.86 mg/dL, indirect bilirubin 3.4 mg/dL, total cholesterol 370 mg/dL, LDL 316 mg/dL, glucose 158 mg/dL and alkaline phosphatase 1485 U/L. Treatment was established according to TEN management guidelines and the patient was discharged the 18th day of admission.

Conclusions: Ciprofloxacin is a drug used in several areas of medicine and the global incidence of TEN is less than 2 cases per million people. On the other hand, we consider it of the utmost importance that health care providers take into account the possible consequences of the use of drugs such as ciprofloxacin and others related to TEN, in order to avoid this complication that could put the patient's life at risk.

Clinical Characteristics of Veterans Participating in Cardiac Rehabilitation

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Background: Heart failure with preserved ejection fraction (HFpEF) is a common phenotype of heart failure caused by prolonged left ventricular afterload. The consequences of HFpEF are severe, with 5-year morbidity, mortality, and rehospitalization rates exceeding 70%. Furthermore, many patients with HFpEF will also have coronary heart disease (CHD), a leading cause of death and disability in the United States. Significant difficulties exist in treating this patient population, as there are few viable treatment options for HFpEF with CHD patients.

Methods: We plan to identify Veterans at the Columbia VA with HFpEF and CHD via echocardiogram and determine their change in cardiorespiratory fitness following cardiac rehabilitation with moderate continuous training (MCT) vs. high intensity interval training (HIIT). Veterans who are referred for cardiac rehabilitation will be selected based off of their echocardiogram results, confirming a diagnosis of HFpEF with CHD, and will then be enrolled in either a MCT or HIIT training program for 12 weeks with 3 sessions/week. Changes in cardiorespiratory fitness (CRF) will be determined by before and after measurements of VO₂ max, one of the most established clinical indicators of long term cardiovascular health and survival, which is measured by cardiopulmonary exercise testing (CPET).

Results: We plan to assess and compare CRF in response to MCT vs. HIIT in patients referred to cardiac rehabilitation that have both HFpEF and CHD. Additionally, we plan to determine the proportion of patients in cardiac rehabilitation with both coronary heart disease and HFpEF in the Veteran population. As part of this effort, we have established the testing protocol for the exercise study and compiled an extensive source document with numerous data fields that are supported by significant evidence in the literature. The exercise testing will be started soon, but it is not currently ongoing.

Conclusions: We predict that the results will indicate that cardiac rehabilitation employing HIIT is a viable treatment option for patients with HFpEF, which is currently not an approved recommendation. Furthermore, we hope to establish the proportion of Veterans at the VA that have HFpEF with CHD in order to better define the characteristics of the patient population and demonstrate the burden of the concurrent diseases.

Comparison of perioperative outcomes for transfusion of hemoconcentrated bypass versus cell-saver blood in cardiac surgical patients

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Background: Cardiac surgery is a high utilizer of blood and blood products. Blood conservation techniques, such as hemoconcentration and cell-saver, are often used to salvage the patient's own blood to reduce autologous transfusion. In this study, we investigate the post-operative patient outcomes and blood transfusion rates of delivering hemoconcentrated blood and intraoperative cell-saved blood in the setting of cardiac bypass surgery. We intend to evaluate the outcomes of both techniques by conducting a retrospective chart review study.

Methods: The Mount Sinai Hospital database was utilized to identify a cohort of patients undergoing cardiac bypass surgeries with operative dates between January 2015 to January 2018. The specific outcomes we are assessing include: perioperative transfusion of blood and blood products, extubation time, ICU length of stay, hospital length of stay, readmission within 30 days, mortality, neurological complications, renal failure, surgical site infections, reoperations for bleeding, and anemia. We are also assessing secondary patient outcomes such as Ejection fraction and co-morbidities, pulmonary hypertension, atrial fibrillation history, coagulation dysfunction. After data collection is complete, we will analyze the relationship between the aforementioned variables, while controlling for variables such as patient comorbidities.

Results: Data collection for the project is near completion and is projected to be complete by April 2020. The data has not been analyzed to date, but statistical analysis will be applied once blood products administered to patients post-operatively in the ICU are gathered. We hope to see a significant difference between use of hemoconcentrated blood versus intraoperative cell saved blood in number of blood transfusion and effects on postoperative outcomes.

Conclusions: Hemoconcentration is a technique that recovers hematocrit, hemoglobin, fibrinogen, albumin, and total protein levels of whole blood, thereby reducing the amount of blood that is wasted after cardiopulmonary bypass. Cell saver is the complete filtration of blood aspirated from the surgical field and given back to the patient. The results and conclusions from this experiment will help give physicians a better idea as to which blood infusion products to administer to patients during cardiopulmonary bypass surgeries and guide overall transfusion strategies to reduce transfusion rates of blood and blood products in cardiac surgical patients.

Delays of VTE Prophylaxis on Admission

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Background: Venous thromboembolism (VTE) is a significant cause of morbidity and mortality for hospitalized patients, as there are approximately 900,000 new VTE events and 100,000 VTE-related deaths every year. VTE are considered preventable events with appropriate prophylaxis; however, prophylaxis is frequently delayed on hospital admission. We chose to investigate the incidence of VTE prophylaxis delays for high-risk patients admitted to our institution, and our aim is to reduce VTE prophylaxis delays by 75% in the next year for all high-risk patients admitted to the medical floor.

Methods: We performed a retrospective chart review of 100 medically ill patients admitted to the medical floor from the Emergency Department at two regional medical centers from December 2018 to March 2019. Data collection consisted of patient demographics, length of stay, timing of prophylaxis for VTE, type of VTE prophylaxis, and Padua Prediction Score. A Padua Prediction Score was calculated for these 100 patients in order to assess our institution's adherence to VTE prophylaxis guidelines.

Results: The first dose of prophylaxis was given within 24 hours of arrival to 75% of patients, with only 25% of patients receiving their first dose within 8 hours. Of all 100 patients, 13 patients did not receive prophylaxis during their hospital stay. Also, the length of time between prophylaxis order and administration of the first dose showed that 74% of patients received prophylaxis within 12 hours; only 36% of patients received prophylaxis in under 4 hours from the time the order was placed. In addition, 62% of patients were identified as having a Padua score ≥ 4 at the time of admission, suggesting significant risk for VTE. It is important to consider that 2 of the patients expired during admission, 3 patients developed VTE, and 95% of patients had no significant adverse outcomes.

Conclusions: Our investigation revealed that there was a disparity in length between time of admission and first dose of prophylaxis; the study also showed a mortality rate of 2%, with 3% of all patients developing a VTE. These results would require further study to demonstrate a relationship between delays in VTE prophylaxis and adverse outcomes in the medically ill population. We recommend implementation of a standard STAT order for patients at high risk for VTE according to the Padua Prediction score to receive prophylaxis by the admitting team and then a routine order to follow in order to decrease significant delays in VTE prophylaxis.

Effects of intimate familial relationships on health outcomes of Older Black women (OBW) living with HIV

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Background: The rates of HIV infection are disproportionately high among Older Black women (OBW) living with HIV in the US, compared to other races and ethnicities. The considerably high prevalence in this population is associated with multiple social determinants of health which impact their health outcomes. The aim of this project is to investigate and explore the effects of familial relationships on health outcomes of OBW living with HIV in Miami, a city fraught by high infection rates.

Methods: A total of 17 women at an Ambulatory Care Center in South Florida, USA were recruited and the inclusion criteria included (i) self-identified as Black (ii) aged 50 years or older, (iii) spoke and read in English (iv) self-reported living with HIV. Semi-structured in-depth interviews were conducted in person, audio-recorded and transcribed. A directed qualitative content analysis approach was used to manually analyze the obtained data and develop themes and codes.

Results: Among the 17 participants, 12 were in a relationship or married and 5 were living with their partners. Being in sero-concordant intimate relationships was reported to help facilitate treatment engagement as the women received support from their partners, such as medication reminders. Some women who had caregiving roles to their spouses, children and grandchildren reported that it motivated them to seek care. Some others described their caregiving roles as burdensome and conflicting with their medical appointments. In their relationships with their families, some women who disclosed their HIV status received support while others faced rejection and discrimination which deterred HIV treatment engagement.

Conclusions: Based on this study, we are able to infer that social support is associated with positive health outcomes for OBW living with HIV, such as improvement in medication adherence, retention in care, and overall improved quality of life. Results from this project would provide the foundation to develop interventions aimed at increasing social support among OBW living with HIV, as well as information needed to increase awareness beyond medication adherence. From the results, it can also be inferred that OBW living with HIV may benefit from more structured supportive networks outside of their family members, such as those provided by supportive groups in the communities, social workers and HIV peer counsellors in the clinical settings.

Effects of Stress from COVID-19 on Chronic Central Serous Retinopathy

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Background: Because of Central Serous Retinopathy's (CSR) association with stress and stress caused by the pandemic, it was hypothesized that stress from COVID-19 would have a negative effect on CSR. The purpose of this study is to evaluate the effects of stress from COVID-19 on chronic CSR using a retrospective chart review.

Methods: Charts from 45 patients, 67 eyes, with chronic CSR were evaluated. Data were collected pre COVID-19 shutdown (January 1, 2019 to March 15, 2020) and during COVID-19 shutdown (March 15, 2020 to September 1, 2020) for visual acuity, central subfield thickness (CST), pigment epithelial detachment (PED), and subretinal fluid. Clinical change (improved, stable, or worsened) status was determined by the treating retinal specialist. The data were determined to not be normally distributed via the Shapiro-Wilk test. Statistical significance of the CST and vision data was determined by the sign test. The McNemar Exact test was used to determine statistical significance of PED and subretinal fluid.

Results: Differences in data in pre vs post COVID-19 shutdown were not statistically significant. Clinically, 69% of patients were stable, 14% improved, and 17% worsened. Visual acuity pre COVID-19 shutdown averaged 20/37 (SD 20/46) and during the COVID-19 shutdown averaged 20/37 (SD 20/43); these changes were not statistically significant. CST pre COVID-19 shutdown averaged 281 μm (SD 57 μm) and during the COVID-19 shutdown averaged 288 μm (SD 83 μm); these changes were also not statistically significant. The majority of patients did not change in their presence or absence of PED (94%) or subretinal fluid (85%).

Conclusions: Patients with chronic CSR did not see significant changes to their clinical status, vision, CST, subretinal fluid, or PED when assessed during the COVID-19 pandemic. Stress from onset of the COVID-19 did not appear to have a significant effect on patients with chronic CSR.

Emergency Department Utilization

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Background: Past research looking at emergency department (ED) utilization found key reasons why patients come to the ED for non-emergent conditions are:

1. Lack of knowledge about affordable and convenient care outside of the ED.
2. Patients' perceptions of the acuity of their conditions being inconsistent with perceptions of the ED providers.

The purpose of this research is:

1. To investigate the reasons for usage of the ED for non-emergent conditions.
2. To provide patients with information on when they should seek care at an alternative healthcare facility and specific alternatives for care in the area. The ultimate reason for this is to decrease the number of patients presenting to the ED so that patients with actual emergent conditions can get faster and better care.

Methods: Patients who received an acuity level of 4 or 5 by ED providers were considered for the survey. At the end of the survey, patients were asked if they would like an informational handout on criteria for seeking care at an ED, urgent care, or primary care facility as well as addresses of these facilities in the area.

Results: 75% of patients rated their problem as more severe than providers did.

87% stated that they would use reliable alternatives to getting care outside of the ED if these existed.

50% stated they wanted the informational handout.

Conclusions: Patients' perceptions of the acuity of their conditions are inconsistent with providers' perceptions.

There is lack of knowledge about alternatives to the ED.

Patients would be willing to use alternatives to the ED if they knew when they should go elsewhere and if they knew locations of other healthcare facilities.

With educating our patients, we could reduce the number of people who use the ED for non-emergent conditions and have more resources for patients with emergent conditions.

For future studies, it would be useful to follow up with the patients that received the handout to see if they actually used alternatives to the ED based on the handout they received. If majority did use the alternatives, then including this informational handout with ED discharge paperwork could reduce the number of patients using the ED.

Evaluation of knowledge and attitudes about their disease in diabetic patients from a rural community in the Dominican Republic, and its association with the adherence to pharmacologic treatment: a cross-sectional study

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Background: Type 2 diabetes mellitus and its complications pose a significant health burden worldwide and present significant challenges for patients, health systems and national economies. Failure to comply with the prescribed treatment for chronic diseases is a global problem of great relevance, which is observed mainly when the patient is in charge of following the established regimen. Assessing diabetes-related knowledge is an important step towards providing individualized diabetes education programs and evaluating the effectiveness of such interventions.

Methods: This research was observational, cross-sectional, prospective and analytical.

The study population consisted of 45 patients over 18 years of age equivalent to the people registered in the database of the first level center of a rural community, who were given a questionnaire on knowledge and attitudes between August and October year 2020. The study tool used to measure knowledge and attitude was the DKQ-24 questionnaire and the Modified Likert scale respectively, applied to people who are part of the care program for patients with Diabetes Mellitus at the community's primary care center. This made it possible to evaluate different levels of knowledge about the disease, such as basic information, knowledge about control and complications; as well as attitude towards the adherence to treatment.

Results: A weak positive correlation between knowledge and pharmacologic adherence to treatment was found ($R^2 = 0.0021$).

Regarding attitude, a weak but positive correlation was found with adherence to treatment ($R^2 = 0.1198$), these results suggest that the attitude of the patient is a better indicator of pharmacologic adherence than knowledge of their disease.

According to the results found, a total of 28 patients (63.6%) did not adhere to the treatment established by their health providers. Among the group with the lowest adherence are those who use hypoglycemic agents, corresponding to 14 patients.

Conclusions: According to the results obtained, the hypothesis that improving knowledge and/or attitude towards diabetes will improve pharmacological adherence in rural communities, does not seem to be a factor of much weight compared to the type of medication and who is responsible for administering the treatment.

The psychometric analysis showed that the DKQ-24 knowledge questionnaire has a satisfactory difficulty factor and could be adopted as an instrument to assess the knowledge of patients about diabetes and its medications, as well as attitudes that should be taken in rural communities, specially in third world countries.

Evaluation of pharmacological adherence in patients diagnosed with hypertension at a rural community in a low-income country

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Background: Adherence to medication is a critical condition for the prevention and control of cardiovascular diseases and, despite the availability of effective therapy, arterial hypertension continues to be poorly controlled, with non-compliance with the pharmacological therapy regimen being the main cause.

The follow-up of the therapeutic plan allows the patient to maintain and continue adequately with the established treatment and thus achieve significant changes.

The importance of this research lies in the identification of the most vulnerable groups for the development of serious complications due to non-compliance or abandonment of antihypertensive treatment and thus be able to develop the pertinent strategies that promote adequate compliance with the treatment.

Methods: This was an observational, cross-sectional, descriptive and prospective study, in which the characteristics of therapeutic adherence in hypertensive patients were evaluated from a population of 163 patients. Due to the fact that the population figure was small for a sample with a finite population, it was decided to work with the entire population. The group was evaluated through both the Brief medication Questionnaire test and the method of counting the tablets. In this study, patients with a diagnosis of hypertension less than 6 months and those who showed evidence of mental or physical disability were excluded.

Results: 59% of the patients studied were found to be adherent to their therapeutic regimen, according to the Brief Medication Questionnaire (BMQ) test.

On the contrary, according to the method of counting the tablets, 95.7% of the patients were normo-compliant or adherent with their therapeutic regimen.

Regarding the sociodemographic characteristics of the study population, it was determined that the age group with the best adherence was between the ages of 40-69, corresponding to 65.6%.

In addition, it was observed that the highest proportion of adherent patients were female, corresponding to 60.4%.

Conclusions: Of the patients who were adherent to the treatment, the majority belonged to the age group of 40 - 69 years, were female, lived in a free union, reached a basic level of study and had a diagnosis time longer than 10 years.

It is urged to continue investigating the subject, in such a way that it is possible to assess the importance for society in general to acquire knowledge about adherence to treatment, how this directly influences the improvement of health and how these deficiencies can favor in the worsening of the symptoms related to arterial hypertension.

Evaluation of risk factors for acute diarrheal disease in infants aged 1 to 5 years who attended a diarrhea unit of a pediatric hospital in Santo Domingo, Dominican Republic during the month of March 2018

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Background: According to the Ministry of Public Health of the Dominican Republic, there are around two billion cases of acute diarrheal disease worldwide each year and 1.9 million children under five years of age die from this cause in underdeveloped countries.

Acute diarrhea is the leading cause of death in children under five years of age throughout Latin America. Generally, food hygiene and inappropriate breastfeeding practices are factors that have a significant influence on infants suffering from this disease.

Methods: Observational, prospective, descriptive and cross-sectional study in which parents / guardians of 27 patients in a diarrhea unit of a pediatric hospital of Santo Domingo, Dominican Republic were interviewed about risk factors of acute diarrhea disease.

Data collection was carried out using a closed question questionnaire prepared by the authors. The variables of the questionnaire included the identification of the level of education of the infant's tutor, hygiene habits, time of breastfeeding and the sex of the infants.

A non-random convenience sampling was used for this study, taking into account that those infants who met the age range were selected. Prior to the application of the protocol, informed consent was obtained from the guardian of the infants and their personal data were collected with complete confidentiality.

Results: According to the results obtained, 70% of the infants (19 cases) belonged to the male sex, while 30% (8 cases) were female.

Regarding the level of schooling, 59% (16 cases) completed their studies up to secondary school, while 22% (6 cases) completed university studies and only 19% (5 cases) completed their studies up to primary school.

On the other hand, the longest breastfeeding time among the mothers interviewed was 1 to 5 months with 41% (11 cases), in addition, 30% (8 cases) of the mothers questioned breastfed for more than 12 months, 22% (6 cases) of the mothers breastfed for 6-12 months (6 cases) and finally only 7% (2 cases) of the mothers did not breastfeed.

Conclusions: male sex, exclusive breastfeeding below that established by the WHO (6 months) and a low level of schooling by parents were frequent in the group studied.

Hepatotoxicity associated with first-line antitubercular drugs in children at a tertiary care facility

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Background: According to the WHO's 2019 global tuberculosis report, South-East Asia had the largest proportion (44%) of tuberculosis cases in the world with India alone contributing to 27% of the global burden. Drug induced hepatotoxicity (DIH) with Anti-tubercular therapy (ATT) can result with use of first line drugs which results in interruption of standard treatment, modification of drug doses, higher risk of treatment failure with drug resistance and mortality in severe cases.

The study was proposed to observe the occurrence of DIH with ATT in Indian children and ascertain its risk factors.

Methods: Pediatric patients aged 1-18 years, newly diagnosed with tuberculosis and currently receiving ATT from a tertiary care centre were enrolled. The clinical, demographic and treatment related details including baseline weight, height, dosages of first line drugs and duration of ATT received were recorded on a pre-designed pro forma. Weight-for-length (WLZ) and standard deviation scores (SDS) were calculated for children up to five years of age using WHO growth charts. Body mass index (BMI) was calculated for children five years and above using revised IAP growth charts. Sample size calculation was done using OpenEpi, Version 3, software and statistical analysis was performed on SPSS version 23.

Descriptive continuous data were represented with mean SD (normally distributed)/median (quartile 1 and 3) for non-normally distributed values. Chi square test (Fischer's exact test if <5 was used to compare proportions between those with and without hepatotoxicity. Odd's ratio was used for risk assessment. A statistical value of $P < 0.05$ was considered as significant.

Results: A total of 99 children (HIV negative) with mean age 10.0 ± 4.6 years were enrolled. Hepatotoxicity was seen in 21 (21%) at median onset of 17 (8.5, 60) days. Undernourished children received significantly higher mean dose of isoniazid and rifampicin than children with normal BMI, $P < 0.01$, with higher risk for developing hepatotoxicity [OR, 1.59 (0.59, 4.3)] Concurrent anti-epileptic drug intake was also associated with higher risk of hepatotoxicity [OR 1.55 (0.52, 4.6)].

Conclusions: Hepatotoxicity was seen in one-fifth of HIV negative pediatric population with onset mostly in first month of therapy. The liver functions should be monitored closely in children with undernutrition and concurrent antiepileptic drug intake.

Liver Failure in Neonates with G6PD Deficiency

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Background: Glucose 6-phosphate dehydrogenase (G6PD) deficiency is an X-linked genetic disease that is the most common enzyme defect in the world, affecting an estimated 400 million people of mostly African, Asian, and Middle-Eastern ethnicities. The presence of both G6PD deficiency and liver disease in neonates has been documented, with the underlying cause of the liver malfunction believed to be the G6PD deficiency. However, G6PD has not been shown to be associated with liver failure, but the overlap in symptoms and etiology of the two diseases warrants further investigation.

Methods: We present two cases of neonates with G6PD deficiency and concurrent liver failure. MN was seen initially for persistent cholestatic jaundice at 6 weeks of age. Extensive work-up was negative for any pathologic etiology contributing to cholestatic jaundice, but a Whole Exome sequencing of the proband, only sent as prevention genetics, was positive for X-linked G6PD deficiency homozygous status/pathologic mutation.

The second case is on TW who was noted to be jaundiced at birth and had a total bilirubin of 14.1 with a direct bilirubin of 8.5 at 9 hours of life. He continued to develop worsening jaundice at 6 weeks of age with a TB of 37 and DB 15.5. A hemolytic anemia panel to ARUP was positive for G6PD deficiency.

Results: After a thorough workup, MN was diagnosed with G6PD deficiency and sub-acute liver failure and received liver transplantation within the next 2 weeks.

TW developed refractory ascites and needed a liver transplant within the next 4 weeks.

In both of the cases, the two neonates presented with chronic cholestatic jaundice that wouldn't resolve despite Ursodiol.

Conclusions: In conclusion, G6PD deficiency can be associated with liver dysfunction, serving as a possible cofactor in the setting of progressive liver failure/ chronic liver disease. While it isn't known if the G6PD deficiency contributes to the development of liver failure, our two documented cases suggest that physicians should remain aware of the possibility of compromised liver function as a complication in this population. Thus, in neonates with G6PD deficiency, it may be particularly important to monitor liver function when jaundice persists for an extended period of time despite medical intervention.

Medication adherence of patients with selected chronic diseases in Baghdad teaching hospital: A Cross-Sectional Study

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Background: Adherence to medication is considered one of the primary determinants to assess the success of treatment, and it is defined, according to the World Health Organization (WHO), as "the extent to which the patient's history of therapeutic drug-taking coincides with the prescribed treatment." The aim of the study is to measure the adherence levels in Baghdad Teaching Hospital and assess the risk factors affecting patients' adherence. and to determine the reliability of the Arabic version of the Morisky Medication Adherence Scale-8 (A-MMAS-8) Questionnaire in the Iraqi population.

Methods: A cross-sectional study conducted in Baghdad's Teaching Hospital, Medical City in Baghdad, Iraq. Patients on medication of chronic disease for at least the past 6 months were chosen from medical wards and the Arabic version of the Morisky Medication Adherence Scale-8 (A-MMAS-8) Questionnaire was used to assess adherence to medication and another one was to collect potential risk factors that could affect medication adherence.

Results: Pearson's Chi-Square test was performed for attributed factors and the Adherence Score. Of those factors, two were found to be significant, belief ($P = 0.004$) and Administration Method ($P = 0.05$). Also, there was a weak, negative correlation between the Score and Age ($r_s = -0.139$, $P = .05$) and a weak, negative correlation between the Score, and Duration of the Illness ($r_s = -0.179$, $P = .013$). Cronbach's alpha of the reliability analysis showed the questionnaire to reach acceptable reliability, $\alpha = 0.608$.

Conclusions: The high percentage of patients (90.5%) having poor medication adherence gives us an insight into the Iraqi patients admitted to the hospital. This creates a problem, as many of these patients will develop complications at some point in their lives that require another hospital admission and so on. Belief and administration methods are associated with better adherence so more effort must be done to better convince the patients to take their medication regularly. A-MMAS-8 is reliable to measure adherence in the Iraqi population.

Mid to Long-term Follow-up on Revisions of a Recalled Large-head Metal-on-Metal Hip Prosthesis

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Background: In 2010 a recall was issued for monoblock large head Metal-on-Metal (MoM) prostheses secondary to an unacceptably high revision rate. To our knowledge there are no known studies with long-term follow-up for revisions of this recalled system reported in the literature. Our purpose is to report mid to long term outcomes and trend metal ion levels of revised monoblock MoM hip prostheses.

Methods: A retrospective chart review was performed on all patients that underwent revision of MoM hip replacements between 2010-2015. This was a single site, single surgeon study. Harris Hip Score (HHS) was the primary outcome measured; serum cobalt and chromium levels were the secondary outcome. The surgical procedure consisted of removal of the monoblock acetabular component and placement of a modular titanium acetabular cup with a highly cross-linked polyethylene liner. The metal femoral head was exchanged for a ceramic head with a titanium taper sleeve adapter. The femoral stem was retained in all cases. Multivariate linear regression was used to examine the correlation between pre-revision serum metal ion levels and pre-revision HHS. Approval was obtained from the Institutional Review Board for this retrospective study.

Results: Thirty patients met inclusion criteria. The mean time from index procedure to revision was 3.84 years. Mid to long term follow-up was obtained for 20 patients with a mean follow-up of 8.3 years. Higher pre-revision cobalt levels were correlated with lower pre-revision HHS. There was no correlation for chromium and pre-revision HHS. Mean HHS increased from 47.6 pre-operatively to 92.6 at final follow up. Most recent metal ion testing revealed a significant decrease from pre-revision in both cobalt (42.4 to 2.0 µg/L) and chromium (15.4 to 4.49 µg/L). Survival rate is 100% at time of submission with no failures or prosthetic joint infections to date.

Conclusions: Our study showed significant improvements in Harris Hip Scores and significant decreases in Cobalt and Chromium levels after revision surgery for recalled monoblock large head MoM prostheses. There were no failures or infections requiring revision in this series. With no other known long-term follow-up publications analyzing outcomes for recalled metal-on-metal prosthesis revisions, this study demonstrates objective data to reinforce the benefits of revision surgery.

Parapharyngeal Abscess: A Novel Neurologic Complication (Case Report)

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Background: Parapharyngeal abscesses are an infection and collection of pus in the deep neck space that can lead to dangerous complications. Systemic antibiotics, and even surgical drainage, are required to prevent catastrophic rupture.

Neurological sequelae can result from spread of infection to cranial nerves. However, this report will show a new neurological complication that can also occur.

Methods: A 17-year-old female presents with persistent sore throat. Rapid strep, monospot, and COVID-19 tests are negative. Her intense jaw and throat pain worsen to the point she cannot talk. She has no significant medical history.

Physical exam shows trismus, but no detectable oral lesions. There is a swelling on the left side of her neck and tenderness over the anterior cervical chain. There are no cranial nerve or focal neurological deficits. Temperature 38.6 C, HR 140, BP 82/46, RR 22, and WBC 22.7. CT reveals a prominent left palatine tonsil consistent with tonsillitis, and no drainable fluid.

Results: The patient is admitted, and her vitals stabilize after IVF and ceftriaxone. The next day, blood cultures grow fusobacterium, ampicillin-sulbactam and dexamethasone are started.

On day three, repeat cultures are negative, but she becomes disoriented and experiences partial loss of vision with multi-colored scintillation. Staff states her neck was contorted, with no pupillary reflexes. Another episode occurs 4 hours later, she is unresponsive with a blank stare, and confused afterwards. Neurology orders an MRI that shows abnormal signal alteration and mild edema of the parietal and occipital cortices bilaterally surrounding the origin of the superior sagittal sinus. Left facial inflammatory changes have progressed to a parapharyngeal abscess extending into the parotid gland causing mass effect and displacement of the oropharyngeal airway. MRA and MRV show no intracranial aneurysm, patent vasculature, and patent dural venous sinuses without evidence of thrombosis. ENT performs immediate tonsillectomy with I&D of the abscess. The next day, the patient's condition improves and she is discharged.

Conclusions: A parapharyngeal abscess localized to the posterior neurovascular compartment may present with systemic toxicity and cranial nerve involvement. However, this report posits it can also lead to seizures due to compression of the jugular veins causing an increase in intracranial venous pressure, leading to cerebral edema and signal alterations.

Initially, the diagnosis of meningoencephalitis was considered. However, there was no meningeal thickening, and an episode of colorful scotoma with postictal staring, and imaging of cerebral perivenous FLAIR changes, makes seizures much more likely.

Prevalence of self-medication and associated factors in the context of the COVID-19 pandemic in an underdeveloped rural community

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Background: On March 1st, the first COVID-19 case of imported origin was confirmed in the country where this investigation was conducted. By that date, there was no specific treatment or vaccine for the management of the SARS-Cov-2 infection. The dissemination of information on experimental treatments for COVID-19 led to the massive purchase of drugs. This behavior is of concern in the country, where previous research suggests a high prevalence of self-medication. The main objective of this investigation is to determine the prevalence of self-medication and its associated factors in the context of COVID-19 in a rural community.

Methods: Observational, retrospective, and cross-sectional study in which 385 residents chosen by convenience sampling were interviewed.

Results: The prevalence of self-medication was 36.4%. The educational level was associated with self-medication, being more prevalent among those who completed high school or university ($p=0.01$). Among those who self-medicated, 67.9% obtained the information from family or friends, 82.9% used traditional medicine, and 79.3% did it for prevention purposes. Those that self-medicated for treatment purposes were motivated to do so due to presenting mild symptoms (62.1%), predominantly fever (51.7%). Most agreed they could share the details of their practices.

Conclusions: The prevalence of self-medication was a little less than expected. A significant statistical association was found between the educational level and the prevalence of self-medication. In contrast, aspects such as sex, age, primary occupation and income did not exhibit a statistically significant relationship.

Profile of Oncology Patients Admitted to Two Pediatric Hospitals: A Six Years Overview

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Background: Even though there has been an increase in scientific advances related to cancer research, the statistics have shown that cancer is still the second leading cause of death in children in the United States. Previous studies from the US and other countries have shown that there is similarity in incidence variance on age, gender, and race of oncologic patients. But, there is no recent registry report for pediatric cancer incidence during 2013 to this day in Puerto Rico to be able to determine incidence trends in our country. The goal of this study is to create an epidemiological profile on pediatric patients who were diagnosed de novo with a type of cancer in the island.

Methods: The current collected data goes from the years 2013 through 2018, from children and adolescents of years 0-21 admitted to two of the largest pediatric hospitals in Puerto Rico. Data was collected from patient's electronic records in the Med-Host software and paper records for the oldest dates, and it was organized in the database using Excel. It included variables on medical record number, admission diagnosis, type of cancer, age, sex, town, zip code, insurance, and year and month of diagnosis. Data will be completed for the database from 2013-2015. Statistics were made for age range and sex ratio for the classified types of cancer from 2016-2018.

Results: During 2016-2018, a total of 224 de novo oncologic diagnoses were made between both hospitals. These results showed that the five most diagnosed cancers between both hospitals were Leukemia, Brain & CNS, Hodgkin-lymphoma, Bone Tumors and Non-Hodgkin's lymphoma. The medians for ages and the sex ratios varied between cancer types. This project is still in process, and the data collection is planned to be completed by April 2020.

Conclusions: Findings could be compared with results of the last reports found from Puerto Rico and other countries, including the United States. One of the main goals is to be able to identify the cancer diagnosis distribution per region in the country, and to create a Pediatric-Oncology Profile base solely on the novo diagnosis in the ongoing timeline from Puerto Rico. This study can serve as an information resource for other hospitals. Cancer data registry is needed to learn more about its causes and to contribute to the efforts of earlier diagnosis. But most importantly, it needs to be done in order to help improve the quality of the patient's care.

Rare Papillary Breast Carcinoma Incidentally Discovered After Trauma-Induced Hematoma

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Background: Papillary carcinoma of the breast is rare, comprising only 0.5% incidence of all breast cancers. Clinically the disease presents in postmenopausal women as a painless breast lump with possible bloody nipple discharge. Prognosis is favorable due to its slow growth. We present a 61-year-old woman incidentally diagnosed with papillary breast carcinoma after presenting with a trauma-induced hematoma of the right breast.

Methods: A 61-year-old woman was referred to our surgery oncology clinic for acute right breast swelling after vague trauma. Physical exam was significant for massive right breast enlargement due to a ~20 cm ill-defined solid/cystic mass, and skin changes consistent with a tense hematoma. CT demonstrated a large complex cystic and solid breast mass measuring 15.2 x 11.8 x 15.2 cm with irregular peripheral solid hyperdense polypoid components. Ultrasound showed similar findings consistent with BIRAD category IV. Findings prompted surgical evaluation.

Results: Patient underwent a right breast incisional biopsy and hematoma evacuation. The initial incision showed a tense cavity containing old blood with papillary projections on the cavity wall. The fluid culture was negative. A frozen section was suspicious for a papillary neoplasm. On further evaluation, there were areas of proliferating homogeneous papillary cells with areas encompassing micropapillary, solid, and cribriform patterns, measuring 6 cm collectively. Cells were positive for estrogen-receptor (ER), and negative for basal cytokeratins (CK 5/6). Immunohistochemistry was negative for P63 and calponin in the papillary projections, demonstrating no evidence of myoepithelial cells. However, the right breast cavity wall in the area around the ducts was positive for P63 and calponin, suggesting an encapsulated carcinoma. The clinical appearance and immunohistochemistry of these biopsies were most consistent with well-differentiated, low-grade (grade 1), encapsulated papillary carcinoma (EPC).

Conclusions: Breast cancer rarely presents as a breast hematoma. There are only six reported cases in the literature of spontaneous hemorrhage. However, the imaging showed a suspicious solid component which prompted an open biopsy. Pathology showed EPC. Histologically, EPC is characterized by a cystically dilated duct surrounded by a fibrous capsule with intraluminal arborization of the fibrovascular stroma covered by atypical epithelium with low or intermediate nuclear grade with no evidence of necrosis and rare mitoses. Prognosis is excellent. In our case, the trauma likely exacerbated an already fragile tumor, and caused the tense hematoma.

Surgical Options for Post-Prostatectomy Incontinence: A Mini-Review

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Background: Post-prostatectomy incontinence (PPI) affects anywhere from 1-40% of men after a radical prostatectomy, but treatment is often delayed and surgery is underperformed. Currently, the American Urological Association (AUA) and Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU) recommend post-prostatectomy patients are offered conservative therapies, including pelvic floor muscle training in the immediate post-operative period, and surgical treatment may be offered to those who have confirmed stress incontinence (SUI) and fail to respond to conservative therapies. Surgical treatment options are based on the degree of stress urinary incontinence. The artificial urinary sphincter (AUS) is typically recommended for moderate to severe SUI, while the male sling can be considered in those with mild to moderate SUI. However, the AUS is considered a more reliable treatment, particularly for severe SUI after prostatectomy.

Methods: The study was conducted using the PubMed database for recent papers between 2001 and 2020 with variations of phrases such as post-prostatectomy incontinence, treatment, AUS, male sling. Twenty-seven articles were selected for review. The AUA/SUFU guidelines for incontinence after prostate treatment were also referenced.

Results: The AUS is considered the gold standard of post-prostatectomy incontinence therapy. However, male slings are gaining popularity in the treatment of mild to moderate PPI. The overall consensus is a need for prospective research based upon a standardized patient workup and outcomes reporting to better compare the surgical options for PPI.

Conclusions: A standardized workup and outcomes reporting would benefit the patient in determining which surgical option best treats post-prostatectomy incontinence. As of right now, there is no standardized approach apart from the history and physical exam of the patient. Cystoscopy and urodynamics could be a beneficial tool in evaluating patients pre- and post-operatively. Prospective randomized control trials could then utilize a standardized approach to better compare the surgical options for PPI.

The Association of Functional Values and Laboratory Markers with Measures of Malnutrition and Frailty in Surgical Cancer Patients Enrolled in a Prehabilitation Program

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Background: Prehabilitation is the optimization of physical, physiological, mental, and nutritional status with the goal of improving surgical outcomes and decreasing morbidity and mortality. Patients identified with malnutrition or physical dependence are enrolled. The methods for assessing the presence and severity of preoperative predictive factors have been researched, but a need exists for more information regarding a relationship between functional strength and laboratory values with scores of frailty and malnutrition. Cancer related malnutrition is part of cancer cachexia which involves loss of muscle mass. Furthermore, malnutrition may be masked by obesity, in which patients lose muscle mass but gain adipose tissue or fluid retention. With better understanding of the relationships between predictive markers of a patient's preoperative status, it may be possible to develop more sensitive tools to determine which patients are likely to benefit from prehabilitation even prior to disability.

Methods: A retrospective review of 105 cancer patients planning for operative resection enrolled in a preoperative prehabilitation at a tertiary level referral institution was conducted. Data was extracted from the initial consult visit. Primary outcome variable was correlation coefficient for each Hand Grip Strength right, Hand Grip Strength left, Timed Up and Go (TUG), and Frailty Index with hemoglobin, white blood cell count, platelets, albumin, prealbumin, hemoglobin A1c, c-reactive protein, BMI, tobacco pack years, American Society of Anesthesiology Score (ASA), Eastern Cooperative Oncology Group Performance Score (ECOG), and Charlson Comorbidity Index.

Results: Analysis demonstrated a significant correlation coefficient between grip strength right, grip strength left, and frailty with hemoglobin, as 0.482 ($p=9.68E-05$), 0.332 ($p=0.01$), and -0.497 ($p=0.001$); grip strength left with WBC as -0.345 ($p=0.007$), and ECOG with each Hand Grip Strength right, Hand Grip Strength left, Frailty and TUG as -0.410 ($p=0.002$), -0.361 ($p=0.007$), 0.417 ($p=0.013$), and 0.329 ($p=0.02$) respectively.

Conclusions: ECOG demonstrated a consistent relationship with frailty index and each measure of physical strength. Of measured laboratory values, hemoglobin demonstrated a relationship with all measures except TUG. Perhaps this means that there is no single laboratory value derangement, aside from existing anemia, that determines preoperative status for enrollment of patients in a prehabilitation program. More research is needed about the biomarkers that encompass the clinical picture of malnutrition and physical function of preoperative cancer patients.

The Lasting Mental Health Impacts of the COVID-19 Pandemic on 18-35 Year Olds in the United States of America

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Background: The purpose of this survey is to study the association between increased social isolation leading to higher rates of depression and anxiety in 18-35 year olds living in the United States of America. The data should allow physicians insight on the overall mental health status of 18-35 year olds as well as the importance of targeting vulnerable populations in order to prevent suicide.

Methods: Approximately 1,000 adults who reside in the United States of America will be surveyed. This data will be further extrapolated to study the differences between urban and rural populations, age groups, and access to mental health resources, such as therapy or psychiatrist. “Self-selected sampling” method will be used through social media sites, such as twitter, instagram, facebook and other forms of communication such as email listserves. Subjects will have no direct benefit, however the data extrapolated from the survey will help healthcare professionals understand the mental health climate due to COVID-19. The survey will include questions from the Patient Health Questionnaire- 9 (PHQ-9) and Generalized Anxiety Disorder-7 scale (GAD-7) to measure depression and anxiety levels.

Results: The researchers are currently in the process of collecting and extrapolating data. The expected timeline is to be completed by the end of February 2021.

Conclusions: The researchers are currently in the process of collecting and extrapolating data. The expected timeline is to be completed by the end of February 2021.

The Psychological Impact of the COVID-19 Pandemic, A Meta-Analysis and General Population Study

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Background: Due to the COVID-19 pandemic a unique opportunity exists to understand how social, financial, and health factors contribute to mental health. The most efficient way to determine the impact of a variable is to remove it and monitor the difference; COVID-19 undermined several facets of everyday life both individually and within whole populations. In a qualitative systematic review and meta-analysis of twenty-one studies in addition to an accompanying independent study conducted during the COVID-19 pandemic, we sought to evaluate the mental health disturbances. Synthesizing existing literature, we examined how lifestyle changes (social, financial and medical) since the COVID-19 pandemic has directly influenced mental illnesses such as anxiety, depression, distress and substance abuse tendencies.

Methods: The study consisted of a meta analysis under the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines. A search was performed on multiple databases for criteria regarding financial, health and social issues plus specific mental health issues such as anxiety, depression and distress. 307 studies were reviewed using The Newcastle-Ottawa Scale (NOS), which assesses the quality of non-randomised studies in meta-analyses, excluding all but twenty-one studies. A separate independent study was conducted of 100 participants surveyed with similar criteria and compared with our collected data.

Results: This meta-analysis study, in addition to the survey conducted, found positive correlations between younger age and mental health symptoms. Media exposure to the pandemic was relevant to a participant's mental health. A greater impact on mental health was observed due to social isolation compared to health concerns stemming from exposure to SARS CoV-2. The mental health impact of social isolation was more measurable as the pandemic persisted.

Participants who were infected with SARS CoV-2 (as opposed to those who were not) experienced less anxiety symptoms, but symptoms of depression and distress nearly doubled.

Conclusions: This project reveals the direct impact the current pandemic has on three mental health issues compared to a study conducted in normal circumstances. For instance, the impact of social isolation compared to risk of contracting an illness is unknown. When assessing groups who experienced varying levels of virus exposure and isolation (such as frontline health workers versus people who worked from home exclusively), lead to different measurable symptoms. We sought to find what an effective balance can be between social isolation and exposure to the SARS CoV-2.

The Relationship Between COVID-19 Social Distancing and Feelings of Anxiety and Depression in the United States

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Background: Efforts to control the spread of COVID-19 has included mandatory curfews, quarantine, and social distancing policies enacted by government officials across the United States. These changes can result in feelings of loneliness, fear, and isolation. Healthcare workers and individuals with a history of psychiatric illness are more likely to develop anxiety and PTSD during quarantine due to COVID-19 (Brooks, 2020). Research conducted during the Middle East Respiratory Syndrome (MERS) outbreak of 2015 found that people forced to quarantine experienced increased anxiety and feelings of anger, which subsequently decreased four to six months after the period of isolation ended (Jeong, 2016). Research conducted during the Severe Acute Respiratory Syndrome (SARS) outbreak of 2003, discovered an additional source of stress was the lack of clear guidelines provided by the government (Robertson, 2004). With rising COVID-19 cases in the United States and fluctuating restrictions for the public, evaluating the mental health effects of these policies is necessary to determine populations at risk for the most detrimental mental health effects, and what kind of mental health aid needs to be provided.

Methods: A pre-screening tool and a mental health questionnaire were developed using the Patient Health Questionnaire (PHQ-9) to screen for depression and the Generalized Anxiety Disorder Assessment (GAD-7) to screen for anxiety, which also included additional items regarding demographics, social distancing practices, state of residence, essential or healthcare worker status, current mental health status, and several other variables. These instruments were delivered to adults 18 years and older across the United States via social media, email, and through various participating organizations as an anonymous, cross-sectional questionnaire. Responses were analyzed using descriptive and inferential statistics in SPSS.

Results: Of 202 survey respondents, 92% (n=185) reported practicing social distancing for the past two weeks, and 52% (n=97) of those 185 participants completed the questionnaire. The average PHQ-9 score was 8.91, and the average GAD-7 score was 8.04, indicating mild feelings of depression and mild feelings of anxiety among the overall sample. Within the last 2 weeks of completing the survey, 67% (n=65) of participants were classified as having either mild, moderate, moderately severe, or severe depressive symptoms, 58% (n=56) were classified as having either mild, moderate, or severe anxiety symptoms, and 56% (n=54) screened positive for symptoms of both depression and anxiety. However, only 29% (n=28) of respondents reported a prior history of mental health disorders. Respondents who identified as essential workers were more likely to report difficulty sleeping and uncontrollable worrying than non-essential workers ($p<0.05$).

Conclusions: It was found that there was an increased prevalence of feelings of depression and anxiety within the population, with trends being seen in reported gender and age. It was also found that essential workers were also more likely to experience difficulty with sleep and uncontrollable worrying compared to the nonessential workers responding to the questionnaire.

Total Knee Arthroplasty: A Retrospective Comparison between Staged vs Simultaneous Bilateral Knee Replacement Surgeries

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Background: There is a copious amount of surgical data available on bilateral total knee arthroplasty (BTKA) and staged total knee arthroplasty (STKA). However, the anesthetic and pain management implications of BTKA versus STKA has been largely unexplored. This study seeks to compare the postoperative anesthetic complications and outcomes between patients undergoing BTKA and STKA.

Methods: The Mount Sinai Hospital database was utilized to identify a cohort of patients undergoing BTKA and STKA with operative dates between January 2000 to November 2018. The sample included 277 individuals (180 undergoing BTKA and 97 undergoing STKA), with a total of 554 implants placed. Inclusion criteria includes adults greater than 18 years of age and patients who underwent BTKA or STKA between the aforementioned dates. Exclusion criteria included history of opioid abuse, revision surgeries, allergy to local anesthetics, urgent surgery and pregnancy. Main outcomes were measured in hospital length of stay with secondary outcomes being pain scores, intraoperative opioid use, post-operative opioid use, length of time in room, length of anesthesia time, length of surgery time, estimated blood loss, blood product requirements, pressor requirements intraoperatively and post-operative complications.

Results: Data collection for the project is near completion and is projected to be complete by April 2020. Planned comparisons include type of anesthesia, regional techniques, and neuraxial blocks. Main outcomes were measured in hospital length of stay with secondary outcomes being pain scores, intraoperative opioid use, post-operative opioid use, length of time in room, length of anesthesia time, length of surgery time, estimated blood loss, blood product requirements, pressor requirements intraoperatively and post-operative complications. Current planned statistical analysis includes T-test comparison of total intraoperative narcotics, total postoperative narcotics within 24 hours, total postoperative narcotics during hospital stay and time to ambulation (for staged procedures, the mean time for each knee will be compared).

Conclusions: After statistical analysis, the results of this study can elucidate which procedure to pursue in patients undergoing knee replacements. Factors evaluated in this study (specifically post-operative pain, post-operative opioid usage, and length of hospital stay) can help guide clinicians on how to educate patients and improve healthcare outcomes.

VTE Risk at Discharge

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Background: Venous thromboembolism (VTE) poses a significant risk to patients in the hospital setting, and studies have shown that VTE prophylaxis should be incorporated into the management of high-risk patients during their hospital stay. However, many of these patients are still high-risk for VTE at the time of discharge and for up to three months after discharge; in fact, 50% of VTE events occur approximately 30 days after hospital discharge. With patients often discharged home without any form of VTE prophylaxis, our aim is to identify a need for change in hospital discharge protocols to reduce the incidence of VTE events among non-ICU, medically ill patients hospitalized at our institution by focusing on extended prophylaxis for patients discharged from our regional medical centers.

Methods: This retrospective study utilized data that was collected from 100 patients admitted to our medical service in 2019. Patients that were excluded were those who expired during their hospitalization. The patients were evaluated using three different VTE risk scales: IMPROVE, Padua, and Geneva. Each patient was evaluated using all three scoring systems to determine their risk for VTE at time of discharge.

Results: At the time of hospital discharge, 56% of patients were at high-risk for VTE, indicated by a Padua Score ≥ 4 . 78% of patients were at high-risk for VTE based on a Geneva Score ≥ 3 at discharge. Additionally, 24% of patients were at high-risk for VTE at time of discharge with an IMPROVE Score ≥ 3 . For each of these scoring systems, a patient that is considered high-risk is indicated for VTE prophylaxis.

Conclusions: Our investigation revealed that there is a need for continued prophylaxis after discharge. Anywhere from 24-78% of the patients we included in our study were still at high-risk for VTE at the time of discharge, based on three different risk assessment tools, which is an indication for VTE prophylaxis. Based on this information and the APEX and MARINER trials, which are two recent studies that found certain novel oral anticoagulants (NOACs) to be beneficial as VTE prophylaxis in the month following hospital discharge, our recommendation is to implement a new protocol at our institution that requires patients with a high-risk score for VTE to receive extended prophylaxis upon discharge, either with Rivaroxaban or Betrixaban.