



*Charles R. Drew University of
Medicine and Science*

*Medical Student Research
Colloquium
Current Research in Health
Disparity*

Class of 2019

March 1, 2019

AGENDA

7:30 – 8:30 a. m. *Continental Breakfast in the Keck Building Courtyard*

8:30 a. m. *Call to Order*

Shahrzad Bazargan-Hejazi, PhD

Chair, CDU/UCLA Medical Student Research Thesis Program (MSRTP)

8:40 a. m. *University Welcome*

David Carlisle, MD, PhD

President, Charles R. Drew University of Medicine and Science

8:45 a. m. *The Provost's Welcome*

Steve Michael, PhD

Provost, Charles R. Drew University of Medicine and Science

8:50 a. m. *The Dean's Welcome*

Deborah Prothrow-Stith, MD

Dean, College of Medicine, Charles R. Drew University of Medicine and Science

9:00 – 10:45 a. m. *PRIME- MD/Master, Global Health Research, Research Scholarship Presentations and Plenary Session*

10:45 – 11:00 a. m. *Morning Break*

11:00 – 12:00 p. m. *Student Presentations (Morning Session, cont.)*

12:00 – 1:30 p. m. *Lunch in the Student Lounge of the Cobb Administration Building*

1:30 – 3:00 p. m. *Student Presentations (Afternoon Session.)*

3:00 – 3:15 p. m. *Afternoon Break*

3:15 – 3:45 p. m. *Student Presentations (Afternoon, Cont.)*

4:00 – *Closing Remarks*

Shahrzad Bazargan-Hejazi, PhD

Students, judges and moderators are asked to remain after Closing Remarks for group photos.

Faculty Moderators



David Hindman, PhD

Dr. Hindman is an Assistant Professor in the Department of Family Medicine at Charles R. Drew University and Director of Clinical Standards & Training for the LA County-Substance Abuse Prevention & Control. He is a member of the Board of Directors of the California Psychological Association and has been involved in medical student, family medicine residency and/or psychology training programs in primary care since 2004.



Stanley Hsia, MD

Dr. Hsia is an Associate Professor of Medicine at Charles R. Drew University of Medicine and Science and a Health Sciences Associate Clinical Professor at the David Geffen School of Medicine at UCLA. He has served as a program director for residents and endocrinology fellows, and as a clerkship director for CDU/UCLA medical students. Dr. Hsia has been conducting clinical research for the past 15 years, including both industry and investigator-initiated trials, funded by the National Institutes of Health and the American Diabetes Association.



Gerardo Moreno, MD

Dr. Gerardo Moreno is an Associate Professor in Family Medicine and the Director of UCLA PRIME-LA (Program in Medical Education). He received his medical degree from University of California, Los Angeles and completed his post-doctoral clinical residency training in Family Medicine at University of California, San Francisco. He received a Master of Science in Health Services from UCLA School of Public Health and completed a post-doctoral research fellowship in the Robert Wood Johnson (RWJ) Foundation Clinical Scholars Program at UCLA.



Faculty Judges

Michele A. Basso, PhD



Dr. Basso is a Professor in the Department of Psychiatry and Biobehavioral Sciences and Department of Neurobiology at DGSOM and Director of the Fuster Laboratory of Cognitive Neuroscience. The laboratory conducts research focusing on basic questions of science that may have direct clinical impact on the treatment of certain diseases, including Parkinson's. One of her current research projects examines the role of the basal ganglia and the superior colliculus in saccadic (quick and simultaneous) eye movement decision-making.

Linda G. Baum, MD, PhD



Dr. Baum is currently Professor and Vice Chair of the Dept. of Pathology and Laboratory Medicine, and Associate Dean for Medical Student Research and Scholarship at DGSOM. She has served on the FASEB Committee on Excellence in Science, the scientific advisory board for the NIH-sponsored Integrated Technology Resource for Biomedical Glycomics, and on the editorial board of several journals.

Lisa Barkley, MD



Dr. Lisa Barkley is founding Program Director for the newly re-established Family Medicine Residency Program at (CDU). She led the program to initial accreditation by the ACGME in 2018 and the program entered its first class in June 2018. She also serves as the Vice Chair for the Department of Family Medicine at CDU. She is board certified and fellowship trained in family, adolescent and sports medicine. Prior to starting at CDU in 2017, Dr. Barkley was the founding Assistant Dean for Diversity and Inclusion at the University of Central Florida College of Medicine (UCF). She led that program to initial accreditation in diversity and inclusion and in the medical school's integrated curriculum,

Malcolm G. Munro, MD



Dr Munro is a gynecologist with interests in the disease states of abnormal uterine bleeding and chronic pelvic pain. A cofounder of the FIGO Menstrual Disorders Committee, he also led the development of FIGO's systems for Nomenclature of Abnormal Uterine Bleeding (AUB) Systems and the PALM-COEIN system for classification of causes of AUB.

Christian de Virgilio, MD



Dr. De Virgilio is originally from Argentina and moved to the U.S. as a child. He attended Loyola Marymount University as an undergraduate and University of California, Los Angeles for medical school. He completed his general surgery residency at Harbor-UCLA and a vascular surgery fellowship at the Mayo Clinic. He is currently Chair of the Department of Surgery at Harbor-UCLA and Co-Chair of the College of Applied Anatomy at the UCLA School of Medicine. He particularly enjoys teaching and mentoring medical students and residents

Peggy S. Sullivan, MD



Dr. Sullivan is the Residency Program Director and Vice Chair for Clinical Education in the Department of Pathology and Laboratory Medicine at UCLA's David Geffen School of Medicine. She received her MD at USC Keck School of Medicine and completed her pathology residency and cytopathology fellowship at UCLA. Her clinical and research interests include breast, gynecologic and cytopathology.



Sharon Younkin, PhD

Dr. Younkin received her Ph.D. in Counseling Psychology from Ohio State University in 1992, and she currently serves as the Chief of Staff for the Vice Dean for Education at the David Geffen School of Medicine at UCLA. Dr. Younkin's research interests are in medical education, medical student well-being, humanism in medicine, community health, health disparities, community based anticipatory research, and community-campus partnerships.



Ashkan Moazzez, MD

Dr. Moazzez is currently the Medical Director of Utilization Management and an Associate Professor of Surgery at Harbor-UCLA Medical Center. After finishing his residency in general surgery and a fellowship in minimally invasive surgery at the University of Southern California, he stayed on as a faculty member, and then joined Harbor-UCLA in 2013, when he also received his Executive Masters of Public Health in Healthcare Policy and Management from UCLA. His clinical interest includes management of routine and complex abdominal wall hernias, including laparoscopic and robotic surgeries.



Dennis Y. Kim, MD, FRCSC, FACS, FCCP, FCCM

Associate Professor of Clinical Surgery, UCLA School of Medicine. Vice Chair, College of Applied Anatomy, UCLA School of Medicine. Medical Director, Surgical Intensive Care Unit, Harbor-UCLA. Program Director, Surgical Critical Care Fellowship. Research interests include: Trauma & acute care surgery outcomes (TBI, intra-abdominal sepsis, organ failure); surgical education



Tiffany Lee Tsang, PhD

Tiffany Lee Tsang, PhD is a Sr. Educational Analyst at the David Geffen School of Medicine at UCLA. Prior to working at DGSOM, Tiffany was a graduate student and researcher at UCLA where she examined the experiences of undergraduate STEM and humanities students and how their educational experiences contributed to their ability to think in innovative ways. Tiffany has a strong interest in students' professional education and in particular, innovative and effective ways to evaluate students' learning environments and outcomes.

STUDENT PRESENTATIONS (*Morning Session*)

Plenary Session

PRIME- MD/Master, Global Health Research, Research Scholarship

- 9:00 a. m. **Ashely Williams** Primary Mentor: Arleen Leibowitz, Ph.D
Identifying Barriers to Pre-Exposure Prophylaxis (PrEP) Utilization Among Sex Workers: A Mixed Method Study.
- 9:15 a. m. **Krystle Frazier** Primary Mentor: Basil Ibe, PhD
Dysregulation of Vasodilatory Pathways is a Contributory Factor to Acute Chest Syndrome in Sickle Cell Disease.
- 9:30 a. m. **Melissa Lopez** Primary Mentor: Manisha Shah, PhD
Choice, Community, and Reproductive Health Literacy: Expanding Access to Reproductive Health Education in Los Angeles.
- 9:45 a. m. **Ogechukwu Offorjebe** Primary Mentor: Kathryn Dovel, PhD
Acceptability of HIV Self-Testing for Index Partner Testing Among HIV-Positive Clients in Malawi: A Mixed Methods Analysis.
- 10:00 a. m. **Roberto Ramos** Primary Mentor: Patrick Dowling, MD, MPH
Medical School Attended and Date of Graduation Among Physicians in SPA 6.

10:15- 10:45 a. m. ***Plenary Session Q&A***

10:45 – 11:00 a. m. **Morning Break**

- 11:00 a. m. **Yosselin Arroyo-Galvan** Primary Mentor: Margarita Loeza, MD
Correlates of Human Papilloma Virus Vaccine Completion in Pediatric Population Attending Federally Qualified Health Centers.
- 11:15 a. m. **Yvorn Aswad** Primary Mentor: Elizabeth Barnert, MD
What Influences Youths' Engagement in Behavioral Health Treatment During Reentry After Incarceration?
- 11:30 a. m. **Saul Barajas Nuno** Primary Mentor: Peyman Benharash, MD
Impact of Race on Access to Transcatheter Aortic Valve Replacement
- 11:45 a. m. **Charisse Brown-Moran** Primary Mentor: Arleen Brown, MD, PhD
Themes in Biobank Recommendations.

12:00 – 1:30 p. m. **Lunch Break**

- 1:30 p. m. **Ethan Chen** Primary Mentor: David Hindman, PhD
Schizophrenia Hospitalization in the US 2005-2014: Examination of Trends in Demographics, Cost and Length of Stay



Yosselin Arroyo-Galvan

Correlates of Human Papilloma Virus Vaccine Completion in Pediatric Population Attending Federally Qualified Health Centers

Mentors: Margarita Loeza, MD; Senait Teklehaimanot, MPH; Magda Shaheen, PhD, MPH, MS

Background: Human Papilloma Virus (HPV) can cause genital warts, cervical, anogenital, and head/neck cancers. Despite CDC recommendations for HPV vaccinations, rates remain lower relative to other pediatric vaccination.

Objective: To determine factors associated with HPV vaccination completion.

Methods: Retrospective medical chart review of 564 patients ages 11-18. Variables included: age, gender, race/ethnicity, preferred language, had language barrier, clinic attended, missing >3 general vaccinations, completion of HPV series specific to age bracket, and missing >2 clinic appointments. We analyzed data using descriptive, bivariate (Chi square test) and multivariate logistic regression.

Results: Of 564 patients, mean age 12.98 years (SD=2.4), 75% were 11-14 years, 53.1% were male, 52% Hispanics, 4% were homeless, 70.8% prefer English and 27.8% preferred Spanish, 22.7% had language barrier, 59% received vaccination from family clinic and 16.6% from both sites, 6.7% missed >2 clinic appointments, 57% missed >3 general vaccination and 23.2% had complete HPV vaccination series.

HPV series completion varied by clinic, age, preferred language, race/ethnicity, and missing >3 general vaccines ($p < 0.05$). Those attending both clinics, 37% had complete series versus 19.6% for those in family clinic. Age 11-14 years had 15.2% complete series versus 46.9% for 15-18 years. Those preferred Spanish had higher complete series (32.3%) compared to English (20%). Hispanics had higher complete series (31.4%) compared to White (13.6%). Those missing >3 general vaccines had lower complete series (9%) compared to others (42%). Significant correlates of complete HPV complete series were age (OR=0.17, 95% Confidence Interval [CI]=0.10-0.29), missing >3 general vaccine (0.17, 95% CI=0.10-0.28) and Hispanic [OR=2.14, 95% CI=1.10-4.16) relative to White) ($p < 0.05$).

Conclusion: HPV vaccination completion was low and is associated with age, race/ethnicity, and missing >3 general vaccination. Future interventions aimed at improving HPV vaccination should consider engaging adolescent clinics and parents for promotional activities and education to increase awareness to reduce HPV disease burden.



Yvorn Aswad

What Influences Youths' Engagement in Behavioral Health Treatment During Reentry After Incarceration?

Mentor: Elizabeth Barnert, MD

Background: Research shows that despite the burden of behavioral health (mental health and substance use) issues in formerly detained youth, there is a large unmet need of treatment in the population. Though often court mandated, little is known as to what best keeps youth engaged in treatment during the immediate reentry period.

Objective(s): This study examined the factors that influence engagement in behavioral health treatment among reentry youth.

Methods: 50 youth in the immediate reentry period (less than 1-month post-detainment) participated in this mixed-methods study. They completed surveys detailing utilization rates of behavioral treatment as well as validated screeners (PHQ-8, PSS-10) for behavioral health issues. Semi-structured interviews were conducted at 1-month, 3-month, and 6-months intervals, further detailing that which influenced engagement.

Results: Participants' scores on screeners showed the disproportionate behavioral health conditions in the reentry youth population. 56% and 36% of participants were recommended to receive mental health and substance use treatment respectively. Yet, 36% and 14% reported receiving mental health and substance care treatment, respectively. The factors that promoted engagement included: 1) self-acknowledging the problem 2) recognizing a need for intervention 3) valuing intervention and 4) viewing the therapist as relatable. Engagement was weakened by 1) inability to acknowledge a problem 2) believing the intervention is useless 3) desire for autonomous management and 4) feeling as if the provider cannot relate.

Conclusions: Whereas the outlined barriers to engagement could be applicable to a general population, they are of heightened significance in reentry youth. Court-mandated therapy reducing autonomy, a lack of insight into care, and feeling unable to relate to providers for fear of stigma and discrimination against formerly-detained persons are all unique features reentry youth face that complicate an otherwise linear path. Providers who serve reentry youth should be aware of these factors and develop strategies to address them.



Saul Barajas Nuno

Impact of Race on Access to Transcatheter Aortic Valve Replacement

Mentor: Peyman Benharash, MD

Background: Race and ethnicity have been shown to affect the management and outcomes after cardiac surgery. The development of transcatheter aortic valve replacement for high surgical risk patients has raised concern over equitable access to care.

Objective: We sought to investigate whether disparities in aortic valve replacement modality were present at our institution, a major regional metropolitan academic center.

Methods: A review of our prospectively-maintained institutional Society of Thoracic Surgeons (STS) database and Transcatheter Valve Registry was performed to identify all patients undergoing transcatheter (TAVR), minimally invasive (mAVR) and conventional (SAVR) aortic valve replacement from Jan. 2012 to Mar. 2016. A multinomial logistic regression model was used to evaluate the association of race on operative approach adjusting demographics and preoperative clinical disposition.

Results: Of the 853 patients (79.6% Caucasian, 4.7 % African American, 8.3% Hispanic, 7.4% Asian/ Pacific Islander) included in the analysis, 533 underwent SAVR, 106 mAVR, and 214 TAVR. Race was not significantly associated with assignment to TAVR and mAVR in comparison to SAVR. Patients selected for mAVR more likely female (45% vs 32%, $p < 0.03$) and have a lower STS mortality score (2.2 vs 4.5, $p < 0.001$). Compared to SAVR patients, those undergoing TAVR were older (82.4 vs 66.1 years, $p < 0.001$), more likely female (50% vs 36%, $p < 0.01$), and had recent heart failure ($p < 0.001$).

Conclusion: Although national trends have revealed disparities in access to minimal access surgery and TAVR, we did not find patient race to impact AVR modality at our institution. Further investigation is warranted into the practice patterns and access to evaluate these findings in other high- volume hospitals serving a diverse patient population.



Charisse Brown-Moran

Themes in Biobank Recommendations

Mentor: Arleen Brown, MD, PhD

Background: Biorepositories are collections of biologic samples for use in biomedical research. Although these “biobanks” are increasingly common in academic institutions, and there are important ethical implications associated with storage and use of biological samples, there are few standards for biorepository oversight. Additionally, very little research has attempted to obtain insights from affected communities on biobank governance and use, and none have obtained culturally diverse input. The Engaging University of California Stakeholders for Biorepository Research Consent Project (EngageUC) was conducted from June through September of 2013 to establish community generated recommendations for biobank governance for University of California translational research.

Objective: To identify and compare themes elicited in Spanish-speaking and English-speaking discussion groups of EngageUC.

Methods: Two investigators (AB and CBM) independently reviewed and summarized English and Spanish-language small group discussions on seven topics: Hopes and Concerns, Biobank Models, Return of Results, Informed Consent, Biobank Oversight, Sharing, and Community Involvement. They evaluated content and frequencies of themes, comparing the two English-language groups to the Spanish-language groups for each topic. Discordant findings were discussed by the reviewers and findings revised once consensus was reached.

Results: All groups endorsed the importance of increasing education about biobanks for the public, expressed concern about privacy, and conveyed mistrust of research, medical and government institutions. Differences between these groups included increased focus on education, family, and community in the Spanish Speaking group, and increased focus on cost of research in the English-Speaking groups.

Conclusion: Further research and policy should focus on developing strategies to understand reasons for mistrust and develop strategies to enhance trust between academic research institutions and the larger public. Among Latinos, developing linguistically and culturally appropriate educational and outreach about biorepositories may be particularly important.



Ruben Castro

Distance: The Limiting Factor in the Veterans Affairs and Plastic Surgery Residency Association

Mentor: Lucis Macias, MD

Background: There is increasing demand for plastic surgery procedures within the Veterans Affairs (VA) health system. Many facilities operated by the VA are limited in their ability to care for veterans. This is either due to insufficient plastic surgeons or shortage of residency training affiliations at the VA.

Objectives: To report the number of plastic surgery residency programs that are affiliated with the VA and to explore distance as one of the potential factors related to any shortage.

Methods: This was a descriptive study looking at all ACGME approved plastic surgery programs in the United States. Study variables included program size, addresses, VA affiliation, VA rotation time, and gender. Data was obtained from Doximity.com and Freida Online database. Distance between home residency program and VA was determined using mapdevelopers.com.

Results: There were 50 of 79 plastic surgery residency programs with a formal affiliation with a VA. In total there are 1,000 residency positions across these programs where 60% of all residents training at the VA. Of the programs with a VA affiliation, there was a mean distance of 7.2 miles to the nearest VA compared to 33.1 miles in programs of those without.

Conclusions: Increasing driving distance from plastic surgery residency home program to VA decreases the probability of having an affiliated VA program



Ethan Chen

Schizophrenia Hospitalization in the US 2005-2014: Examination of Trends in Demographics, Cost and Length of Stay

Mentors: Chizobam Ani, MD; David Hindman, PhD

Background: Despite the known burden of schizophrenia and advances in therapeutic approaches, there remains a dearth of data regarding the impact of current treatment strategies and the demographic, cost and morbidity associated with care in acute care settings using a nationally representative sample.

Objectives: To examine from 2005-2014; (a) crude and standardized schizophrenia hospitalization rates, (b) racial trends in hospitalizations, and (c) age related trends. Secondarily, length of stay and cost of care trends were examined.

Methods: The study used a cross-sectional design and data from the Nationwide Inpatient Sample (NIS). This data set is a representative sample of US acute care hospitalizations. Schizophrenia was defined using ICD-9 codes consistent with standardized DSM-IV diagnostic criteria. A total of 6,122,284 cases were identified after application of appropriate NIS weighting algorithms. Outcomes were crude and standardized hospitalization rates, race/ethnicity, age, cost and length of stay (LOS). Analysis included descriptive statistics, indirect standardization (crude rates were indexed to the US census population for 2010), Rao-Scott Chi-Square, t-test, adjusted linear regression trend analysis.

Results: Review of descriptive statistics revealed that schizophrenia hospitalizations were more common in those age 45-64 years (38.81%), African Americans were disproportionately represented (accounting for 25.89% of schizophrenia hospitalizations), the gender distribution among hospitalizations were nearly equivalent (men, women, 50.94 % and 49.06%, respectively). Mean LOS was 9.08 days (95% CI 8.71 - 9.45). Mean Charlson's co-morbidity index (CCI) score was 1.20 (95% CI 1.17 – 1.24), with the two most common co-morbidities being uncomplicated diabetes and chronic pulmonary disease (21.71% and 24.36%, respectively). Medicare was the primary payer for most hospitalizations (55.44%) with most of the costs ranging from \$10,000-\$49,999 (57.15%).

The crude hospitalization rates ranged from 790-1142/100,000 admissions while US 2010 census standardized population rates were 380-552/100,000 from 2005-2014.

The linear regression trend analysis showed no significant difference in trend for race/ethnicity, age, nor gender ($P > 0.0001$). Results however showed significant decrease in overall schizophrenia hospitalizations, while the cost of hospitalization increased ($P < 0.0001$). CCI also increased over the same period ($P < 0.0001$).

Conclusions: From 2005-2014, there was a significant increase in overall US hospitalization rates. Interestingly, observed disparities in hospitalization for middle aged and African American individuals did not change despite concerted efforts over the same period. Remarkably, LOS has gone down while costs have gone up. Further studies aimed at addressing the important disparities in race/ethnicity and age and reducing the cost of acute hospitalization are needed.



Kevin Correa

Telemedicine and Los Angeles County: A Secondary Data Analysis Characterizing Physician Telemedicine Use

Mentor: Gerardo Moreno, MD

Background: There continue to be physician shortage areas in LA County and telemedicine may hold promise to help alleviate access to care barriers in historically underserved areas like South Los Angeles (Service Planning Area [SPA] 6).

Objectives: 1) to characterize differences of telemedicine use by SPA and zip code within the eight Los Angeles County (LAC) SPA's. 2) To report changes by SPA in the use of telemedicine between 2016 and 2018.

Methods: We used 2016 (N=20,845) and 2018 (N=26,287) Physician Survey Data from the California Medical Board for physicians practicing in Los Angeles County. We analyzed data for physicians practicing in LAC and also for those and/or participating in telemedicine within LAC. We calculated frequencies and performed cross-tabulations to determine differences in telemedicine use by SPA and year of survey.

Results: In 2016, out of 20,845 practicing physicians 3,220 (15%) reported using telemedicine. In 2018, out of 26,287 practicing physicians, 4,634 (18%) reported using telemedicine. There was an increase in the proportion of the physicians using telemedicine between 2016 and 2018 by 1,414 (3%). In 2018, out of all physicians practicing telemedicine in LA County only 2% were doing it in SPA 6 (South LA), compared to 22% in SPA 5 (West LA).

Conclusions: There is an increase in the use of telemedicine in LA County between 2016 and 2018. However, the use of telemedicine continues to be highly variable by SPA. To potentially mitigate access to care disparities in urban underserved areas (eg. SPA 6) more growth in the use of telemedicine is severely needed.



Huan Dong

Decreased Cephalosporin Susceptibility of Oropharyngeal Neisseria Species in Antibiotic Using Men-who-have-sex-with-men of Hanoi, Vietnam

Mentors: Jeffrey Klausner, MD, MPH; Giang Minh Le, MD, PhD

Background: Infections of *Neisseria gonorrhoeae* (NG) represent a profound global health burden and increasing reports of antimicrobial resistance to last-line cephalosporins further highlight NG's imminent threat to global public health.^{1,2} Commensal *Neisseria* species are hypothesized as an important reservoir for genetic material conferring antimicrobial resistance in NG, but published data are lacking.³

Objectives:

- 1) Survey antibiotic usage behaviors of MSM in Vietnam
- 2) Assess prevalence of *Neisseria* species colonization in the oropharynx
- 3) Analyze impact of antibiotic use on the antimicrobial susceptibility of commensal *Neisseria*

Methods: Men-who-have-sex-with-men (MSM) of Hanoi, Vietnam, completed a questionnaire regarding antibiotic use. We collected pharyngeal specimen, cultured *Neisseria* colonies, speciated via Autoflex-III Mass Spectrometer (Bruker Daltonics, Germany), and measured the minimum inhibitory concentration (MIC) to ciprofloxacin, cefixime, ceftriaxone, and cefpodoxime. We interpreted MIC values based on criteria for NG and compared mean MIC levels between different antibiotic user groups.

Conclusions: MSM in our study often used antibiotics without prescriptions. At least one commensal *Neisseria* species colonized all men. Recent use of any antibiotics may select for oropharyngeal *Neisseria* species with antimicrobial resistance. The normal flora of the oropharynx may be an important source of antimicrobial resistance in *Neisseria gonorrhoeae*.



Marcos Escobar

Lessons Learned From Street Medicine to Improve the Health Care Quality of Homeless Populations

Mentor: Alexander Rodger, MD.

Background: In the United States, approximately 3 million persons, 1% of the population, are homeless in a given year. The homeless population faces the need to find adequate shelter, safety, and food. These become their priority, which shifts the need for health care to a lesser role. Moreover, the homeless population faces higher rates of mental health disorders, HIV, alcohol abuse, substance abuse, and many other sequelae by the act of being homeless. The average age for homeless individuals is between 42 and 52 years. Street medicine concentrates on the healthcare needs of this vulnerable population by providing direct patient healthcare to the areas where these individuals are located.

Objective: The focus of this study is to identify barriers to telemedicine use in the literature, while assessing the quality of care for the homeless through street medicine.

Methods: A qualitative systematic review was undertaken using PubMed, Medline, and Cochran Library. Inclusion criteria: Studies conducted in the US from 2008 to 2018, Studies involving homeless individuals in the US, Studies measuring quality measures, studies on human subjects

Results: We observe the unconventional living situations and lack of financial resources of patients, transient patient populations leading to inconsistency in patient contact, informal clinical settings, and variation in street medicine.

Conclusion: Barriers to implementation of telemedicine could be ameliorated with the use of mobile clinic vans; development of street medicine specific EMRs; collaboration with community clinics and providers; and provision of comprehensive social support to housing, income, and insurance



Felisha Eugenio

Use of a Protocol to Medically Treat Patients With Hyperthyroidism in a Safety-net Endocrinology Clinic

Mentor: Theodore Friedman, MD, PhD

Background: Treatment options for patients with Graves disease include antithyroid drugs, primarily methimazole (MMI) and propylthiouracil (PTU), as well as radioactive iodine (RAI, ¹³¹I) and surgery. We designed a MMI dosing algorithm in which up-titration of MMI dosing was based on elevated serum free T4 and free T3 levels, while down-titration was based primarily on low-normal serum free T4 levels. Our protocol encouraged keeping patients on MMI for long-term with a gradual down-titration and examined patients treated with MMI for up to 6 years. Our protocol was implemented in an inner-city safety-net clinic serving patients who are historically considered less adherent than other cohorts.

Objective: To determine the effectiveness and adverse events of a predefined medical treatment protocol for hyperthyroidism using the anti-thyroid drug methimazole (MMI).

Methods: This was a retrospective review of medical records of a clinic-based sample of 268 patients who were treated with MMI using to a predefined dose-titration pattern based on thyroid function tests. MMI effectiveness was measured by the amount of time it took the patient to become euthyroid, the percentage of patients who became euthyroid, how long it took to taper off MMI, how many remained euthyroid after MMI was stopped, and the number of adverse events.

Results: Our results show that by the 4th visit, 74% of all patients achieved and were able to maintain a euthyroid state according to both their free T3 and free T4 value. By the 7th visit, 74% of all patients were still in a euthyroid state. Only 8.6% of patients experienced adverse events including rash and nausea/vomiting. Following our predefined protocol, 28.4% of the patients were able to be tapered off MMI at any time, with 19.2% of initial patients able to be off of MMI at the end of the study, while 9.3% of initial patients (32.5% of those tapered off) experienced recurrent hyperthyroidism at the end of the study.

Conclusion: We conclude that the MMI titration protocol is effective in achieving and maintaining euthyroid levels of hyperthyroid patients and is associated with a low rate of adverse events. Our protocol will allow non-Endocrinologists to effectively treat hyperthyroidism.



Krystle Frazier

Dysregulation of Vasodilatory Pathways is a Contributory Factor to Acute Chest Syndrome

Mentor: Basil Ibe, PhD

Background: Acute chest syndrome (ACS), the second most common cause of hospitalization for sickle cell disease (SCD) patients and cause for 25% of premature death cases in patients with SCD, remains a therapeutic challenge due to the unknown nature of the syndrome's development. SCD patients exhibit a baseline leukocytosis, or pro-inflammatory state, that increases their risk of developing ACS. Red blood cells (RBC) of SCD patients induce injury to the lung microvasculature resulting in the release of clotting factors and inflammatory mediators. These mediators sustain pulmonary endothelial injury and RBC adhesion to the vessel wall resulting in pulmonary vascular occlusion and ultimately ACS.

Objective(s): To investigate a mechanism by which RBCs stimulate production and release of inflammatory cytokines and proteins in SCD.

Methods: Studies were conducted on human pulmonary microvascular endothelial cells (HPMEC) with and without overlay with RBCs or neutrophils of SCD patients in the steady state. Inflammatory mediators were measured by ELISA or Western blotting. Data were analyzed statistically at $p < 0.05$.

Results: HPMEC cultured with RBCs from SCD patients released 40% more leukotriene C4, 6-fold more 11β -PGF 2α and more TxA 2 than controls. Release of prostacyclin by SCD RBC blood was not different from control.

Conclusions: Sickle cell mutation-bearing erythrocytes cause release of inflammatory mediators that activate vasoconstrictive pathways in HPMEC and down-regulate vasodilatory pathways. This condition may eventually overwhelm the ability of the HPMEC to secrete vasodilators. A closer look at the interactions between these mediators and microvascular endothelium may reveal potential biomarkers to predict patients at high risk for the development of ACS. Additionally, investigation into these interactions has the potential to reveal genetic polymorphisms providing a potential for therapeutic targeting with gene silencing technology.



David Hampton

Racial/Ethnic Variation in Ambulatory Care Visits, Type and Disposition Related to Schizophrenia Among Adults in United States: Data from NAMCS 2010-2015

Mentors: Shahrzad Bazargan-Hejazi, PhD
Magda Shaheen, PhD, MPH, MS

Background: Many factors contributing to the schizophrenic patients getting the needed care. Common factors are financial, living in an underserved area, transportation, insurance, education, and culture. People of color often have difficult accessing care and be uninsured or on Medicaid.

Objective: We aim to examine the differences in the ambulatory care visits, types, and disposition related to Schizophrenia by race/ethnicity.

Methods: Analysis of secondary data from the National Hospital Ambulatory Medical Care Survey 2010-2015. Out of 4,910 eligible physicians, 1,410 participated in the study. These data were collected for 28,332 visits using a survey. We analyzed data related to age, gender, insurance, types, subtypes, co-morbidity, medication and disposition using descriptive and bivariate analysis (Chi Square test) by race/ethnicity.

Results: Of the 937 visits for Schizophrenia, 37% were 18-44 years old, 57% were male, people of color were 37.9%, 40% had Medicare, 45.5% had Schizoaffective disorder and 88.2% were unspecified subtype, 25.3% had depression, 76.4% had antipsychotic medication, and 91.5% had return visit. Bivariate analysis showed that people of color had lower percent of private insurance (7.2% to 10.5%) compared to Whites (15.1%). Blacks (44.6 %) were more than Whites (23.2%) to have Medicaid. Whites had schizoaffective disorder (52.3%) and Blacks had the highest unspecified type (54%) and subtype (96.7%).

Conclusions: Overall, Whites with schizophrenia were more likely to present for ambulatory care. Black, middle age, male with Medicaid and unspecified type and subtype were likely to present for ambulatory care compared to other groups. Although Blacks is 13.4% of the national population, they represented 21.7% of all the visits to ambulatory setting. This could be because Blacks with schizophrenia utilize hospitals more and are diagnosed with schizophrenia at a higher rate than whites. It would be responsible to consider guidelines for diagnosing schizophrenia in Black patients to avoid over diagnosis.



Rasheed Ivey

Human Papillomavirus E6/E7 Oncoproteins Induced Breast Cell Proliferation Through Estrogen Receptor Alpha Signaling: Cellular Sequelae.

Mentor: Eva McGehee, PhD

Background: The link between human papillomavirus (HPV) and cervical cancer is well established; the involvement of HPV in breast cancer is not well known. Previous studies suggest that HPV E6/E7 oncoproteins degrade two tumor suppressor proteins p53 and pRb respectively, which are involved in signaling and increased cell proliferation. There is cumulative evidence that suggests high-risk HPV 16 E6/E7 oncoproteins may have causal roles human breast cancers. Several studies have identified HPV DNA in breast tissue cancer specimens. The route of transmission of HPV in breast cells has not been determined and the mechanisms by which HPV involvement in breast cancer will be further investigated.

Objective: The aim of this study is to determine the mechanism by which HPV E6/E7 oncoproteins affect cellular behavior in epithelial breast cells (MCF-12A) in the context of breast cancer development.

Methods: Non-tumorigenic MCF-12A was transfected with HPV 16 E6/E7 oncoproteins using lipofectamine 2000 to elucidate the role of the oncoproteins in proliferative and anti-apoptotic signaling pathways. Cells were also treated with Tamoxifen, an antagonist of the estrogen receptor alpha (ER- α) in breast tissues through its active metabolite, 4-hydroxytamoxifen. It was demonstrated through western blot analysis that HPV E6/E7 transfection activates the extracellular signal-regulated kinase (ERK) MAPK pathway and Akt/PKB kinase signaling pathways through activating ER- α in MCF-12A cells. E6/E7 oncoprotein transfection alone increased estrogen receptor alpha protein expression.

Results: Treatment with Tamoxifen degraded E6/E7 expression and increased ERK and PKB phosphorylation without altering their protein levels. This suggests that estrogen receptor is a key mediator of HPV E6/E7 mediated ERK and Akt/PKB activation. Our work investigated the molecular mechanisms of HPV-elicited Akt/PKB activation and its roles in cellular proliferation in normal breast epithelial cells. These findings indicate that HPV E6/E7 oncoproteins may promote the transforming activities of high-risk HPV 16 and cell proliferation in breast cells.

Conclusion: Therefore, suppression of estrogen receptor signaling networks may be useful as a therapeutic strategy for treating HPV-associated lesions and cancers such as breast metastasis. Molecular therapeutics, such as Tamoxifen may be part of the key to eradicating HPV related complex diseases.



Melissa Lopez

Choice, Community, and Reproductive Health Literacy: Expanding Access to Perinatal Health Education in Los Angeles

Mentor: Manisha Shah, PhD

Background: Perinatal health education increases health literacy, which in turn raises a woman's confidence in delivery, her communication with healthcare providers, and her satisfaction with birth and infant-care. Research has also found that typical perinatal health education participants are white, middle to upper-income, and at least college educated. Unfortunately, communities with poorer perinatal health outcomes are not traditionally represented in perinatal education courses. LOOM, a socially motivated for-profit reproductive health organization in Los Angeles, aims to empower individuals as they navigate their reproductive and parenting experience, and is interested in helping ameliorate the gaps in access to health education.

Objective(s): To characterize the service gaps in perinatal health education in Los Angeles and determine whether LOOM can appropriately help address the disparities in access.

Methods: Mixed methods including the use of Integrated Public-Use Microdata Series National Health Interview Series (IPUMS NHIS) data to perform GIS spatial analysis of perinatal health services within a 3-mile radius of LOOM. The IPUMS NHIS data was also used to develop a regression model that identified key predictors for accessing health education. Qualitative data was gathered from interviews with LOOM staff and clients, and community informants, to determine whether LOOM had the capacity to appropriately address the service gaps.

Results: The GIS spatial analysis identified significant service gaps in Mid-City/Mid-Wilshire area. Additionally, the regression model identified education level, use of internet for health information, speaking Spanish-only, and identifying as Hispanic, as important predictors for accessing perinatal health education. Qualitative interviews with LOOM staff and clients, and community informants, described expansion of LOOM courses as a plausible way of mitigating service gaps in Los Angeles.

Conclusions: There are significant gaps in access to perinatal health services in Los Angeles and expansion of LOOM courses could help alleviate some of the disparities.



Lobsang Marcia

#Ilooklikeasurgeon: 20-year Review of Gender and Racial Diversity in Academic General Surgery

Mentors: Christian De Virgilio, MD, FACS; Ashkan Moazzez, MD; Dennis Kim, MD

Background: For years there have been ongoing efforts to diversify medicine as the United States (US) population continues to change.

Objectives: Our objective was to assess the past and current state of gender and racial diversity in general surgery.

Methods: Demographic data from 1997-2016 was obtained from publications on graduate medical education by *Journal of American Medical Association*, and the Association Medical Colleges. The percent change per year was calculated using a linear regression model.

Results: In 2016, women represented 50.8% of the US population, but only 10.4% of full professors, 20.0% of associate professor, 26.7% of assistant professors and 49.2% on instructors. The highest increase per year was seen among female instructor 1.16%, $p < 0.001$) and the least among full professor (0.39%, $p < 0.001$). From 1997 to 2016, the percentage of female general surgery residents increased from 20.5 to 38.4. Hispanic/Latino represented 17.8% of the population, but only 4.96% of faculty, and 8.24% of general surgery residents. African American represented 13.3% of population, but only 2.69% of faculty, and 5.50% of general surgery residents. American Indian/Alaskan Native represented 1.3% of population, but only 0.10% of faculty and 0.19% of general surgery residents.

Conclusion: In the last 20 years, there has been increase in gender and racial diversity in surgery. However, women, American Indian, African American and Hispanic continue to be underrepresented in certain categories of the surgical pipeline.



Leonel Martinez

The Effects of Immigration Policy on Health and Public Services in the Community of Watts, CA

Mentor: Gilberto Granados, MD, MPH

Background: Concerns over deportation has been reported as a barrier to health care. With recent proposed policy changes by the Trump administration to redefine “public charge,” there is a concern that disenrollment from Medicaid and other public services will increase in families composed of legal and undocumented members (known as mixed family status) over fears of being considered a public charge. The increased of uninsured will lead to negative health consequences particularly in communities with a large Latino population. Watts, in South Los Angeles, represents one such community. It is a predominantly Latino community with a high burden of obesity, diabetes and stroke. The effects of legal status and the use of public health resources have not been studied. Considering the heightened immigration policy changes, determining the effects of policy on communities such as Watts is of crucial importance.

Objective: To examine how community members utilize medical care and public services based on legal status of the parent and randomly selected child. Additionally, we sought to determine if community members were advised not to use public resources based on their legal status and who was providing such advice.

Methods: In-person household survey of parents were conducted in the Watts community of South Los Angeles between 2015 and 2017. Random cluster sampling of eligible households was used to represent the target population based on the 2010 census data. Households considered eligible if at least 1 child living in the home was 18 years or younger. Surveys were conducted in English or Spanish based on participant preference. Data was analyzed by frequency and chi square.

Results: Legal status did not influence the rate of seeking health care among primary care givers. Additionally, legal status of the parents did not influence the use of public services. Community members did NOT receive advice against the use of public health services. The advice tended to come from family friends. While these results showed a trend, they were not statistically significant.

Conclusion: Given that this data was collected prior to the proposed changes on the definition of “public charge” and the increasing negative immigration rhetoric, more work needs to be done to determine if these views have changed.



Gabriel Mendoza

*Association Between Friendship and School Culture
With Electronic Cigarette Use in Latino Male
Adolescents*

Mentor: Rebecca Dudovitz, MD, MSHS

Background: More adolescents are using electronic cigarettes (e-cigarettes). Several studies suggest e-cigarette use is influenced by peer use, but it remains unknown how the culture around teens influences e-cigarette use for boys versus girls.

Objective: To determine whether adolescents' perceived friendship culture and school culture was associated with e-cigarette use and whether this relationship varied by gender.

Methods: We analyzed cross-sectional survey data from 473 students entering 9th grade at 5 public Los Angeles high schools. Students were asked whether four positive and seven negative behaviors would increase or decrease their popularity among their friends and in their schools to measure friendship culture and school culture. Multiple logistic regressions tested whether students' school and friendship culture were associated with past year self-reported e-cigarette use, alcohol use and marijuana use, controlling for gender, ethnicity, nationality, native English speaker, parent education, parent home ownership, parent employment, and eighth-grade academic performance. Interaction terms were added to each model to test whether associations between culture and substance use varied by gender.

Results: Among the 473 participants (40% male; 78% Latino), the prevalence of e-cigarette, marijuana, and alcohol use was 7.16%, 5.08 %, and 9.24% respectively. Bivariate analysis showed a significant relationship between friend culture and marijuana, e-cigarettes and alcohol use (OR 0.37, 0.47 and 0.64) (all $P < 0.05$), while for school culture there was a weaker but significant relationship with e-cigarette and marijuana use (OR 0.64 and 0.56) ($P < 0.05$). The association between friend culture and e-cigarette use was stronger for boys versus girls (interaction term p -value < 0.05). There were no significant gender differences for alcohol or marijuana use.

Conclusions: A positive friend culture is associated with significantly lower e-cigarette and marijuana use, particularly for boys. Findings suggest interventions to change perceived friend culture might prevent e-cigarette use in this population.



Ogechukwu Offorjebe

Acceptability of HIV Self-Testing for Index Partner Testing Among HIV-Positive Clients in Malawi: A Mixed Methods Analysis

Mentors: Kathryn Dovel, PhD; Risa Hoffman, MD

BACKGROUND: HIV testing among the sexual partners of HIV-positive individuals remains suboptimal in sub-Saharan Africa. HIV self-testing (HIVST) could improve index partner testing, whereby HIV-positive clients deliver HIVST kits to their sexual partners. Yet it is unclear if HIV-positive clients are comfortable with this strategy. We examined HIV-positive clients' perceived acceptability of index partner HIVST in Malawi.

METHODS: We conducted a mixed method study nested within a HIVST trial at 15 facilities in Malawi. Exit surveys were conducted with adult outpatients. We analyze data from HIV-positive clients with ≥ 1 sexual partner in the past 12-months. In-depth interviews were conducted with a sub-sample of respondents.

RESULTS: 404 clients completed the index testing module and 21 completed in-depth interviews. HIV-positive clients were more comfortable with index partner HIVST (90%) as compared to partner referral slips (81%). More clients believed their partners would test using HIVST as compared to partner referral slips (77% vs. 66%). Acceptability and perceived use of index partner HIVST did not vary by sex. Qualitative data found that index partner HIVST was acceptable because it was private and convenient. Barriers to index partner HIVST include lack of trust within the relationship and harmful gender norms. Actual distribution and use of index partner HIVST require additional research.

CONCLUSIONS: Index partner HIVST was perceived as acceptable among HIV-positive clients in Malawi. Importantly, HIVST may close gender-specific gaps in male partner testing. Additional studies are needed to assess actual use, linkage to care, and adverse events related to index partner HIVST.



Diana Partida

Colonoscopy Completion After Abnormal Colon Cancer Screening at a Tertiary Health Care Center: What Are the Roles of Income and Geography?

Mentors: Vivy Tran MD; Liu Yang MD; Christine Yu MD; Folasade P. May MD PhD

Background: Fecal Immunochemical Test (FIT) is a non-invasive and non-complex CRC screening modality but is only effective if patients with abnormal results receive colonoscopy. Nationwide, rates of colonoscopic follow-up after abnormal FIT remain below the US Multi-Society Task Force benchmark of 80% in most health care systems and are lowest in safety net populations (40-58% completion). Prior work at UCLA health demonstrated low abnormal FIT to colonoscopy completion rates at 57.8%.

Objectives: Identify physician, patient, health care system, and socioeconomic predictors of low rates of positive FIT to colonoscopy completion within UCLA integrated health network.

Methods: A retrospective cohort study of patients meeting the following inclusion criteria: 1) ages 50-75 with at least one positive FIT result from 01/01/2015 - 10/31/2017 and 2) within the UCLA integrated health network. Two analyses were completed using this 359-patient cohort. Initially, five-digit US zip code data was collected from the electronic medical record to identify: 1) travel distance from UCLA Ronald Reagan Medical Center (RRMC), 2) average zip code income based on 2017 Mean Household Census Income data. We evaluated the relationship between 1) distance from colonoscopy location (UCLA Health) and colonoscopy completion status and between 2) income and colonoscopy completion status.

Results: The distance traveled to RRMC cohort included 352 subjects. Mean age was 63.5, and sample was 49.3% female. Cohort was 62% non-Hispanic White (nHW), 11% Asian, 0.5% Hispanic, and 0.5% Black. Mean distance traveled to RRMC of patients receiving follow-up colonoscopy was 21.7 miles and 24.0 miles for patients without colonoscopy follow-up. Census average income data based on zip code was available for 350 of 359 subjects. Demographics for the income analyses were similar to the cohort described in the travel analyses. Average household income based on zip code of subject origin was \$88,175.2 for patients receiving colonoscopic follow-up, and \$82,848 for those without follow-up. There was no statistically significant difference in distance from RRMC or average zip code income of origin and colonoscopy status in bivariate analyses.

Conclusions: We found no difference in colonoscopy follow-up after abnormal FIT based on socioeconomic predictors, and distance traveled to health care site in a tertiary care center highlighting disparity of even lower colonoscopy completion seen in safety net populations. Further work is needed to characterize patient barriers at federally qualified health centers and safety net hospitals.



Rosa Lina Penalzoza

Health Literacy and Knowledge Related to Tuberculosis Among Outpatients at a Referral Hospital in Lima, Peru.

Mentor: Larissa Otero, MD, MPH, PhD

Background: Tuberculosis (TB) case detection in Peru relies on passive case finding. This strategy relies on the assumption that the community is aware that a persistent cough or contact with a TB case are indications to seek formal health care.

Objectives: This study evaluated health literacy and TB knowledge among outpatients at Hospital Cayetano Heredia in Lima, Peru.

Methods: A cross-sectional survey was performed between June and August 2017. Data on sociodemographic factors, TB knowledge, and health literacy were collected, and bivariate and multivariate logistic regressions were performed to study the associations between variables.

Results: The analysis included 272 participants; 57.7% knew someone who had TB and 9% had TB in the past. A two-week cough was reported as a TB symptom by 66 (24%) participants. High TB knowledge was found among 149 (54.8%) participants and high health literacy was found among 193 (71.0%) participants. Health literacy and TB knowledge were not significantly associated (OR 0.9 (95% CI 0.5-1.5)). After controlling for sex, age, district, education, health insurance, frequency of hospital visits and previous TB diagnosis: High TB knowledge was associated with knowing someone with TB (AOR=2.7; 95% CI=1.6-4.7) and inversely associated with being a public transport driver (AOR=0.2; 95% CI=0.05-0.9). Not living in poverty was the single factor associated with high health literacy (AOR= 3.8; 95% CI=1.6-8.9).

Conclusion: Although TB knowledge was fair, 30% did not know that cough is a symptom of TB and more than 70% did not know being in contact with a TB case is a risk factor for TB. Tailoring educational strategies to risk groups may enhance passive case detection especially amongst transport workers and TB contacts in Lima, Peru.



Roberto Ramos

*Medical School Attended and Date of Graduation
Among Physicians in SPA 6*

Mentor: Patrick Dowling, MD, MPH

Background: The Los Angeles County Public Health Department's Service Planning Area 6 (SPA 6) includes underserved communities such as Watts, Compton, and South Los Angeles. At this time, we have not identified where the current SPA 6 physician workforce attended medical school, and their date of graduation has remained unexplored. Once this information is obtained, we can elucidate SPA 6's top feeder medical schools and track the distribution of physicians throughout time.

Objective: To describe the current physician workforce in SPA 6 and identify patterns in medical school attended and completion dates, with special attention to differences between US Medical Graduates (UMG) and International Medical Graduates (IMG).

Methods: 2018 data was obtained from the California Medical Board. We identified physicians in SPA 6 through self-reported primary practice zip code. Key variables obtained include medical school attended, graduation date, and specialty.

Results: 512 physicians were identified, of which 351 were UMGs and 161 IMGs. Of the UMG, 13% completed medical school at UCLA/CDU/PRIME (n=46), 7.1% at USC (n=25), 6.6% at Howard University (n=23), 4.6% at Meharry Medical College (n=16), 4% at UCI (n=14), 4% at UCSD (n=14), and 3.4% at UCSF (n=12). 16% of IMGs completed medical school in the Philippines, 14% in India, 7% in Iran, 7% in Mexico, 5% in Nigeria, 4% in Russia, and 4% in Pakistan. Among UMGs 1% graduated medical school between 1950-59, 8% in 1960-69, 17% in 1970-79, 17% in 1980-89, 23% in 1990-99, 25% in 2000-09, and 9% in 2010-15. Among IMGs 1% graduated medical school between 1950-59, 11% in 1960-69, 25% in 1970-79, 25% in 1980-89, 19% in 1990-99, 17% in 2000-09, and 1% in 2010-15.

Conclusion: The UC system, USC, and Historically Black Colleges and Universities (HBCUs) have the highest supply of physicians to SPA 6. There has been a decline in the number practicing SPA 6 physicians that graduated medical school after 2010 for both UMGs and IMGs.



Mariama Runcie

Methadone Replacement Therapy Patient Survey Design Regarding Deep Brain Stimulation as Treatment for Addiction

Mentor: Ausaf Bari, MD, PhD

Background: Methadone maintenance therapy is an effective tool in combating addiction for many patients. However, methadone dependence still has the potential to affect quality of life and can be associated with relapse into addictive substance use. Deep brain stimulation as a more definitive treatment option for addiction is a novel technique that is not yet available as a therapeutic. However, preliminary trials have shown in animal models and human studies that deep brain stimulation may have efficacy in treating addiction, decreasing addictive cravings and preventing relapse. The relative effectiveness of deep brain stimulation vs methadone usage is unknown. A key part of the efficacy in deep brain stimulation usage for addiction is the willingness of patients to participate in the treatment.

Objective(s): In this systematic review we seek background and precedent to design a survey interrogating the barriers to methadone clinic patients utilizing deep brain stimulation as a definitive treatment option for addiction. Our survey interrogates barriers to usage in accordance with current literature on barriers to usage and barriers to care.

Methods: Survey of literature conducted. Questions created.

Results/ Conclusion: There is a need to elucidate interest in DBS and barriers to receiving DBS for methadone patients. A survey is a feasible way to obtain this information. Patient responses TBD



Ashely Williams

Identifying Barriers to Pre-Exposure Prophylaxis (PrEP) Utilization Among Sex Workers: A Mixed Method Study

Mentors: Arleen Leibowitz, Ph.D, Manisha Shah, Ph.D,
Shahzad Bazargan-Hejazi, Ph.D

Background: With over 1 million people in the US living with HIV and 40,000 new HIV diagnoses made in 2017, strategies towards HIV mitigation have placed emphasis on prevention. Pre-Exposure Prophylaxis (PrEP) is a highly effective medication that reduces the risk of acquiring HIV. Los Angeles County has identified populations at risk for acquiring or transmitting HIV to include individuals who engage in transactional sex. The aim of this systematic review is to identify barriers to PrEP for sex workers with the goal of gaining insight to interventions that could best increase PrEP use among this vulnerable group.

Objective(s): Systematically identified and critically-appraised published studies reporting barriers to PrEP among female, male, and transgender women engaged in sex work within the United States.

Methods: Using a PICO-based research question, a comprehensive search strategy was applied to review four electronic databases, resulting in 543 identified records. Following removal of duplicates, 466 abstracts were screened, 456 articles excluded, resulting in 10 full-text articles for review. Articles were appraised using the McGill Mixed Methods Appraisal Tool. Descriptive themes were synthesized across articles and a thematic code was developed for each barrier with further analysis via Stata software.

Results: The overall study population comprised 799 participants of which 267 were identified sex workers. Participants were categorized into 3 subgroups MSW, FSW, and TGFSW. Each population encountered different barriers: MSW subgroup revealed compliance concerns, provider-based concerns and stigma; FSW subgroup revealed a lack of PrEP awareness; and TGFSW subgroup identified provider-based concerns.

Conclusions: Results from our study suggest barriers to PrEP use are unique to each population. As such, strategies to mitigate disparities in HIV burden and care must be targeted to each population subgroup. Interventions must take an ecological approach that includes physicians, government leaders and community-based organizations to develop an inclusive health care approach to engage sex workers.

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