2021 Seventh Annual Research Symposium
Herbert Wertheim College of Medicine
Florida International University
Miami, FL 33199
Program Overview

Thursday, April 22, 2021
Virtual (login: https://medicine.fiu.edu/research/annual-research-symposium/index.html)
In Person – Graham Center Ballroom

<table>
<thead>
<tr>
<th>TIME</th>
<th>Activity</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30-8:30 am</td>
<td>Registration / Lobby Check-in</td>
<td>Virtual &amp; In Person</td>
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<tr>
<td>8:30-8:45 am</td>
<td>Welcome Remarks</td>
<td>Virtual &amp; In Person</td>
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<tr>
<td></td>
<td>Robert Sackstein, MD, PhD</td>
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<td>Senior VP for Health Affairs &amp; Dean</td>
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<td>Herbert Wertheim College of Medicine</td>
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<td>Florida International University, Miami, FL</td>
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<tr>
<td>8:45-10:15 am</td>
<td>Oral Presentations I</td>
<td>Virtual &amp; In Person</td>
</tr>
<tr>
<td>10:15-10:30 am</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>10:30 am-12:00 pm</td>
<td>Oral Presentations II</td>
<td>Virtual &amp; In Person</td>
</tr>
<tr>
<td>12:00-1:30 pm</td>
<td>Open Poster Session*</td>
<td>Virtual</td>
</tr>
<tr>
<td>1:30-3:00 pm</td>
<td>Oral Presentations III</td>
<td>Virtual &amp; In Person</td>
</tr>
<tr>
<td>3:00-3:15 pm</td>
<td>Break</td>
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<td>3:15-4:00 pm</td>
<td>AOA Speaker</td>
<td>Virtual &amp; In Person</td>
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<td>Stephanie L. Goff, MD</td>
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<td>Associate Research Physician – Surgery Branch</td>
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<td>Center for Cancer Research</td>
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<td>National Cancer Institute, Bethesda, MD</td>
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<td>4:00-4:30 pm</td>
<td>Break</td>
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<td>4:30-5:00 pm</td>
<td>Awards Ceremony**</td>
<td>Virtual</td>
</tr>
</tbody>
</table>

*No poster presenters will be on stage. Only viewed online in an open, free-flow, format.

**Awards will be presented through Zoom by the Office of Student Affairs.
# Detailed Program

## Oral Presentations I

**Thursday, April 22, 2021**  
8:45 a.m. – 10:15 a.m.  
Virtual and In-Person – Graham Center Ballroom

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>TITLE</th>
<th>FIELD</th>
<th>ABSTRACT</th>
<th>TIME</th>
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</thead>
<tbody>
<tr>
<td>Julieta Gonzalez Alvarez, Kyle Chen, Luis Borges, Grettel Castro, Pura Rodriguez, Carolyn Runowicz, Marcia H. Varella</td>
<td>Understanding the Association between Race/Ethnicity and Stage at Diagnosis of Endometrial Cancer Across Insurance Categories</td>
<td>Obstetrics &amp; Gynecology</td>
<td>O1</td>
<td>8:45am</td>
</tr>
<tr>
<td>Nicole Izhakoff, Alexandra Galbo, Connor Courington, Grettel Castro, Juan G. Ruiz, Juan M. Lozano</td>
<td>The Association between Electronic Cigarette Use During Pregnancy and Unfavorable Birth Outcomes</td>
<td>Obstetrics &amp; Gynecology</td>
<td>O2</td>
<td>9:00am</td>
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<tr>
<td>Aya Eltantawy, Kelsea R. Grant, Valeria Mantilla, Juan G. Ruiz</td>
<td>The Effect of Epidurals on Perineal Tears in Obese Primiparous Women</td>
<td>Obstetrics &amp; Gynecology</td>
<td>O3</td>
<td>9:15am</td>
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<tr>
<td>Jasmine Abram, Lisa David, Marja Gillette, Pura Rodriguez de la Vega, MPH, Grettel Castro, Juan G Ruiz, Juan Acuna</td>
<td>Association of Maternal Race/Ethnicity on the Incidence of Primary Cesarean Section</td>
<td>Obstetrics &amp; Gynecology</td>
<td>O4</td>
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<tr>
<td>Krissie Lobon, Quincy Samus, Deirdre M. Johnston, Juan M. Lozano</td>
<td>The Association between Potentially Inappropriate Medication Use and Quality of Life among Community-Dwelling Individuals with Dementia</td>
<td>Geriatrics</td>
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<tr>
<td>Robelyn Barrameda, Vivian Wong, Trisha Nguyen, Grettel Castro, Pura Rodriguez de la Vega, Juan M. Lozano, Juan C. Zevallos</td>
<td>Use of E-cigarettes and Self-Reported Lung Disease Among US Adults</td>
<td>Public Health</td>
<td>O6</td>
<td>10:00am</td>
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<td>Gabriel Garcia, David P. Dorcius, Gerry Victor, Pura Rodriguez, Grettel Castro, Juan G. Ruiz Peláez</td>
<td>The Association Between Diabetic Status and Risk of Complications Post Laparoscopic Cholecystectomy</td>
<td>Surgery</td>
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<tr>
<td>Kayleigh Lewis, Jeffery Turley, Samantha Kay-Green, Grettel Castro, Juan Gabriel Ruiz Pelaez, MD</td>
<td>Hartmann-type Procedures and Surgical Site Infections: Does Laparoscopic Approach Decrease Incidence?</td>
<td>Surgery</td>
<td>O8</td>
<td>10:45am</td>
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<td>Sidney Barrau, Shifa Akhtar, Frances de la Camara, Pura Rodriguez, Grettel Castro, Juan M. Lozano</td>
<td>Effect of Risk Factors on the Development of Surgical Site Infection in Adult Colectomy Patients</td>
<td>Surgery</td>
<td>O9</td>
<td>11:00am</td>
</tr>
<tr>
<td>Robert Alfaro, Kevin Kinter, Alexander Mihas, Grettel Castro, Pura Rodriguez, Juan Zevallos, Adel Elkbuli, Noel C. Barengo</td>
<td>Ethnic Disparities and Incidence of Postoperative Complications in Obese Patients Undergoing Total Knee Arthroplasty: Analysis of the ACS NSQIP Data</td>
<td>Orthopedics</td>
<td>O11</td>
<td>11:30am</td>
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<tr>
<td>Camila Del Rio, Melissa Ramirez, Stephanie Hernandez, Marcia H. Varella</td>
<td>The Effect of Functional Health Status on Readmission Rate for Patients status-post Femoral Fracture Repair</td>
<td>Orthopedics</td>
<td>O12</td>
<td>11:45am</td>
</tr>
</tbody>
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### Oral Presentations III

**Thursday, April 22, 2021**  
1:30 p.m. – 3:00 p.m.  
Virtual and In Person – Graham Center Ballroom

<table>
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<th>AUTHORS</th>
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<th>FIELD</th>
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<tr>
<td>Tushar Chakravarty, Micky Akinrodoye, Grettel Castro, Marcia H. Varella</td>
<td>Are Vaccinations Associated with Joint Pain Severity in Patients with Preexisting Arthritic Conditions?</td>
<td>Rheumatol.</td>
<td>O13</td>
<td>1:30pm</td>
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<tr>
<td>Douglas Chung, Monica Robelo, Marcia H. Varella</td>
<td>Association Between Duration of Aerobic Physical Activity and Self-Reported Health Status in Adults with Arthritis</td>
<td>Rheumatol.</td>
<td>O14</td>
<td>1:45pm</td>
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<td>Johnatan Jhon, Allison Roach, Keith Shopa, Kevin Lanza, Grettel Castro, Noel C. Barengo</td>
<td>The Associations Between Recreational Facilities and Physical Activity in US Adolescents</td>
<td>Public Health</td>
<td>O15</td>
<td>2:00pm</td>
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<tr>
<td>Gabriela Figueroa, Logan Garfield, Amy-Morgan Mycoff, Marcia H. Varella, Grettel Castro, Julia Bisschops, Lorraine Nowakowski</td>
<td>Association Between Referral Source and Delays in Diagnostic Follow-Up After Abnormal Screening Mammogram among Uninsured Women Using a Mobile Mammography Center</td>
<td>Public Health</td>
<td>O16</td>
<td>2:15pm</td>
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<tr>
<td>Mazieyar Azad, Mirza Baig, Evan Ales, Marcia H. Varella, Pura Rodriguez, Juan M. Lozano</td>
<td>Investigating the Association between Marital Status and Survival of Glioma among Adults Aged 18-65 Years Old</td>
<td>Neurology</td>
<td>O17</td>
<td>2:30pm</td>
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<td>Corinna Peden, Emily Harris, Saskya Etienne, Pura Rodríguez de la Vega, Grettel Castro, Noël C Barengo</td>
<td>Association Between Sleep Duration and Obesity in 10-17-Year-Old Children in the United States</td>
<td>Pediatrics</td>
<td>O18</td>
<td>2:45pm</td>
</tr>
</tbody>
</table>
## Poster Presentations

**Thursday, April 22, 2021**  
12:00 p.m. – 1:30 p.m.  
Virtual only

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>TITLE</th>
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<tr>
<td>Robert Wood, Farhan E. Hiya, Jean-Paul M. Lamour, Pura E. Rodríguez de la Vega, Grettel Castro, Juan G. Ruiz, Noël C. Barengo</td>
<td>The association between parenting practices and out-of-school physical activity in US adolescents in 2014</td>
<td>Public Health</td>
<td>P01</td>
<td>1 / 01</td>
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<tr>
<td>Mark Maguire, Larissa Andrade, Ryan Geffin, Pura Rodriguez, Grettel Castro, Ahmad Alkhatib, Noël C. Barengo</td>
<td>Associations between Access to Recreational Facilities and Achieving Physical Activity Guidelines in US Adults</td>
<td>Public Health</td>
<td>P02</td>
<td>1 / 02</td>
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<tr>
<td>Dan Pham, Alexandra Held, Jiajun Li, Pura Rodriguez, Juan M. Lozano, Noël C Barengo, Miguel Ángel Cano, Patria Rojas</td>
<td>An Assessment on the Association of Depressive Symptom Domains with Alcohol Use Behavior Among Urban Latino Adolescents in South Florida</td>
<td>Public Health</td>
<td>P03</td>
<td>1 / 03</td>
</tr>
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<td>Natalie Abad, Abigail Tercek, Grettel Castro, Juan Manuel Lozano, Pura Rodriguez de la Vega, Marcia H. Varella</td>
<td>Intimate Partner Violence (IPV) and Breastfeeding Duration in Minority Women</td>
<td>Public Health</td>
<td>P04</td>
<td>1 / 04</td>
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<tr>
<td>Vittoria Costantino, Nicole Miller, Amanda Rodriguez, Pura Rodriguez de la Vega, Juan G. Ruiz</td>
<td>Exploring Racial Self-Identification and Trust in Physicians Amongst Black and White Study Participants in a Cross-Sectional Study</td>
<td>Public Health</td>
<td>P05</td>
<td>1 / 05</td>
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<td>David Gomez, Alejandro Matus, Noel Barengo, Pura Rodriguez de la Vega, Juan M. Lozano</td>
<td>The Effect of Race and Ethnicity on the Association Between Physical Activity and Obesity in U.S. Adults</td>
<td>Public Health</td>
<td>P06</td>
<td>1 / 06</td>
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<td>Michael Garcia, Kamahl Harris ringh, Jervon Wright, Noël C. Barengo</td>
<td>The association between home glucose monitoring and macro- and microvascular complications in adult diabetes patients in the US in 2016</td>
<td>Public Health</td>
<td>P07</td>
<td>1 / 07</td>
</tr>
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<td>Michael Aguad, Anthony Rodriguez, Ramses Perez, Pura</td>
<td>Racial Disparities Determining Survival Rates in Individuals with Laryngeal</td>
<td>Epidemiol.</td>
<td>P31</td>
<td>1 / 08</td>
</tr>
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<td>Title</td>
<td>Journal</td>
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<td>Date</td>
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<td>Rodriguez de la Vega, Noël C. Barengo</td>
<td>Squamous Cell Carcinoma in the US between 1998 and 2015</td>
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<td>Roshan Bransden, Dianelis Hernandez, Stephanie Mangels, Reema Kola, Grettel Castro, Pura Rodriguez, Starlie Belnap, Amy Starosciak, Adnan Subei, Diana Barratt, Juan M. Lozano</td>
<td>Understanding differences in echocardiographic characteristics between stroke patients of Haitian and non-Haitian descent</td>
<td>Neurology</td>
<td>P33</td>
<td>1 / 10</td>
</tr>
<tr>
<td>Thao Nguyen, Dahitza Alexandre, Chyah Halikman, Grettel Miro, Juan G. Ruiz, Eugenio Rothe, Marcia H. Varella</td>
<td>The Association Between Parental Nativty and Flourishing of Children Aged 6 -17 years</td>
<td>Epidemiol.</td>
<td>P34</td>
<td>1 / 11</td>
</tr>
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<td>Asmi Chakraborty, Mariana Perez, Norhan B. B. Mohammed, Michael Wells, James S. Wilmott, John F. Thompson, Stuart M. Haslam, Wei Wang, Richard A. Scolyer, George F. Murphy, Charles J. Dimitroff</td>
<td>GCNT2 suppression in metastatic melanoma is potentiated by hypoxia and leads to aggressive disease progression</td>
<td>Basic Science</td>
<td>P08</td>
<td>2 / 01</td>
</tr>
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<td>Lee Seng Lau, Asmi Chakraborty, PhD, Caleb Staudinger, Sandra L. King, Frances Clemente Erickson, Angela Bernasconi, Francis W. Luscinskas, Chad Perlyn, Charles J. Dimitroff</td>
<td>Galectin-9 helps govern human B cell adhesion to and migration through human vascular endothelium</td>
<td>Basic Science</td>
<td>P09</td>
<td>2 / 02</td>
</tr>
<tr>
<td>Matison Alderman, Natalie Abad, Krissie Lobon, Chase Mallory, Sarah Stumbar, Gregory Schneider</td>
<td>Clinical Education in the Midst of a Pandemic; Implementation of a COVID-19 Homeless Surveillance Program</td>
<td>Medical Education</td>
<td>P10</td>
<td>2 / 03</td>
</tr>
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<td>Rachel Shatanof, Skylar Korek, Brett Smith, Juan G. Ruiz, Jenny Fortun</td>
<td>Prevalence of pediatric anxiety and its association with premature birth</td>
<td>Mental Health</td>
<td>P11</td>
<td>2 / 04</td>
</tr>
<tr>
<td>Elizabeth Hanna, Alexandra Cabrera, Zeerak Khan, Juan G. Ruiz, Sara Stumbar, Grettel Castro, Pura Rodriguez</td>
<td>Poverty Status and HPV Vaccination Uptake</td>
<td>Infectious Disease</td>
<td>P12</td>
<td>2 / 05</td>
</tr>
<tr>
<td>Aliasger Ezzi, Priya Shil, Jennifer Knight, Nitya Ramalingam, Rachel Shatanof, Alexa Denton, Lauren Ramesar, Zahra Ukani, Monica Reyes, and Randal H. Silbiger</td>
<td>Firearm Violence Prevention Education in the Context Healthcare</td>
<td>Medical Education</td>
<td>P13</td>
<td>2 / 06</td>
</tr>
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<td>Charles Wyatt, Claudia Trilles, Grettel Castro, Juan Gabriel Ruiz, Noël C. Barengo</td>
<td>Relationship Between Insurance Status and Melanoma Survival Rates</td>
<td>Health Disparities</td>
<td>P21</td>
<td>2 / 07</td>
</tr>
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<td>Hyunjean Kim, Yingxin He, Ryan Pham, Gira Ravelo, Patria Rojas, Pura Rodriguez, Grettel Castro, Noël Barengo, Juan Acuna, Elena Cyrus</td>
<td>Analyzing the Association Between Depression and High-Risk Sexual Behavior Among Adult Latina Immigrant Farm Workers in Miami-Dade County</td>
<td>Health Disparities</td>
<td>P22</td>
<td>2 / 08</td>
</tr>
<tr>
<td>Cristina Fernandez, Diana Rodriguez, Nicole Wilson, Pura Rodriguez de la Vega, Suzanne Minor, Noël C Barengo</td>
<td>The Association Between Education Level and Length of Time Between Health Maintenance Visits in Adults Aged 18 to 64</td>
<td>Health Disparities</td>
<td>P23</td>
<td>2 / 09</td>
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<td>Elias Atri, Ian Ergui, Jenna Bergman, Pura Rodriguez, Alan M. Nieder, Juan M. Lozano</td>
<td>The Effect of Race on Short-Term Postoperative Complications in Patients with Cardiovascular Risk Factors Undergoing Urologic Surgery</td>
<td>Health Disparities</td>
<td>P24</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Michaela Mills, Sonja Radosevic, Ana Sosa, Pura Rodriguez de la Vega, Grettel Castro, Juan G. Ruiz, Marcia Varella</td>
<td>The Association between Socioeconomic Factors and Influenza Vaccination Uptake in Pregnant Women</td>
<td>Health Disparities</td>
<td>P26</td>
<td>2 / 12</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Journal</td>
<td>Page</td>
<td>Year</td>
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<td>Pura Rodriguez de la Vega, Juan G. Ruiz,</td>
<td>Mortality in Total and Partial Hip Arthroplasty</td>
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<td>Jessica Sharma, David F. Gomez, Marcia Varella</td>
<td>Association between race/ethnicity and type of provider encountered in the emergency department</td>
<td>Emergency Medicine</td>
<td>P15</td>
<td>3/02</td>
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<td>Phoebe Hughes, Tori Ehrhardt, Diana Llompart, Grettel Castro, Pura Rodriguez, Noël C. Barengo</td>
<td>Predictors of Emergency Department Utilization in the United States in 2017: An explorative analysis</td>
<td>Emergency Medicine</td>
<td>P16</td>
<td>3/03</td>
</tr>
<tr>
<td>Matan Ozery, Hans Lapica, Harsha Raju, Grettel Castro, Pura Rodriguez de la Vega, Noël C. Barengo</td>
<td>Racial Disparities in the Use of Amputation as Treatment for Malignant Primary Bone Neoplasms: A Retrospective Analysis from 1998-2016</td>
<td>Orthopedics</td>
<td>P17</td>
<td>3/04</td>
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<td>Antoun (Tony) Bouz, Isaac Zucker, Grettel Castro, Pura Rodriguez de la Vega, Noël C. Barengo</td>
<td>Wound outcomes of smokers undergoing implant-based breast surgery</td>
<td>Surgery</td>
<td>P18</td>
<td>3/05</td>
</tr>
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<td>Matthew T. Hey, Kyle J. Githero, Cathy A. Burnweit</td>
<td>Percutaneous endoscopic gastrostomy tube placement is safe and effective in children when compared to laparoscopic technique</td>
<td>Surgery</td>
<td>P19</td>
<td>3/06</td>
</tr>
<tr>
<td>Matan Ozery, Jesus M. Villa, Tejbir S. Pannu Carlos A. Higuera, Preetesh D. Patel</td>
<td>Predictors of Opioid Consumption after Robotic-assisted Total Knee Arthroplasty</td>
<td>Orthopedics</td>
<td>P20</td>
<td>3/07</td>
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<td>Imran Sehgal, Matthew Hanley, Fabiola Miranda, Grettel Castro, Pura Rodriguez de la Vega, Juan M. Lozano</td>
<td>The Effect of Race and Ethnicity on Extirpative Procedures on Ectopic Pregnancy Patients</td>
<td>Obstetrics &amp; Gynecology</td>
<td>P27</td>
<td>3/08</td>
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<td>Jorge Alsina, Kyle Kinslow, Muhammad Hamza, Pura Rodriguez de la Vega, Marcia Varella</td>
<td>Assessment of the potential interaction between antepartum depression and physical abuse on the occurrence of postpartum depressive symptoms in US women</td>
<td>Obstetrics &amp; Gynecology</td>
<td>P28</td>
<td>3/09</td>
</tr>
<tr>
<td>Shoshana Mond, Michelle Darko, Carol Sanchez, Marcia H. Varella</td>
<td>Association between Race/Ethnicity on Influenza Vaccination Status of Pregnant Women in the United States from 2016-2018</td>
<td>Obstetrics &amp; Gynecology</td>
<td>P29</td>
<td>3/10</td>
</tr>
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<td>Authors</td>
<td>Title</td>
<td>Journal</td>
<td>Page</td>
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<td>Lauren Robertson, Cole Evans, Emily Richter, Juan G. Ruiz, Grettel Castro, Pura Rodriguez, Juan M. Lozano</td>
<td>Association Between the Adequacy of Prenatal Care and the Incidence of Primary C-Section Deliveries</td>
<td>Obstetrics &amp; Gynecology</td>
<td>P30</td>
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<td></td>
<td></td>
<td>3 / 11</td>
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Abstracts

Oral Presentations

O1

Understanding the Association Between Race/Ethnicity and Stage at Diagnosis of Endometrial Cancer Across Insurance Categories

Herbert Wertheim College of Medicine, Florida International University, Miami, FL.

Keywords: endometrial cancer, ethnicity, stage, insurance status, health disparities

Introduction and Objective. Endometrial cancer is the ninth most common cancer and the incidence rates of endometrial cancer have been increasing in the last decade. Racial/ethnic disparities in cancer stage at diagnosis are a major public health concern. Our study aims to examine racial/ethnic disparities in stage at diagnosis of endometrial cancer and to explore how insurance status contributes to these disparities in the United States population.

Methods. We analyzed data from 2007 to 2016 on the SEER-18 database for all patients with endometrial cancer aged 40 to 99 years old (n=30,318). Race/ethnicity was categorized as Non-Hispanic Whites (NHW), Non-Hispanic Blacks (NHB), Hispanics (H), and American Indian, Alaska natives, and Asian/Pacific Islander. Late stage endometrial cancer was defined by grouping the SEER’s stage categories of “Regional by direct extension only,” “Regional lymph nodes involved only,” “Regional by both direct extension and lymph,” “Regional, NOS,” and “Distant site(s)/node(s) involved.” Insurance status was assessed as a potential effect modifier (categorized as “Uninsured,” “Any Medicaid,” and “Insured”). Multivariable logistic regression analyses were used to assess independent associations and interaction terms (race/ethnicity x insurance status). Stratified analysis were conducted accordingly.

Results. About 23% of the sample were diagnosed at later stages. Logistic regression analysis revealed insurance status as an effect modifier in the association of race/ethnicity and late stage of endometrial cancer at diagnosis (p-values &lt;0.001). In the group who were insured, Non-Hispanic Blacks and American Indian, Alaska natives and Asian/Pacific Islanders had higher odds of late stage endometrial cancer (OR 1.27, 95% CI 1.13-1.44 and OR 1.27 95% CI 1.15-1.40), respectively. There were no associations between race/ethnicity and late stage diagnosis in the uninsured or Medicaid insured groups.

Conclusions-Implications. Insurance status were found to modify the odds of Non-Hispanic Black or American Indian, Alaska natives and Asian/Pacific Islander compared to Non-Hispanic White population, to have more late stage of endometrial cancer at diagnosis. Our study highlights an increased need for earlier diagnosis and awareness of endometrial cancer in Non-Hispanic Black or American Indian, Alaska natives and Asian/Pacific Islander subgroups, specifically with populations who are privately insured.

O2

The Association between Electronic Cigarette Use During Pregnancy and Unfavorable Birth Outcomes

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Keywords: e-cigs, electronic cigarettes, pregnancy, preterm birth, low birth weight

Introduction and Objective. While electronic cigarettes (e-cigarettes) continue to gain popularity, literature focusing on the safety and risks of e-cigarette use is somewhat scarce, especially about the use of e-cigarettes and their potential effects in fetal development. Our objective was to investigate the association between the use of e-cigarettes during pregnancy and unfavorable birth outcomes.

Methods. We conducted a retrospective cohort using secondary data analysis extracted from the Pregnancy Risk Assessment Monitoring System (PRAMS) 2016-2017 Phase 8 survey. This database contains both state-specific as well as population-based information on maternal attitudes and experiences before, during and shortly after pregnancy. Women participating in the study are initially found through each state’s birth certificate file. Eligible women include those who have had a recent live birth. Data collection procedures and instruments are standardized to allow comparisons between states. The independent variable was self-reported use of any e-cigarette products during pregnancy. The dependent variable was dichotomized into the presence of at least one unfavorable birth outcome (preterm birth, low birth weight, extended postnatal hospital stay for the newborn) or the absence of all. Binary logistic regression analysis was used to calculate adjusted odds ratios (aOR) and corresponding 95% confidence intervals (CI).

Results. 71,940 women were included in our study. After adjusting for age, race, ethnicity, insurance, maternal education, prenatal care, abuse during pregnancy and complications during pregnancy, the odds of unfavorable birth outcomes increases by 62% among women who reported e-cigarette use during pregnancy versus women who did not (aOR 1.62, 95% CI 1.16-2.26, p-value 0.005).

Conclusions-Implications. Moving forward, it is imperative for consumers to understand the implications of utilizing e-cigarettes, such as the significant increased risk of unfavorable birth outcomes associated with use during pregnancy. Moreover, healthcare providers, particularly obstetricians, are expected to relay this novel information to at risk patients in both a clear and concise way. Overall, researchers must continue to study the long-term effects of e-cigarettes, including those on fetal development, as there is still much to be uncovered.

O3

The Effect of Epidurals on Perineal Tears in Obese Primiparous Women

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Keywords: epidural anesthesia, perineal tears, primiparous, obese, perineal lacerations

Introduction and Objective. Obese pregnant women are generally at increased risk for maternal morbidity. Severe perineal tears can have long-term maternal complications including pelvic floor dysfunction. There is conflicting evidence about whether obesity and epidural analgesia are independent risk factors for severe perineal tears in vaginal deliveries. This study aims to determine the association between epidural anesthesia and severe perineal tears in obese primiparous women.

Methods. We conducted a retrospective cohort study of obese (pre-pregnancy BMI ≥ 30) primiparous women who delivered singleton full term infants (39-40 weeks) vaginally in 2018 using the National Vital Statistics System (NVSS) which comprises data from all live births with a birth certificate in the United States. The exposure was epidural/spinal anesthesia and the outcome was severe perineal lacerations.
Our data analysis included 1) descriptive analysis of baseline characteristics, 2) bivariate analysis to explore the association between baseline characteristics and exposure, and 3) multivariate logistic regression analysis to determine the association between the exposure and outcome while controlling potential confounders.

**Results.** Our study included 92,562 women. Prior to adjustment, there was no statistically significant association between epidural/spinal anesthesia and perineal tears (OR 1.10, 95%CI 0.97-1.26, p=0.145). After adjusting for potential confounders by multivariate logistic regression, there was still no evidence of an association (OR 0.90, 95%CI 0.78-1.03, p=0.123). Other variables associated with perineal tears included instrumentation (OR 4.04, 95% CI 3.59-4.56, p<0.001), Asian race (OR 1.64, 95% CI 1.27-2.13, p<0.001), and large birthweight infants (OR 2.60, 95% CI 2.28-2.97, p<0.001).

**Conclusions-Implications.** Our study did not find an association between epidural/spinal anesthesia and perineal tears. We found other factors, including but not limited to, Asian race, instrumentation, and large birthweight infants, that increased the chances of a severe perineal tear. Additional research controlling for other potential confounders our study was not able to control will be needed to confirm the validity of our findings before they can be used to guide clinical decision making.

O4

**Association of Maternal Race/Ethnicity on the Incidence of Primary Cesarean Section**

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**Keywords:** cesarean section, race, ethnicity, incidence, bias

**Introduction and Objective.** Delivery by cesarean section (CS) is intended to reduce the mortality of infants and mothers in clinically indicated cases. As CS rates in the United States have increased, concerns regarding possible overuse and unnecessary risk have grown. Meanwhile, persistent racial disparities in maternal and infant health are also increasingly coming to light. The objective of this study is to investigate the association between differences in maternal racial/ethnic status and the incidence of primary cesarean section in term, primiparous women ages 15 to 44 years old.

**Methods.** This is a population-based historical cohort study of all term, primiparous women between the ages of 15 and 44 years assembled from the 2017 CDC Natality Public Use File. The exposure variable was self-reported maternal race/ethnicity and the reported method of delivery was the outcome of interest. Control variables available in the data set included demographics, socioeconomic status, pre-pregnancy and pregnancy health, maternal height, paternal race and educational attainment, antenatal care, birth facility, labor conditions, fetal presentation, and birth weight. Both crude and adjusted odds ratios (OR) and 95% confidence intervals for CS according to maternal race were obtained using non-Hispanic White women as the reference group. Adjusted ORs (aOR) were obtained by fitting a binary unconditional multiple logistic regression model.

**Results.** In total, 932,474 women who gave birth in 2017 to a live infant were included in the study. The overall prevalence of CS in primiparous women ages 15 to 44 was 27%. As compared to non-Hispanic white women (NHW), and after adjusting for confounders, the odds of CS were 33% higher in non-Hispanic Black (NHB) women (aOR 1.33, CI 1.33-1.35) and 4% higher in non-Hispanic Asian women (aOR 1.04, CI 1.02-1.06). The aORs for other racial/ethnic groups were not statistically significantly different from the reference group.
**Conclusions-Implications.** The increased odds of CS among NHB women, which is evident even after adjusting for major indicators for CS, represent a racial disparity. This disparity does not seem to originate from differences in pre-natal factors or the prevalence of medical indications for CS but rather from implicit and explicit bias in physician decision making. Further exploration is warranted to elucidate how CS might be related to the observed disparities in maternal and neonatal outcomes.

**The Association between Potentially Inappropriate Medication Use and Quality of Life among Community-Dwelling Individuals with Dementia**

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**Keywords:** geriatrics, Beer’s list, geriatric syndromes, inappropriate medications

**Introduction and Objective.** According to the Beer’s list, medications of concern for older adults with dementia include anticholinergics, benzodiazepines, opioids, and antipsychotics. Nonetheless, many of these drugs are often prescribed in the elderly population. Although the side effect profile of these medications is well known, few studies have examined how they affect quality of life (QOL). This study aims to evaluate the effect of potentially inappropriate medication (PIM) use, polypharmacy, and excessive polypharmacy, on QOL in elderly patients with dementia living at home.

**Methods.** This was a cross-sectional study using data from the MIND at Home Intervention, a community-based care coordination trial for 646 patients with dementia living at home between 2015 and 2019. The exposures of the study were PIM from Beer’s list, polypharmacy (≥ 5 medications), and excessive polypharmacy (≥10 medications). The main outcome was QOL measured by QOL-AD survey completed at baseline. Our data analysis included 1) a descriptive analysis of population baseline characteristics, 2) three bivariate analysis to determine the association between baseline characteristics and each exposure, and 3) three multivariate linear regressions to determine the association between the three exposures and QOL.

**Results.** Our final sample included 533 individuals. Before adjusting for confounders, individuals who took one or more PIMs, compared to those who do not, had an average 2.19-point decrease in their total QOL score (95% CI -3.34 to -1.04, p value < 0.001). There was no significant difference between QOL scores in patients exhibiting and not exhibiting polypharmacy, but QOL scores were lower in individuals with excessive polypharmacy compared to those without it (-1.44, 95% CI -2.60 to -0.29, p=0.017). After adjustment for confounders, PIM use and QOL scores continued to show a statistically significant association (beta -1.5, 95% CI -2.78 to -0.22, p=0.022), but the association between excessive polypharmacy and QOL was no longer significant (beta -0.127, 95% CI -1.47 to 1.21, p=0.85).

**Conclusions-Implications.** Our study found that PIM is independently associated with poorer QOL scores. Further research and larger studies should be conducted to assess how potentially inappropriate medications affect QOL of those living with dementia or the elderly in general.

**Use of E-cigarettes and Self-Reported Lung Disease Among US Adults**
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**Keywords**: electronic cigarettes, lung disease, COPD, emphysema, smoking

**Introduction and Objective.** Initially marketed for smoking cessation, electronic cigarettes (e-cigarettes) are commonly regarded as safer than combustible cigarettes because they usually contain less nicotine and do not use combustion. However, few studies have examined the health effects of e-cigarettes. The objective of this study was to examine whether e-cigarette use had a differential effect on the prevalence of lung disease among current, former, and never tobacco users.

**Methods.** We analyzed data from respondents aged ≥18 (n = 45,908) who responded to questions about e-cigarette use and lung disease in the 2016 Behavioral Risk Factor Surveillance System (BRFSS) survey. We calculated crude odd ratios (ORs) and ORs adjusted by 15 sociodemographic and health behavior factors: age, sex, race/ethnicity, annual household income, health insurance, personal physician, health status, body mass index, education, marital status, exercise, alcohol use, tobacco smoking, tobacco chewing, and metropolitan status.

**Results.** We found a significant association between e-cigarette use and lung disease, which was significantly modified by tobacco use. Among never tobacco users, the odds of reporting lung disease were 4.36 (adjusted OR [aOR] = 4.36; 95% CI, 1.76-10.77) times higher among everyday e-cigarette users than among never e-cigarette users. Among current tobacco users, the odds of reporting lung disease were 1.47 (aOR =1.47; 95% CI, 1.13-1.92) times higher among everyday e-cigarette users than among never-e-cigarette users.

**Conclusions-Implications.** People who have never smoked combustible cigarettes should refrain from starting e-cigarettes, because e-cigarettes carry a significant risk of lung disease independent of tobacco smoking. Additional prospective research into the harmful effects of e-cigarettes would help to further elucidate this link.

**O7**

**The Association Between Diabetic Status and Risk of Complications Post Laparoscopic Cholecystectomy**

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**Keywords**: diabetes mellitus, insulin, acute cholecystitis, laparoscopic cholecystectomy, postoperative health outcomes

**Introduction and Objective.** The total number of people with diabetes worldwide is projected to rise from 171 million in 2000 to 366 million in 2030. Knowledge about the outcomes of patients with diabetes undergoing laparoscopic cholecystectomy is limited. The goal of this study is to evaluate whether there is an association between diabetes status and postoperative complications after laparoscopic cholecystectomy.

**Methods.** We conducted an analysis on a historical cohort using data from the American College of Surgeons National Surgery Quality Improvement Program from 2012 – 2016. Our exposure variable was insulin dependent diabetes, non-insulin dependent diabetes, and non-diabetes. The outcome variable
was a composite for postoperative complications. We calculated the unadjusted odds ratios and used a multiple logistic regression to estimate the adjusted odds ratios and 95% confidence intervals.

**Results.** Our total study sample was 194,595 participants (Mean age 48.7 years; 55.7% female). The odds of developing a complication in participants with insulin dependent diabetes and non-insulin dependent diabetes was 2.98 (95% CI: 2.76 - 3.22) and 1.69 (95% CI: 1.57 - 1.81) in the unadjusted group and became 1.91 (95% CI: 1.74 - 2.09) and 1.29 (95% CI: 1.19 - 1.40) in the adjusted group as compared to those without diabetes.

**Conclusions-Implications.** Preoperative diabetes status is associated with a significant increased risk of postoperative complication. Future studies should look at whether there is a difference in surgical health outcomes in patients with type 1 diabetes compared to insulin dependent type 2 diabetes.

**08**

**Hartmann-type Procedures and Surgical Site Infections: Does Laparoscopic Approach Decrease Incidence?**

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**Keywords:** surgical site infection, Hartmann-type procedures, laparoscopy, laparotomy

**Introduction and Objective.** Minimally invasive surgery has become the preferred method due to its perceived benefits, prompting further studies analyzing its efficacy among colorectal surgery. However, limited data exists comparing postoperative surgical site infection (SSI) rates of laparoscopic and open Hartmann-type procedures. This study aims to evaluate the difference in incidence of surgical site infection between laparoscopic and open Hartmann-type procedures in adults 18 years of age or older.

**Methods.** This was a retrospective cohort study analyzing datasets from the 2011-2016 National Surgical Quality Improvement Program (NSQIP) database. Patients over the age of 18 who underwent either laparoscopic or open partial colectomy with end colostomy and closure of distal segment (Hartmann type procedure) were included, representing the independent variable of this study. The main outcome was postoperative superficial, deep, or organ/space SSI. A bivariate analysis was done to assess the association between the exposure and outcome, and to identify confounders. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios (OR) and corresponding 95% confidence intervals (CI) to estimate the association between the route of Hartmann-type colectomy (laparoscopic vs open) and incidence of SSI.

**Results.** From 2011-2016, 16,990 patients underwent a Hartmann-type procedure and met the inclusion and exclusion criteria, 2,545 laparoscopic patients and 14,445 open patients. Prior to adjustment, the likelihood of SSI was significantly lower in those who underwent the laparoscopic approach (OR 0.52; 95% CI 0.32-0.61), when compared with the open approach group. Overall, the association between SSI and type of surgery did not change after adjusting for potential confounders (adjusted (adj) OR 0.51; 95% CI 0.42-0.62).

**Conclusions-Implications.** This study reveals that patients undergoing a laparoscopic Hartmann-type procedure have a lower incidence of postoperative SSI in comparison to the open approach. Although currently minimally invasive techniques are underutilized in regard to Hartmann-type procedures, our findings add to a growing body of literature supporting the advantages of laparoscopy, when feasible. With the recent advent of robotic surgical methods, we strongly recommend conducting similar studies that also factor in robotic approaches.
Effect of Risk Factors on The Development of Surgical Site Infection in Adult Colectomy Patients

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Keywords: surgical site infection, risk factor, surgery

Introduction and Objective. Surgical Site Infection (SSI) is one of the most common and expensive forms of hospital acquired infection and is frequent after colorectal surgery. The objective of our study was to evaluate the association between several risk factors and SSI in adult patients undergoing colorectal surgery.

Methods. We conducted a retrospective cohort study using data from the 2016 American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database. Adults undergoing laparoscopic colectomy were included. A set of 12 potential predictors was evaluated. The outcome was SSI, defined as superficial, deep-incisional, or organ-space infection. Logistic regression was used to assess the independent association between each potential predictor and SSI.

Results. Of 25,540 cases included, 1,478 developed SSI. Risk factors independently associated with SSI included obese category I (AOR 1.38; 95% CI 1.17 - 1.64), obese category II (AOR 1.52; 95% CI 1.24 - 1.86), obese category III (AOR 1.88; 95% CI 1.50 - 2.36), smoking (AOR 1.27; 95% CI 1.10 - 1.46), cancer (AOR 1.45; 95% CI 1.11 - 1.89), steroid use (AOR 1.38; 95% CI 1.15 - 1.66), dirty/infected wound class (AOR 2.65; 95% CI 1.40 - 4.99), undergoing emergency surgery (AOR 2.47; 95% CI 1.90 - 3.20), and operation time (AOR 1.00 for every 1 minute increase in operational time; 95% CI 1.00 - 1.00). Age (AOR 0.99 for every year that the patient is older; 95% CI 0.99 - 1.00) was the only protective factor against postoperative SSI. Patients undergoing emergency surgery, classified as obesity category III, and those with dirty/infected wounds had the highest odds of SSI.

Conclusions-Implications. Patients undergoing laparoscopic colectomy may have modifiable and unmodifiable risk factors that put them at increased risk of SSI. Further research should be conducted on the benefits of preoperative initiatives like smoking cessation and weight control, as well as of increased monitoring, for decreasing the risk of SSI.

The Association between Race on Postoperative Complications in Patients Following Total Knee Arthroplasty in the U.S. during 2011-2016

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Keywords: total knee arthroplasty, orthopedics, racial disparity, race, postoperative complications

Introduction and Objective. Previous studies have revealed that Black patients who undergo total knee arthroplasty (TKA) have higher rates of postoperative complications compared with white patients. However, the current scientific evidence is conflicting. The objective of this study was to investigate the associations between race and postoperative complications following TKA.
Methods. This was a retrospective cohort study using the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database for patients 18 years or older and underwent TKA during 2016. Patients whose race was unknown or not indicated were excluded. The final population was 49,930 patients. The main exposure variable was race (Black, white, and other races). The main outcome variable was any postoperative complications. Covariates included BMI, smoking status, age, sex, and comorbidities. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios (OR) and 95% confidence intervals (CI).

Results. Most patients were white (87.5%) followed by Black (9.1%) and other races (3.4%). After controlling for possible confounders, Blacks had increased odds of postoperative complications (OR 1.34; 95% CI 1.19-1.51) compared with whites. In addition, patients in the other race group had the lowest odds of complication (OR 0.77; 95% CI 0.62-0.97). Obese patients had 13% lower odds of postoperative complication (OR 0.87; 95% CI 0.77-0.99).

Conclusions-Implications. As Black patients are at increased odds of postoperative complications following TKA, awareness of this disparity is important in providing safe and effective care in patients undergoing TKA.

Ethnic disparities and incidence of postoperative complications in obese patients undergoing total knee arthroplasty: Analysis of the ACS NSQIP Data

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Keywords: total knee arthroplasty, surgical outcomes, healthcare disparities, Hispanic paradox, obesity

Introduction and Objective. Total knee arthroplasty (TKA) is common complicated operation. There is a paucity of literature on differences between Hispanics and non-Hispanics with TKA. Our study aims to investigate the association between Hispanic ethnicity and complications in obese patients undergoing TKA.

Methods. Retrospective cohort study using the National Surgical Quality Improvement Program (NSQIP) database for patients with body mass index (BMI) ≥30 kg/m2 who underwent TKA. Exposure in this study was ethnicity (Hispanic vs non-Hispanic) and the primary outcome was postoperative complication. Associations between ethnicity and baseline characteristics, and between covariates and the outcome were assessed via bivariate analysis. Multiple logistic regression was performed to determine associations between Hispanic ethnicity and complications, while controlling for confounders.

Results. 35,027 patients were included in our study, of which 6.3% were Hispanic. Among obese adults, Hispanics had a 1.24 (95% CI 1.11-1.39) times greater odds of having a postoperative complication after TKA than non-Hispanics. This increased to 1.36 (95% CI 1.20-1.54) after adjusting for confounders. Hispanics were significantly more likely to receive transfusion (2.62% vs. 1.59%, p<0.001) and have prolonged length of stay (13.29% vs. 11.12%, p=0.002), but were less likely to have wound disruption (0.05% vs. 0.27%, p=0.042).

Conclusions-Implications. Hispanic ethnicity was associated with greater odds of postoperative complication in obese patients undergoing TKA. Future studies focusing on a wide range metrics of
social determinants of health are needed to further investigate barriers and intervention to eliminate racial disparities in surgical patients.

O12

The Effect of Functional Health Status on Readmission Rate for Patients status-post Femoral Fracture Repair
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Keywords: functional status, femur fracture, risk of re-admission,

Introduction and Objective. Femoral fractures pose a significant healthcare burden due to the associated morbidity, mortality, and costs. Though several studies have shown that functional status is an important predictor of risk for hip fractures, few studies have analyzed the effect of functional status on the risk for readmission after surgical repair. Therefore, our objective is to assess the association between functional status (independent, partially or totally dependent) prior to surgery and readmission occurrence among patients undergoing femoral fracture repair.

Methods. We performed a retrospective cohort study using data from participants of the ACS NSQIP year 2016. The independent variable was defined as functional health status, and patients were placed into one of three categories: independent, partially dependent, and totally dependent. The dependent variable will be the occurrence of readmission due to any cause after the surgery. Our analysis included 1) univariate analysis for baseline characteristics 2) bivariate analysis for potential confounders 3) collinearity for the association between predictors and outcome and 4) multivariate logistic regression to determine the association between the exposure and outcome while controlling potential confounders. Associations were presented as odds ratio with corresponding 95% confidence intervals.

Results. Our sample included 27,453 participants. The unadjusted logistic regression analysis showed the partially dependent had a 29% odds of hospital readmission when compared to the independent group. However, the totally dependent group did not have statistically significant results (OR 1.25, 95% CI 1.00-1.56, p 0.051). Once adjusted, both groups had significant results with partially dependent and totally dependent patients having increased odds of readmission by 25% and 37% respectively.

Conclusions-Implications. Our study found that in patients undergoing femoral fracture repair, there was an increased occurrence of readmission for patients defined as partially and totally dependent prior to surgery. We found that the outcome of “any readmission” was broad and specific reasons for readmission should be further explored. Additionally, the classification of functional status done by the NSQIP database is a potentially subjective interpretation process. Future studies should offer a detailed approach to the classification of functional status that incorporates modifiable risk factors in order to provide actionable information for risk prevention models.

O13

Are Vaccinations Associated with Joint Pain Severity in Patients with Preexisting Arthritic Conditions?
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Keywords: joint pain, arthritis, vaccination, flu shot, pneumovax
Introduction and Objective. Anecdotal reports have described an increased risk of developing new onset arthralgia, arthritis, and autoimmune inflammatory rheumatic disease (AIIRD) symptoms following specific vaccinations. While these findings have not been supported by systematic reviews of the literature, the relationship between vaccinations and joint pain exacerbation in patients diagnosed with pre-existing AIIRDS and nonrheumatic arthritides is less known. Objective: To evaluate if any associations exist between selected vaccinations and severity/intensity of joint pain in patients diagnosed with AIIRDS and nonrheumatic arthritides.

Methods. We conducted a secondary analysis of the cross-sectional study – the 2019 Behavioral Risk Factor Surveillance System (BRFSS), which included participants 18 years and older from all 50 states and United States territories that were previously diagnosed with an AIIRD including non-rheumatic arthritides. Mean joint pain severity scores reported by individuals vaccinated with the influenza, pneumococcal, and tetanus vaccines were compared to non-vaccinated controls, via bivariate and multivariable linear regression analyses.

Results. A total of 108,117 participants diagnosed with arthritic conditions were included for analysis. 62% of participants received the influenza vaccination. 60% of participants received the pneumococcal vaccination. 71% of participants received the tetanus vaccination. Individuals who were vaccinated with either the influenza, pneumococcal or tetanus vaccines reported a mean joint pain score of 4.79 (SE = 0.022), 4.94 (SE = 0.021), and 4.86 (SE = 0.02), respectively. Whereas those who were non-vaccinated reported mean scores of 5.1 (SE = 0.026), 4.92 (SE = 0.027), and 5.11 (SE = 0.032) for the respective vaccine exposure statuses. The unadjusted model demonstrated statistically significant decrease in mean joint pain scores for both influenza vaccination (-0.30; 95% CI = -0.37, -0.24; p-value), and tetanus vaccination (-0.25; 95% CI = -0.32, -0.17), whereas with receipt of pneumococcal vaccination the difference was not statistically significant (mean score increase of 0.02, 95% CI = -0.04, 0.09, p-value = 0.504). After adjusting for potential confounders only pneumococcal vaccination was independently associated with a statistically significant increase in mean joint pain severity score by 0.14 (95% CI = 0.06, 0.22; p-value < 0.001) when compared to non-vaccinated controls.

Conclusions-Implications. Our results suggest that vaccination does not seem to increase mean pain score in patients with a variety with arthritis condition, thus vaccination should be given as recommended. Further studies on the potential increase in pain score and its clinical significance are warranted.

O14

Association Between Duration of Aerobic Physical Activity and Self-Reported Health Status in Adults with Arthritis
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Keywords: arthritis, physical activity, exercise, health status, quality of life

Introduction and Objective. Physical activity provides disease-specific benefits for those with arthritis and is recommended for all patients with arthritis. Few studies have examined the duration of aerobic physical activity that is effective for improving self-perceived health status in these individuals. This study investigates whether increased duration of aerobic physical activity is associated with better self-reported health status in adults with arthritis.

Methods. We performed secondary data analysis on cross-sectional data from 123,962 community-dwelling adults who participated in the 2019 Behavioral Risk Factor Surveillance System survey. The independent variable was duration of aerobic physical activity per week over the past month, which was...
categorized into three groups: high physical activity level (150 or minutes/week), intermediate physical activity level (1-149 minutes/week), or none (0 minutes/week. The dependent variable was self-reported health status, which was categorized into two groups: better health status (excellent, very good, or good) and worse health status (fair or poor). Multivariable logistic regression was used to obtain odds ratios (ORs) and 95% confident intervals (95% CIs) adjusted for age, sex, race, ethnicity, employment status, annual household income, and body mass index.

**Results.** After multivariable adjustment, compared to those who performed no physical activity, the odds of reporting being in excellent/very good/good health increased by 2.46 times among individuals who performed 150 minutes or more (OR= 2.46, 95% CI: 2.30, 2.62) and by 62% among individuals who performed 1 to 149 minutes of physical activity per week (OR=1.62, 95% CI: 1.49, 1.78). Additionally, 49.7% of adults with arthritis met recommended physical activity guidelines.

**Conclusions-Implications.** Increased duration of aerobic physical activity was associated with better self-reported health status. We found a dose dependent response between physical activity duration and better health status: as duration of physical activity increased, the proportion of individuals reporting better health status increased. Additional studies on patients with arthritis are needed to confirm findings and guide clinical recommendations.

**O15**

The Associations Between Recreational Facilities and Physical Activity in US Adolescents.
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**Keywords:** adolescents, physical activity, recreational facilities, environment, exercise

**Introduction and Objective.** Despite the known benefits of physical activity (PA), less than one-quarter of adolescents achieve recommended daily levels set forth by various health organizations. Many factors play a role in the PA level of adolescents including neighborhood features, proximity, and accessibility to various types of facilities. However, little information exists on the role of school recreational facilities (RF) with adolescent PA in comparison to more widely studied indoor and outdoor facilities. Our objective was to investigate the association between availability of either school RF, outdoor RF, or indoor RF and increased levels of PA in US adolescents ages 11-17.

**Methods.** Data from a cross-sectional study of the 2017 Family Life, Activity, Sun, Health, and Eating (FLASHE) survey were used. Adolescents aged 11-17 from the US were included. Participants were excluded if no information was provided for moderate to vigorous intensity physical activity (MVPA) or access to RF type (n=245). The final samples size was 1,437. The exposure variables included access to indoor, outdoor, and school RF. Predicted daily minutes of MVPA was derived by summation of predicted weekly minutes of MVPA in school, out of school, and weekends, then divided by seven to represent the average daily MVPA. Age, sex, race/ethnicity, educational level, crime, traffic, school type, work hours, peer and family influence were included as covariates. Unadjusted and adjusted linear regression analysis was used to calculate mean increases in daily minutes MVPA and their corresponding 95% confidence intervals.

**Results.** A total of 1,437 US adolescents were included. After adjusting for covariates our model showed the associations between type of RF and increased daily minutes of MVPA were statistically significant for school RF but not for indoor RF or outdoor RF. The model showed a mean increase in daily minutes MVPA of 4.7 min (95% CI 3.0, 6.4) for school RF, 0.6 min (95% CI -1.1, 2.3) for indoor RF and 0.3 min (95% CI -1.5, 2.1) for outdoor RF.
Conclusions-Implications. School RF are an important avenue for engaging adolescents in PA objectives. Features within school RF should be studied to further investigate contributions to increased activity levels. Keywords: Adolescents; physical activity; recreational facilities; environment; exercise.

O16

Association Between Referral Source and Delays in Diagnostic Follow-Up After Abnormal Screening Mammogram Among Uninsured Women Using a Mobile Mammography Center

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Keywords: mobile mammography, breast cancer screening, referral, follow-up

Introduction and Objective. Mobile mammography centers aim to mitigate the disparity seen in the morbidity and mortality among underserved populations by increasing access to screening services. However, it is yet unclear which modifiable risk factors play the most significant role in delays in diagnostic follow-up. Our study aimed to identify if there is an association between referral source and time elapsed from a BI-RADS-0 screening mammogram result to diagnostic testing in uninsured patients in Miami-Dade County using a mobile mammography center.

Methods. A retrospective cohort study was performed using data from participants of the FIU Linda Fenner 3D Mobile Mammography Center (LFMMC) who had a BI-RADS-0 screening mammogram result between 2014-2020. Patients were initially grouped by referral type, either internal or external referral, with “internal” indicating walk-ins and “external” referring to individuals with a referral from their PCP. These groups were then compared by the measure of completing a diagnostic study within 60 days after their BI-RADS-0 result. Multivariate logistic regression analyses were used to test the associations while controlling for potential confounders.

Results. Out of 850 women with BI-RADS 0 in the LFMMC, a total of 829 were studied. About 62% had external referrals for the screening mammogram and 13.3% did not receive follow-up within the recommended 60-day interval. Adjusted analysis did not result in a significant association between referral source and elapsed time to diagnostic follow-up (OR=0.94, 95% CI: 0.60-1.49, p=0.808). Incidentally, patients who received referral for either diagnostic mammogram or breast ultrasound had higher odds of completion of follow-up within 60 days of receiving a BI-RADS-0 result compared to breast MRI (OR 0.03 (95% CI: 0.02,0.06) and OR 0.02 (95% CI: 0.01,0.04), respectively).

Conclusions-Implications. In patients of the LFMMC, referral source was not associated with time to diagnostic testing after a BI-RADS 0 screening mammogram result, as the majority of women completed follow-up within 60 days. However, a notable proportion of women still had delayed follow-up, underlining the need for future studies to analyze other potential factors influencing follow-up such as race, education level, income, and preferred language.

O17

Investigating the Association between Marital Status and Survival of Glioma among Adults Aged 18-65 Years Old

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**Keywords:** marital status, glioma, survival, biopsychosocial

**Introduction and Objective.** Survival in cancer has been shown to be associated with marital status. Yet, it is unknown if gliomas have such an association. The objective of our study was to assess if there exists an association between marital status and 5-year survival rate in adult patients with gliomas.

**Methods.** We used information from the Surveillance, Epidemiology, and End Results (SEER) Program. Our sample was limited to adults 18-65 years old diagnosed with gliomas from 1973 - 2015 and whose marital status was reported. The independent variable of marital status was defined as either married or unmarried (including single, divorced, or widowed). The outcome was being alive up to 5 years after diagnosis. A multivariable logistic regression was performed to assess crude and adjusted associations.

**Results.** Our sample included 2,806 adults. Of them, 1,721 were married (61%) and 1,085 were unmarried (39%). The overall five-year survival was 44.1%. Of married patients, 38.9% survived after 5 years while that frequency was 52.4% for unmarried patients (p&lt;0.001). The unadjusted odds ratio (OR) between marital status and survivability showed a statistically significant decrease in the odds of five-year death among unmarried patients (OR 0.73, 95% CI = 0.65 – 0.81). After controlling for age, race, gender, and whether or not surgery was performed, the adjusted OR was no longer statistically significant (OR = 0.99, 95% CI = 0.86 – 1.13, p-value 0.84).

**Conclusions-Implications.** We found no evidence for an independent association between marital status and survival in patients with all types of glioma. Further research specifying glioma subtypes and with better characterization of changes in marital status over time are warranted to better understand how non-traditional factors affect how we treat cancer patients.

O18

**Association Between Sleep Duration and Obesity in 10-17-Year-Old Children in the United States**

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**Keywords:** sleep, obesity, children, sleep duration, childhood obesity

**Introduction and Objective.** Childhood obesity and chronic sleep deprivation in the US have been increasing, subsequently becoming serious public health concerns. While some cohort studies showed that children who lack adequate sleep were more likely to be overweight/obese, meta-analyses revealed inconsistent results. Our objective was to examine the association between adequate sleep duration and body mass index (BMI) class in children ages 10-17 years in the US.

**Methods.** A cross-sectional design was used to analyze data from the 2018 National Survey of Children’s Health (NSCH). Our sample included 15,299 children ages 10-17 years. 742 children were excluded because of missing data for BMI or hours of sleep. The independent variable was adequate sleep duration, defined by the 2016 American Academy of Pediatrics (AAP) guidelines, as 9-12 or 8-10 hours/night for children ages 6-12 or 13-18 years, respectively. The dependent variable was overweight/obesity prevalence based on BMI calculation from parent-reported height and weight. Binary logistic regression was used to calculate unadjusted and adjusted odds ratios (OR) and 95% confidence intervals (CI).

**Results.** Our data revealed that children with inadequate sleep duration had 1.23 higher odds of overweight/obesity than their counterparts (95% CI 1.03-1.47). Other variables associated with overweight/obesity were ages 10-13 years and poor overall health status.
Conclusions-Implications. Healthy sleeping habits must be an important lifestyle habit for clinicians to discuss with children and parents in the prevention of overweight and obesity. Further research is needed to assess whether this association is causal and to examine sleep as an intervention in obesity prevention.
Poster Presentations

P1

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Keywords: exercise, adolescent behavior, parenting, parent-child relations, social facilitation

Introduction and Objective. Lack of physical activity (PA) is associated with obesity, diabetes, hypertension, cardiovascular diseases, and cancer. Parenting practices influence PA in young children; however, there’s little evidence available for adolescents. The objective of this study is to determine whether parenting practices are associated with out-of-school physical activity (OSPA) practices in US adolescents, ages 12-17.

Methods. This cross-sectional 2019 study analyzed data from the FLASHE study, a web-based, quota-sampled survey of parent-adolescent dyads in 2014 (n=1109). Inclusion required parents with ≥1 adolescent (ages 12-17) in their household and dyads to have completed all questions. Physically limited adolescents were excluded. Main exposures (parenting practices) included modelling, monitoring, facilitation, restriction, guided choice, and pressure. The main outcome was measured OSPA Youth Activity Profile (YAP) composite scores. Odds ratios (OR), and 95% confidence intervals (CI), were calculated using adjusted logistic regression analyses.

Results. Guided Choice was associated with 2.12-times higher odds of OSPA for 15-17-year-olds (OR 2.12; 95% CI 1.17-3.84). Facilitation was associated with more OSPA for 12-14-year-olds (OR 2.21; 95% CI 1.13-4.33). Monitoring was associated with 66% less OSPA for 15-17-year-olds (OR 0.34; 95% CI 0.20-0.57) and 55% less for 12-14-year-olds (OR 0.45; 95% CI 0.27-0.74). Friend Support increased the odds of more OSPA in the 15-17 age group by 403% (OR 4.03; 95% CI 2.29-7.08) and 12-14-year-olds by 305% (OR 3.05; 95% CI 1.69-5.51).

Conclusions-Implications. Future interventions should target (i) shared PA decision-making for older teens, (ii) access to PA for younger adolescents, and (iii) promoting PA with peers for all ages.

P2

Associations between Access to Recreational Facilities and Achieving Physical Activity Guidelines in US Adults
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Keywords: physical activity, exercise, recreation facilities, public open space, built environment

Introduction and Objective. Meeting physical activity (PA) guidelines is essential for achieving long-term health and disease prevention across populations. According to the American Health Association (AHA), adults should perform at least 75 minutes of vigorous PA or 150 minutes of moderate PA to see an impact on long-term health. Results of previous studies are varied and have yet to integrate perceived

24
access to facilities with AHA PA guidelines. We investigated whether self-reported access to free or low-cost recreational facilities was associated with meeting the AHA PA guidelines.

Methods. This was a cross-sectional internet-based study utilizing data extracted from the Family Life, Activity, Sun, Health, and Eating (FLASHE) database collected in 2017. We analyzed data from 1,750 participants 18 years-old and older across the United States. The main exposure variable was having access to free or low-cost recreational facilities. The main outcome variable was meeting the AHA PA guidelines of 150 minutes of moderate PA or 75 minutes of vigorous PA per week. Covariates included age, sex, level of education, overall health, BMI, ethnicity, hours of work per week, income, and time living at current address. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios (OR) and corresponding 95% confidence intervals (CI).

Results. Of the 1,750 included respondents, 61.7% (n=1,079) reported to have access to recreational facilities. Of those with access to recreational facilities, 69.9% met the AHA PA guidelines while 30.4% did not. After adjustment for the covariates, respondents who reported having access to recreational facilities were 42% more likely to meet the PA guidelines compared with respondents who disagreed with this statement (OR 1.42; 95% CI 1.14-1.76). Secondary results suggest that healthier individuals were more to have met AHA PA guidelines.

Conclusions-Implications. Increasing prevalence and awareness of neighborhood recreational facilities could increase access to these facilities and thus improve the ability of individuals to meet AHA PA guidelines. Future research should integrate objective PA data, determine which types of recreational facilities impact PA strongest, and discover methods of increasing awareness of these facilities.

P3

An Assessment on the Association of Depressive Symptom Domains with Alcohol Use Behavior Among Urban Latino Adolescents in South Florida

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Keywords: depressive symptom domains, current alcohol use, Latinx, Adolescents, South Florida

Introduction and Objective. Substantial scientific evidence indicates an association between depression and alcohol use in adolescents. According to the Youth Risk Behavior Surveillance System, more Latino adolescents (64.7%) have ever drank alcohol compared to white (61.7%) or black (51.3%); 31.3% of Latino adolescents currently use alcohol. Previous studies focused on depression as a single construct and its association with alcohol use in adolescents but have not investigated the association between depressive symptom domains (DSDs) (negative affect, anhedonia, somatic complaints, and interpersonal complaints) and alcohol use in ethnic adolescents. Our study investigated the association between four DSDs and alcohol use in Miami-Dade Latino adolescents in 2017.

Methods. Secondary data analysis of a cross-sectional study of the CUIDATE community-based intervention dataset was used. A local convenience sample of 201 adolescents were surveyed in Miami-Dade through several agencies in 2017. Inclusion criteria were being Latino and age 13-18 years old. Participants with missing information on the main outcomes or exposure variable were excluded. The final sample size was 151. The main exposure variable was the four DSDs. The main outcome variable was current alcohol use. Age, gender, socioeconomic status, years of residence in the US, and behavioral
acculturation were included as covariates. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios (OR) and corresponding 95% confidence intervals (CI).

**Results.** Of the 151, 58% were females and 42% were males. Prevalence of current alcohol use was 20.5%. After adjusting for age and gender, negative affect increased the odds of alcohol use by 1.13 times (OR 1.13; 95% CI 1.01-1.27). In addition, each unit increase in “interpersonal problems” was associated with increased odds of alcohol use by 31% (OR 1.31; 95% CI 1.00-1.72)

**Conclusions-Implications.** Our study shows that DSDs of negative affect and interpersonal complaints are associated with current alcohol use in our sample. Understanding the association between DSDs and current alcohol use in Latino adolescents is vital for a targeted approach to early intervention and treatment. Future studies with larger sample sizes and geographical variance with high rates of Urban Latino adolescents can better establish this relationship.

P4

**Intimate Partner Violence (IPV) and Breastfeeding Duration in Minority Women**

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**Keywords:** IPV, breastfeeding, minority, women

**Introduction and Objective.** Intimate Partner Violence (IPV) is a global health issue that disproportionately affects women. Among its detrimental consequences, it has been shown to negatively impact the ability of new mothers to breastfeed. Knowledge regarding physical IPV in minority women around the time of pregnancy and breastfeeding outcomes is scarce. Objective: To determine if there is an association between suffering from physical IPV in the 12 months leading up to and/ or during pregnancy and breastfeeding duration in minority women.

**Methods.** We used cross-sectional study data from the Pregnancy Risk Assessment Monitoring System (PRAMS), Phase 7 (2012-2015) and or Phase 8 (2016-2018). Minority women who were surveyed 59 days after delivery were included. Exposure was self-reported physical IPV in the 12 months leading up to and/ or during the most recent pregnancy. The primary outcome was breastfeeding duration of less than 8 weeks. Logistic regression analysis was used to assess independent associations, after accounting for potential confounders. All statistical analyses were performed using STATA v15 to account for the complex survey design. P-values &lt;0.05 for a two tailed test were considered statistically significant.

**Results.** Overall, 3.7% of the women reported physical IPV and about 53% reported breastfeeding for less than 8 weeks. According to the unadjusted analysis, minority women who experienced IPV in the 12 months before pregnancy or during pregnancy were 1.53 times more likely to breastfeed for less than 8 weeks compared to women who did not experience IPV (OR 1.53; 95% CI 1.36-1.73). After adjusting for confounding variables, the association was no longer significant (OR= 0.97, 95% CI=0.72-1.31). We found no evidence for effect modification by race.

**Conclusions-Implications.** We did not find evidence for an association between IPV exposure before or during pregnancy and a shorter breastfeeding duration in minority women. Due to the concern of misreporting variables, better ways to gather information on IPV as well as defining a breastfeeding duration that adheres to widely established guidelines are warranted. Future studies should aim to address social determinants of health that may be acting as barriers to breastfeeding in minority women, as well as address other negative impacts of IPV.
Exploring Racial Self-Identification and Trust in Physicians Amongst Black and White Study Participants in a Cross-Sectional Study

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Keywords: trust in physicians, racial disparities in healthcare, patient trust in doctors, racial differences in physical trust, trust in the healthcare system

Introduction and Objective. The United States has a history of medical mistreatment toward Black Americans, which dates back to the country’s infancy. This study aimed to elucidate the association between race and trust in physicians, using information from individuals who self-identified as Black or white in a recent survey. Through this study, we hope to contribute to a deeper understanding of the effect of this historical trauma, so that the medical community can initiate change.

Methods. A cross-sectional comparative study was completed using secondary data from the HINTS 5 Cycle 3 found on the National Cancer Institute database. Subjects who identified themselves as Black or white and who had valid information regarding trust in physicians were included. Subjects from all other races were excluded. The exposure of interest was self-reported identification as Black or white and the outcome of interest was the level of trust in physicians derived from survey question A6a. We considered several confounders including age, sex, level of education, residence in linguistically isolated areas, perceived quality of urgent care visits, degree of government healthcare assistance, and sexual orientation. Both unadjusted and adjusted for confounders (unconditional binary logistic regression modeling) odds ratios (OR) and 95% confidence intervals (95%CI) were computed.

Results. The prevalence of trust in physicians was higher among white participants: 72% in whites versus 61.5% in Black participants (p =0.006). Prior to adjustment, the odds of low trust in physicians are 61% higher (95%CI 1.15-2.27) in Black, as compared to white, individuals. After adjusting for all confounders, the point estimate increased slightly: OR 1.67 (95%CI 1.11-2.50) and remained statistically significant.

Conclusions-Implications. This study revealed that Black individuals report lower trust in physicians compared to white individuals. The medical community has a duty to acknowledge how our country’s past continues to affect Black patients, so inequities can be addressed, and changes initiated.

The Effect of Race and Ethnicity on the Association Between Physical Activity and Obesity in U.S. Adults

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Keywords: physical activity, obesity, overweight, race ethnicity

Introduction and Objective. The prevalence of adult overweight and obesity in the U.S. is estimated at 73.6%. Many studies have demonstrated the association between lack of physical activity and obesity. However, few studies have considered race and ethnicity as a potential effect modifier in this association. This study aimed to investigate whether race and ethnicity modify the association between physical activity and obesity.
Methods. The study is a cross-sectional study utilizing the BRFSS 2019 database. The inclusion criterion was adults aged 18 years or older. Survey participants with disabilities that limited physical activity or missing information on the primary exposure and outcome variables were excluded. The study variables included physical activity (independent), overweight or obesity (dependent), and an extensive list of covariates, including race and ethnicity. The data analysis included 1) Descriptive analysis of study participant baseline characteristics, 2) Bivariate analyses that assessed the association between independent and dependent variables, and tested covariates for confounding, and 3) Adjusted analysis (logistic regression) controlling for confounders with stratification by race and ethnicity, which tested for effect modification.

Results. The final study sample size was 272,263. The adjusted odds ratio of being overweight or obese in the group of participants that reported no physical activity and those that reported 1-149 min/week of physical activity were aOR 1.36 (95% CI 1.29-1.44) and aOR 1.20 (95% CI 1.15-1.27) respectively, when compared to those that met the physical activity guidelines of ≥ 150 min/week. After stratifying by race and ethnicity, both no (aOR 1.37, 95% CI 1.29-1.45) and low level (aOR 1.21, 95% CI 1.15-1.28) of physical activity maintained statistical significance in non-Hispanic whites. In contrast, no association between decreased levels of physical activity and obesity was observed in the other strata (aOR between 0.86 and 1.07, p>0.05).

Conclusions-Implications. The changes observed in the strength of the association between physical activity and overweight or obesity after stratification analysis suggests that race and ethnicity may serve as an effect modifier on this association. Due to the sparsity of literature addressing this question, additional research should be conducted to validate these findings.

P7

The association between home glucose monitoring and macro- and microvascular complications in adult diabetes patients in the US in 2016

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Keywords: diabetes, complications, glucose monitoring

Introduction and Objective. Diabetes, by virtue of its chronicity and prevalence of 23.1 million in the United States, represents an illness incurring both economic and personal cost to patients. Given the modifiable risk factors contributing to diagnosis and resultant morbidities, prevention is key. This study focused on secondary and tertiary prevention of diabetic complications in accordance with certain health behaviors. Here, home blood glucose monitoring was evaluated, with microvascular complications (nephropathy and retinopathy) and macrovascular complications (coronary artery disease, myocardial infarction, stroke) serving as outcomes.

Methods. Secondary analysis of 9,385 adults who responded to the Behavioral Risk Factor Surveillance System (BRFSS) questionnaire in 2016 will be performed. The BRFSS is a monthly questionnaire administered by the CDC and state health departments collecting health information such as diagnoses given, length of chronic illness, and self-care habits. Participants included in the study were adults with self-reported diabetes mellitus living in the US and Territories. The independent variable of this study was the frequency of self-monitoring blood glucose. The dependent variables of this study were macrovascular and microvascular complications associated with diabetes. The macrovascular complications were defined as coronary artery disease, myocardial infarction, and stroke. Descriptive analysis was performed to ascertain relevant variables and missing values. Bivariate analysis was done
for categorical variables to identify possible confounders utilizing chi-square tests and t-tests for the normally distributed continuous variables. Collinearity diagnostics was done to check for a correlation between the exposure and outcome. Lastly, unadjusted as well as adjusted logistic regression analysis was also done, and Odds ratios and 95% confidence intervals presented.

**Results.** For macrovascular complications, those who performed home blood glucose monitoring \(<1\) time per day had an OR of 1.03 (95% CI 0.72-1.47) compared to those who never performed home glucose monitoring. Adults who performed \(\geq 1\) per day had an OR of 1.12 (95% CI 0.79-1.59) compared to those who never performed home blood glucose monitoring. For microvascular complications, those who perform home blood glucose monitoring \(<1\) per day had an OR of 1.03 (95% CI 0.72-1.48) while those who performed home blood glucose monitoring \(\geq 1\) per day had an OR of 1.12 (95% CI 0.79-1.59). This illustrates the lack of a statistically significant difference between the odds of macrovascular complications in diabetics amongst the study groups.

**Conclusions-Implications.** While results did not depict a clear association between variables of interest, it improved the current knowledge in our area of research. Previous studies focused on glycemic control due to its pathophysiological link to diabetic complications. Few looked at the relationship between SMBG and the incidence of diabetic complications.

P8

**GCNT2 Suppression in Metastatic Melanoma Is Potentiated by Hypoxia and Leads to Aggressive Disease Progression**

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**Keywords:** melanoma, GCNT2, immunoevasion, hypoxia, Galecinit-3

**Introduction and Objective.** Metastatic melanoma (MM) is a lethal disease with a dismal 5-year survival rate of 25%. Thus, intense efforts to boost novel therapeutic strategies are underway to identify early detection of melanomas with high propensity to metastasize. We recently discovered that the loss of cell surface glycan, I-antigen, corresponds with the transition of primary melanoma to MM. I-antigen or I-branched glycans are synthesized by β1,6 N-acetylglucosaminyltransferase 2 (GCNT2) and inversely correlate with the growth and signaling potential of MM cells. Moreover, compared with high GCNT2 expression in normal melanocytes, nevi, and early-stage primary melanomas, GCNT2 is conspicuously lost in MM. We anticipate the potential utilization of GCNT2 expression as a biomarker to predict melanoma metastasis. Further, metastasis and aggressive disease progression are key phenotypes of tumor-initiating cells (TIC), which are preferentially generated in areas of hypoxia. In vertical growth phase primary melanomas and melanoma metastases, the tumor microenvironment is typically hypoxic (1.5% oxygen). We hypothesize that the hypoxic microenvironment aids in MM progression through TIC generation and immune evasion, by downregulating GCNT2 and switching I-branched glycans to linear glycans.

**Methods.** Human MM patient samples, in vivo mouse models, and in vitro assays utilizing MM cell lines with lentivirus-mediated GCNT2 gene expression alteration were utilized to explore the effect of hypoxia and GCNT2 on melanoma progression and stem gene expression.
**Results.** MM cells grown under hypoxic conditions had reduced GCNT2 and MITF with upregulated stem cell marker KLF4 expression. Importantly, in the in vivo TIC assay, we found significant decreased tumor formation with increased GCNT2 expression while low GCNT2 levels enabled tumor formation even when 1000 cells were injected in immunocompromised mice. Further in accordance with the role of TICs in immunoevasion, human PBMC – MM co-cultures depicted an increase in T-regulatory cell generation associated with low GCNT2 compared to high GCNT2 expression in melanoma cells. Importantly, using melanoma patient specimens, immunohistochemical analysis of GCNT2 corresponded with a significant increase in mortality with the loss of GCNT2 staining. Taken together, our results highlight that GCNT2 associates with increased TIC generation, tumor formation, and immunoevasion.

**Conclusions-Implications.** These findings highlight GCNT2/I-branching not only as a biomarker of melanoma virulence but reveal malignancy-associated pathways functioning in parallel with loss of GCNT2/I-branching that could offer additional targets for the treatment of metastatic melanoma.

**P9**

**Galectin-9 Helps Govern Human B Cell Adhesion to And Migration Through Human Vascular Endothelium.**

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**Keywords:** B cell tolerance, humoral immunity, galectins, cell adhesion, immunoregulation

**Introduction and Objective.** Humoral immunity is critically driven by the coordinated differentiation of naïve B cells into antibody-secreting plasma cells. For naïve B cells to access peripheral lymph node (LN) and reside awaiting activation by pathogenic antigen, there is a requirement for circulating naïve B cells to adhere and be retained in LNs. Though lymphocyte (L)-selectin is considered the LN-homing receptor for all lymphocytes, the singular role of L-selectin in B cell homing to peripheral LN is less clear. There is compelling experimental data suggesting that humoral immune responses and number/size of B cell follicles/germinal centers in L-selectin KO mice are robust. Prior data from our laboratory indicate that circulating naïve B cells express an abundance of i-linear glycans that avidly bind galectin (Gal)-9 and that Gal-9 is expressed at a high level in peripheral LNs. We hypothesize that Gal-9 may play a role in circulating B cell homing to peripheral LNs.

**Methods.** In this study, we first analyzed human circulating B cells using flow cytometry for their expression of homing molecules, L-selectin and endothelial (E)-selectin-binding glycans, sLeX/A. We then examined the spatial localization of Gal-9 in human tonsil tissue and peripheral LNs and observed conspicuous expression in/on post-capillary venules and high endothelial venules with immunohistochemical and immunofluorescence staining. Using a human umbilical vein endothelial cell (HUVEC) model that expresses high levels of Gal-9, we investigated the ability of Gal-9 to mediate adhesion of MACS-sorted CD19+ B cells from PBMC to HUVEC under static and physiologic shear flow assay conditions.
Results. We found that L-selectin was expressed at low level and sLeX/A antigens were absent on human circulating B cells. Gal-9-dependent adhesion of B cells to HUVEC was inhibited in the absence of Gal-9 or presence of competitive inhibitor lactose. Furthermore, we investigated whether this pro-adhesive Gal-9 activity promoted chemokine-directed trans-endothelial migration (TEM) through HUVEC monolayers. We, in fact, observed a Gal-9-dependent inhibition of TEM compared with controls, suggesting that Gal-9 was decelerating TEM.

Conclusions-Implications. Taken together, these data illustrate Gal-9’s potential key role in circulating B cell homing to peripheral LN and/or in retention of naïve B cells in LNs. Our studies implicate, for the first time, Gal-9 in the adhesion of human B cells to vascular endothelium and provide a putative mechanism for Gal-9 controlling the efficiency of humoral immune responses.

Clinical Education in the Midst of a Pandemic; Implementation of a COVID-19 Homeless Surveillance Program

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Keywords: telehealth training, vulnerable populations, COVID-19, clinical skills, interdisciplinary collaboration

Introduction and Objective. In March 2020, various “Safer-At-Home” orders led to closure of university campuses due to the coronavirus pandemic. Medical students at Florida International University Herbert Wertheim College of Medicine (FIU HWCOM) transitioned to online learning, prompting students and faculty to seek alternative ways to provide clinical experiences. Through the combined efforts of FIU HWCOM and the Miami-Dade County Homeless Trust, the COVID-19 Homeless Surveillance Program was created to monitor and address the health needs of homeless individuals with known or suspected COVID-19. The goal of this study was to assess students’ perceptions of the remote monitoring program and the extent to which it contributed to their medical education.

Methods. After the conclusion of the program, students received a Qualtrics survey, including 5 Likert-type statements, with a scale ranging from 1-5 indicating strongly disagree, disagree, neutral, agree, and strongly agree, respectively. These statements gauged confidence, after participation in the program, with navigating a telehealth encounter, screening for COVID-19 symptoms, and working collaboratively in a telehealth setting. Two free response questions asked about lessons learned regarding the social determinants of health and how the program contributed to students’ medical education and professional development. Investigators evaluated the Likert responses for general trends and performed an inductive analysis of the free text responses to identify common themes. IRB exemption was obtained from the FIU Office of Research Integrity.

Results. 27 pre-clinical and clinical medical students (response rate 67.5%) responded to the survey. All students agreed or strongly agreed that this program assisted them in navigating a telehealth system (mean=4.4, SD=0.8); assessing symptoms of COVID-19 (mean=4.5, SD=0.7); working collaboratively (mean=4.6, SD=0.69); recognizing barriers to patient care (mean=4.3, SD= 0.83); and refining clinical and professional skills (mean= 4.5, SD=0.8). Students reported learning related to vulnerable populations, barriers to health care, medical comorbidities and health literacy. Navigating telemedicine, interdisciplinary collaboration, and clinical skills were themes identified related to student medical education.
Conclusions-Implications. This study showed that students found participating in a telehealth surveillance program contributed positively to their medical education. As telehealth becomes a more prominent medium of providing healthcare, it is crucial to incorporate telehealth training and virtual clinical opportunities for medical students, especially with the needs of vulnerable populations in mind. As such, similar remote-monitoring programs for chronic or other acute diseases may play a continued role in medical education. Programs like this one can serve as a model for curricular integration of telemedicine.

P11

Prevalence of Pediatric Anxiety and Its Association with Premature Birth

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Keywords: prematurity, anxiety, mental health

Introduction and Objective. Studies show that clinical disparities exist between individuals born prematurely and those born at term; however, few studies have examined whether there is a difference in the prevalence of pediatric anxiety between premature and term individuals. Objective: To determine if the prevalence of anxiety differs for pediatric individuals born prematurely compared to individuals born at term.

Methods. This is a secondary analysis of the National Survey of Children’s Health (NSCH), in which we conduct a historical cohort analytical study. The NSCH database examines the physical and emotional health of children from 52,129 households identified via the National Census Bureau from 2017-2018. It is a geographically representative sample of children in the U.S. assessing demographics, physical health, mental health, and family dynamics. We compare the exposure variable of premature birth, delivery before 37 weeks of pregnancy, to the outcome variable of self-identification of anxiety currently and previously. The study group consists of all children (52,129) in which data exists on the NSCH. We examined distributions of control variables according to exposure (preterm vs. term birth). Odds ratios (ORs) and 95% CI intervals were computed to assess the direction and magnitude of association between preterm delivery and prevalence of childhood anxiety after adjusting for potential confounders by fitting a multivariable model.

Results. Of the NSCH population, 2,872 of these subjects had premature births, while 23,251 did not. Of those with premature births, 435 reported a history of anxiety, while 2437 did not. In the population that was not born premature, 2724 reported a history of anxiety, while 20,527 did not. When comparing prevalence of anxiety in the premature vs. the non-premature group, an OR of 1.35 was found. Additionally, a history of anxiety was higher in those age 14-17, female, nh white, English speaking, with unmarried parents, who average 4+ hours of screen time (outside of schoolwork), eat fewer meals with their families, are not food secure, have parents who smoke inside, have been diagnosed with ADHD and/or Autism, had adverse childhood experiences (ACE 5,6,7,8, 9), and have special needs with a p-value <0.001 for each finding. When adjusted for these factors, it was found that the odds ratio changed to 1.30 and stayed significant at 0.048

Conclusions-Implications. A significant difference was found in the prevalence of childhood anxiety among those who were born premature and those who were not born premature. Those born premature had a 30% higher chance of having anxiety during their childhood. This sheds light on a possible link between premature birth and its effect on critical periods of neural development in the late
stages of fetal development. One implication of the findings is its limitation to an American pediatric population, and another could be possible survey bias from those who filled out the surveys.

P12

**Poverty Status and HPV Vaccination Uptake**

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**Keywords**: HPV vaccine, obstetrics & gynecology, public health, preventative medicine, socioeconomic status

**Introduction and Objective.** HPV is a highly prevalent disease in the United States with potentially deadly sequelae such as cervical, oropharyngeal, and anal cancers. Vaccination is the most assured way to prevent HPV, which is why ensuring its widespread uptake is an imperative public health objective. Our study aims to study whether poverty level among US teenagers (13-17 years) is associated with HPV vaccine coverage.

**Methods.** A cross-sectional comparative study was done, using data from the National Immunization Survey-Teen 2018. Records with available responses on both the exposure variable (family’s poverty level) and the outcome variable (family-provided information on the subject’s vaccination status) were included. Odds ratios (OR), both crude and adjusted for potential confounders (multivariable logistic regression), describing the association between poverty levels and HPV vaccine coverage were obtained.

**Results.** Our final effective sample included 31,391 US teens. After adjusting for age, sex, race/ethnicity, and provider recommendation it was revealed that teens in the below poverty bracket had 70% increased odds of receiving the HPV vaccination when compared to individuals with the highest family income (OR 1.70 (95%CI 1.44-2.01) p=0.00). Teens in the intermediate income bracket were not found to have statistically significantly different odds of HPV vaccination uptake compared to those in the highest bracket (OR 0.94 (95%CI 0.84-1.05)). Of note we also found provider recommendation to be a strongly associated variable with an adjusted OR of 18.13 (95%CI 15.83-20.77).

**Conclusions-Implications.** Family income below poverty level is associated with increased odds of HPV vaccination uptake in US teenagers. Provider recommendation was also incidentally found to have a strong effect on vaccination uptake. Future interventions should focus on increasing provider recommendations for teenagers with higher family income.

P13

**Firearm Violence Prevention Education in the Context Healthcare**

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**Keywords**: Firearm violence prevention, medical school, education, healthcare issue, gun violence

**Introduction and Objective.** Firearm violence results in 38,000 deaths in the US each year. Three million children are subjected to lasting trauma from direct exposure to related injuries and deaths. The
resultant cost to the US healthcare system is approximately $2.3 billion annually caring for victims and survivors. Until recently, healthcare professionals were prohibited from addressing the presence of firearms in the home as a health risk during a patient encounter in Florida and other regions. Therefore, few medical school curricula include education regarding firearm injuries as a health issue. This pilot study seeks to 1) assess medical student beliefs regarding firearm violence as a public health issue 2) gauge their interest in integrating firearm violence prevention (FVP) education into a medical school curriculum, 3) propose specific components of FVP education beneficial for future clinical practice, and share relevant resources.

**Methods.** A two-part module was presented to second year medical students by faculty and peers. The presentation introduced firearm safety as a health risk reduction issue to be discussed on par with other similar interventions such as seatbelts, helmets and condom use; addressed the personal, social, and community impact of firearm violence; and presented some tools physicians can use to counsel patients. A role play demonstration used the Medical Students for Gun Safety White Coat card to teach how healthcare professionals can address firearm safety with patients. Surveys were distributed before and after the FVP module Part 1 to compare students’ perceptions of firearm safety as a public health issue and their interest in receiving FVP education in medical school. Four months later, Part 2 of the FVP module informally assessed retention of the material from the first module and reinforced and expanded on interventions including community level efforts.

**Results.** 92 and 70 students completed the pre and post surveys respectively. 84.8% of pre-session respondents and 91.5% post session respondents strongly agreed or agreed that FVP is a healthcare issue. 85.9% of pre-session respondents and 94.3% post session respondents strongly agreed or agreed that a FVP curriculum would be beneficial to a future physician. 92.4% of pre-session respondents and 95.7% post session respondents indicated they are interested in a FVP curriculum at HWCOM.

**Conclusions-Implications.** Survey results indicate medical students believe FVP is an important topic of discussion in a healthcare setting. The goals of this proposed curriculum are to educate students on patient-centered techniques to assess the health risks from the presence of a firearm, to equip students with the tools helpful to educate their patients about risk reduction, and to be advocates for prevention of firearm violence through education on the community level.

**P14**

**Comparing the Effects of General vs. Regional Anesthesia on Postoperative Mortality in Total and Partial Hip Arthroplasty**

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**Keywords:** total hip arthroplasty, partial hip arthroplasty, regional anesthesia, general anesthesia, postoperative mortality

**Introduction and Objective.** There is conflicting evidence in the literature regarding whether type of anesthesia (regional vs. general) is associated with postoperative mortality in patients undergoing hip arthroplasty. The present study compares mortality between general or regional anesthesia administered to patients undergoing either total (THA) or partial hip arthroplasty (PHA).

**Methods.** A retrospective cohort was assembled using the 2015-2016 American College of Surgeons National Surgical Quality Improvement Program database. Adult patients undergoing hip arthroplasty under general or regional anesthesia were included. Patients were excluded if receiving any other type of anesthesia, as well as having an ASA score ≥ 4, preoperative acute renal failure, severe congestive
heart failure, COPD, or ascites. Adjusted odds of 30 days all-cause postoperative mortality according to type of anesthesia were estimated by fitting multiple logistic regression models that included potential confounders and effect modifiers.

**Results.** A total of 60,897 patients were included. Given that the interaction between type of anesthesia and type of arthroplasty was statistically significant, separated models were fitted for each type of arthroplasty. There was no evidence of an association between type of anesthesia and postoperative mortality in hip arthroplasty patients regardless of whether the arthroplasty was partial (OR = 0.85; CI 0.59-1.22) or total (OR = 0.68; CI 0.43-1.08).

**Conclusions-Implications.** The overall postoperative mortality in adult hip arthroplasty patients is low. Our findings support that mortality is not different between patients receiving regional vs general anesthesia regardless of type of hip arthroplasty (total vs. partial).

P15

**Association between race/ethnicity and type of provider encountered in the emergency department**

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**Keywords:** race, disparities, emergency department, provider, secondary analysis

**Introduction and Objective.** Race is associated with significant differences in emergency care, and minorities tend to have worse outcomes, including higher mortality rates. It is unknown whether there are racial/ethnic related differences in the type of provider seeing patients in the ED could contribute to such disparities. The aim of our study is to elucidate whether there is an association between race/ethnicity and the type of provider seeing patients in the ED.

**Methods.** We performed secondary analysis of data from the CDC database on the National Hospital Ambulatory Medical Care Survey (NHAMCS). The sample included adults visiting the ED and with triage scores between 3-5. The independent variable is the participant’s race/ethnicity as reported in the medical records using both ethnicity (Hispanic or non-Hispanic) As well as race (White, Black/African American, Asian, Hawaiian or Other Pacific Islander, American Indian or Alaska Native). The dependent variable is the type of provider seen in the Emergency Department (Nurse Practitioner [NP] and/or physician assistant [PA] but no Attending Physician versus Attending Physician with any combination of other providers). We assessed associations using multivariable logistic regression models for crude and adjusted measurements of odds ratio (OR) and corresponding 95% confidence intervals (CI).

**Results.** We assessed 108,520 eligible adults with triage scores between 3-5. Triage score did not modify the association tested (P=0.391).The unadjusted odds of being solely seen by a NP/PA and not by an attending physician was 30% higher in the Black/African American group compared to the White group (OR=1.29, 95% CI 1.04-1.61, p=0.020). After adjusting for age, sex, insurance status, presence of chronic condition(s), and triage level, the association was no longer statistically significant (OR=1.16, 95% CI 0.91-1.48, P=0.223).

**Conclusions-Implications.** We found no evidence that race/ethnicity was associated with the type of provider seeing patients in the ED in adult patients with triage scores between 3-5, suggesting that disparities in health care are not due to the type of provider that sees the patient in ED.

P16

**Predictors of Emergency Department Utilization in the United States in 2017: An explorative analysis**
Introduction and Objective. Emergency department (ED) utilization in the United States is a climbing trend in healthcare and is associated with increased costs and varied outcomes in quality of care within the healthcare system. Existing studies have explored associations between specific sociodemographic variables and emergency department usage. However, there is not a comprehensive understanding of which variables in the general population lead to increased emergency department utilization overall. The objective of this study was to identify independent predictors associated with at least one emergency department visit within the last 12 months in 2017.

Methods. Secondary data analysis of cross-sectional study, using data of the 2017 NHIS database. The study population comprised U.S. adults, aged 18-64 (n=17,421). Participants with missing data or invalid information for independent variables, dependent variables, or covariates were excluded. The main outcome for this study was having had >1 visits to an ED in 2017. Possible predictors included age, sex, race, ethnicity, marital status, sexual orientation, BMI, affordable prescription medications, geographic region, poverty ratio, insurance status, marital status, transportation, occupational status, psychiatric history, smoking history, and preventive care. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios (OR) and their corresponding 95% confidence intervals.

Results. It was found that predictors of an ED visit within the past year in 2017 were female sex, LGTBQ+, Black/African American, obesity, living with a partner or divorced, no transportation, poverty ratio < 1.9, Medicaid or other insurance coverage, unpaid at work or not working, could not afford their prescription medications, decreased functional status due to a psychiatric condition, and smoking history (OR 1.2-2.5). Protective characteristics for ED utilization included age >40, Asian, and Hispanic (OR 0.7-0.8). No statistically significant association between geographic region or regular preventive care and ED visits was found.

Conclusions-Implications. Our results identified several predictors of Emergency Department usage in the United States. Addressing these predictors can help promote healthcare initiatives, improve patient care, and relieve ED services as a healthcare safety net. Future research should involve further exploration of these identified predictors and focus on trends in ED utilization.

Racial Disparities in the Use of Amputation as Treatment for Malignant Primary Bone Neoplasms: A Retrospective Analysis from 1998-2016

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Keywords: primary bone neoplasm, limb-salvage, amputation, ethnic disparity, racial disparity

Introduction and Objective. Primary Bone Neoplasms (PBNs) represent less than 1% of total diagnosed cancers each year. When not treated promptly, PBNs can cause significant morbidity and mortality. With recent surgical advancements, PBN treatment has shifted from amputation to limb-salvage procedures. However, significant disparities between different racial and ethnic groups exist that limit access to limb-
salvage procedures. There exist inconsistent scientific findings regarding a relationship between race and treatment disparities in PBN patients. This study investigated patients with PBNs to determine an association between race/ethnicity and procedure-type selection.

**Methods.** A retrospective observational cohort study was conducted using the Surveillance, Epidemiology, and End Results (SEER) database to select 5091 patients who were diagnosed with a PBN between 1998 and 2016. Participants with missing information on any of the key variables were excluded. Patients were classified into three distinct racial groups (i) White, (ii) Black, and (iii) Other (Asian, American Indian, Pacific Islander). The main outcome assessed was the procedure-type received: amputation vs. limb-salvage. The covariates included in the analysis were ethnicity, age, sex, cancer stage and grade, insurance status, rural location status, and year of diagnosis. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios and 95% confidence intervals (CI).

**Results.** Race was not associated with increased amputation rates. However, Hispanic patients had a 40% increased likelihood of amputation (OR 1.4; 95% CI 1.2-1.6). Patients older than 65 were found to be 60% more likely to receive amputation than adults ages 26-49 (OR 1.6; 95% CI 1.1-2.2). Insurance status was an independent predictor of procedure selection. Uninsured patients were 70% more likely to receive amputation than insured patients (OR 1.7; 95% CI 1.1-2.8). Inclusion of an additional adjustment for insurance status did not significantly alter the strength of the association.

**Conclusions-Implications.** An ethnic disparity was found that could not be explained by differences in patient characteristics. We recommend providers be more aware of patients less likely to seek regular healthcare in the context of PBNs. The specific associations between independent predictors and different race/ethnicity groups elucidate a possible link requiring further investigation.

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**P18**

**Wound Outcomes of Smokers Undergoing Implant-Based Breast Surgery**

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**Keywords:** smoking, post-operative infection, implant-based breast surgery

**Introduction and Objective.** Smoking is a cause of many postoperative complications, including delayed wound healing, tissue necrosis, and reconstructive flap loss. However, there is a paucity of evidence-based guidelines for smoking cessation in patients undergoing implant-based breast surgery. The objective of this study was to determine if smoking is associated with wound dehiscence or superficial/deep surgical site infection (SSI) in women undergoing implant-based breast surgery.

**Methods.** Using the American College of Surgeons National Surgical Quality Improvement Program, data was obtained of U.S. adult females (n=10,077) between the ages of 18 and 70 who underwent insertion of a breast prosthesis from 2014-2016. Patient’s preoperative smoking status, demographic and comorbidities were analyzed to determine association with wound dehiscence, superficial SSI, and deep SSI. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios and 95% confidence intervals.

**Results.** Patients who smoked had a statistically significant higher proportion of wound complications (2.4%) compared to non-smokers (1.3%; p&lt;0.01). Adjusted analysis demonstrated a significantly higher odds of wound complications in smoking patients compared to those who did not smoke (OR 2.0; 95% CI 1.3-3.2).

**Conclusions-Implications.** Our study suggests that smoking is an independent risk factor for postoperative complications in patients undergoing implant-based breast surgery. These results have
significant clinical implications, as increased precautions can be taken in smokers undergoing breast surgery to minimize postoperative wound complications. Future studies may determine the optimal amount of time that patients should abstain from smoking prior to implant-based breast surgery.

P19

Percutaneous Endoscopic Gastrostomy Tube Placement Is Safe and Effective in Children When Compared to Laparoscopic Technique

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Keywords: Gastrostomy, pediatric surgery, safety, cost-effectiveness

Introduction and Objective. There are many techniques of gastrostomy tube placement in children. Percutaneous endoscopic gastrostomy (PEG) has been previously considered to confer more serious complications and be inferior to a laparoscopic technique. The aim of this study is to challenge these assertions by comparing experiences using PEG and laparoscopic gastrostomy (LapGT) techniques at a tertiary care pediatric hospital.

Methods. All PEGs and LapGTs were reviewed at the participating institution from August 2016 through January 2018. Demographics, procedure time, operative charges, and 30-day complications were reviewed for patients who had gastrostomy tube placement, either PEG or LapGT, not in conjunction with other procedures. Means of quantitative values were compared using the student’s t test. Categorical values were compared using the X2 test. Percentages and charges were rounded to the nearest whole number.

Results. Over 18 months, 93 isolated gastrostomy tubes were placed in children aged 2 weeks to 19 years. There were 56 PEGs (60%) and 37 LapGTs (40%), based on surgeon preference. There was no significant difference in gender, mean age, or mean weight between the two groups. Mean operative time for PEG was 59% shorter (14 vs. 33 minutes, p<0.001). Operating room charges averaged $4,500 less in the PEG group ($11,400 vs. $15,900, p<0.001). Neither group had complications that required a return to the operating room within 30 days postoperatively. There was also no difference in the rate of return to operating room for fundoplication after gastrostomy tube placement (fundoplication rate after PEG and LapGT was 0.05 and 0.05, p = 0.9919). In two cases PEGs were converted to LapGTs because safety criteria for PEG were not met.

Conclusions-Implications. In this study depicting experience with PEGs and LapGTs, it was found that the PEG technique, when used with clearly defined safety criteria, decreased operative time and cost without compromising safety. In the current milieu of decreasing anesthesia exposure for children and reducing healthcare costs, PEG should be considered as a safe and effective option for gastrostomy tube placement in children.

P20

Predictors of Opioid Consumption after Robotic-assisted Total Knee Arthroplasty

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Keywords: total knee arthroplasty, opioid use, cruciate prosthesis, robotic-assisted surgery

Introduction and Objective. In view of the current opioid misuse crisis in the United States, the objective of this investigation was to identify predictors of opioid consumption after robotic-assisted total knee arthroplasty (Ra-TKA).

Methods. We retrospectively reviewed 186 consecutive primary Ra-TKA cases performed in a single institution by a single surgeon after the implementation of Florida’s law on controlled substance prescribing (7/3/2018 to 6/18/2019). Postoperative opioid prescriptions consumed by the patient were converted into Total-Morphine-Equivalents (TME) (dependent variable). Predictors of TME evaluated included age, gender, race, ethnicity, BMI, ASA/smoking status in addition to robotic system data (postoperative deviation of postoperative transepicondylar-axis with respect to the posterior-condylar-axis, component sizes, tibial slope, stressed medial/lateral tibiofemoral gaps, postoperative leg-alignment, prosthesis-type [CR(cruciate-retaining) vs. CS(cruciate-substituting)], patellar polyethylene thickness). Other predictors included knee range-of-motion, length-of-stay, tourniquet/skin-to-skin times, and hospital discharge disposition. Means and frequencies were used to describe continuous and categorical data, respectively. All potential predictors were assessed with univariate regression analyses and significant predictors were incorporated into a multivariate stepwise regression analysis. An independent sample t-test was also performed. Alpha was set at 0.05.

Results. Overall, mean TME was 1,215.4 ± SD 567.6 (range, 515.0 to 4,890.0). Baseline demographics and patient characteristics are shown in Table 1. In univariate analyses, age and prosthesis-type (CR/CS) were significant TME predictors (Figures 1 and 2, respectively). In the multivariate model, prosthesis type was the most important predictor (Pearson-correlation 0.183, p=0.007; regression-coefficient 0.181, p=0.013). In this model, the use of a cruciate-substituting prosthesis predicted a TME increase of 219 units (95%CI, 46.5-391). Age was the second predictor (inverse relation, Pearson-correlation -0.149, p=0.022; regression-coefficient -0.147, p=0.043). For every additional year of age, the model predicted a decrease of 10.2 TME units (95%CI, -20.2 to -0.3). On further analysis, Robotic-assisted TKAs performed with cruciate-retaining prosthesis had a mean TME of 1,061.5 versus 1,282.5 for cruciate-substituting prosthesis (p=0.013).

Conclusions-Implications. The use of a cruciate-substituting prosthesis and younger age were significant predictors of increased opioid consumption after robotic-assisted TKA. These two factors should be considered during the informed consent process and for managing postoperative pain expectations.

P21

Relationship Between Insurance Status and Melanoma Survival Rates

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Keywords: Melanoma, health insurance, health disparity

Introduction and Objective. In 2019, melanoma of the skin was the 5th most common cancer amongst the US population. Current evidence shows lower survival rates in uninsured or publicly insured melanoma patients relative to those that are privately insured. Scientific information in regard to health insurance status and survival in cutaneous melanoma patients after the Affordable Care Act Medicaid expansion is limited by incomplete follow-up, lack of cause-specific survival data, and inadequate
representation of minorities. This study investigates the association between insurance status and cause-specific 5-year survival rates in adults with melanoma between 2007-2016.

**Methods.** This retrospective cohort study included adult patients with cutaneous malignant melanoma between 2007-2016 using the SEER Incidence Database (n=109,500). The main outcome was 5-year survival. The exposure variable was health insurance based divided by SEER classifications (uninsured, “any Medicaid”, insured, insurance not specified). Covariates included age at diagnosis, sex, race, ethnicity, stage at diagnosis, and surgical treatment. Unadjusted and adjusted Cox regression analyses were used to calculate hazard ratios (HR) and 95% confidence intervals (CI).

**Results.** Those included in the study were adults aged 18 years and older with a primary diagnosis of cutaneous malignant melanoma between 2007-2016. Patients without information on health insurance, survival data or time, and those with a primary diagnosis-reporting source at autopsy were excluded, leading to a final sample size of 109,500 participants. Those with Medicaid (HR 2.0; 95% CI 1.8 -2.1) and uninsured patients (HR 2.0, 95% CI 1.8-2.2) had a lower probability of survival compared with those having private insurance when adjusted for all covariates. Black patients had a higher hazard of death (HR 1.4, 95% CI 1.2-1.6) compared with white participants.

**Conclusions-Implications.** Survival disparities exist among patients with malignant skin melanoma based on insurance status and race. Future studies should explore factors related to variability in care among insurance types to reduce cutaneous malignant melanoma survival differences associated with health insurance status.

**P22**

Analyzing the Association Between Depression and High-Risk Sexual Behavior Among Adult Latina Immigrant Farm Workers in Miami Dade County

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**Keywords:** depression, risky sexual behavior, Latina, Hispanic Americans

**Introduction and Objective.** Despite representing 18% of the United States population, in 2016, Latinx accounted for 26% of all new HIV diagnoses. Most of the current literature regarding HIV risk focuses on adolescents and men who have sex with men, which excludes adult Latinas. The aim of this study was to analyze the association between depression and high-risk sexual behavior among adult Latina farm workers in Miami-Dade County in South Florida in 2014-2016.

**Methods.** This study was a cross-sectional secondary data analysis of a community-based participatory research pilot study entitled, Salud/health, Educación/education, Prevención/prevention, Autocuidado/self-care (SEPA). The snowballing technique was used to sample the study population among adult Latina migrants recruited from local community centers. Eligibility requirements included the following inclusion criteria: female, identify as Latina, age 18-50 years, sexually active within the past three months, and lived in the US for 3-10 years. The exposure variable, depression, was assessed using the Patient Health Questionnaire. The outcome variable, high-risk sexual behavior, was assessed using the Sexual Behavior and Sexual History Questionnaire. The tested hypothesis of an association between depression and risky sexual behavior was formulated after data collection. Binary logistic regression was performed to compute odds ratios (OR) and the corresponding 95% confidence intervals (CI).
**Results.** Out of 234 study participants, 15% reported being depressed, 80% of women were reported as having engaged in high-risk sexual behavior, and 19% were reported as not. No association was found between depression and high-risk sexual behavior (OR 1.77, 95% CI 0.51-6.16). Statistically significant predictors of high-risk sexual behavior were low sexual relationship power (OR 4.10, 95% CI 1.06-15.96), interpersonal violence (OR 2.70, 95% CI 1.02-5.09), and relationship status (OR 2.66, 95% CI 1.17-6.01).

**Conclusions-Implications.** Although this study could not identify a statistically significant association between depression and high-risk sexual behavior, it was limited by a lack of power due to small sample size. The medical community should implement more effective interventions in order to decrease the prevalence of HIV among adult Latina recent immigrants. Further research may study the association between depression and high-risk sexual behavior in a larger sample size.

**P23**

**The Association Between Education Level and Length of Time Between Health Maintenance Visits in Adults Aged 18 to 64**

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**Keywords:** primary care, outpatient, education, health maintenance visit, and socioeconomic

**Introduction and Objective.** In the United States, it has been reported that 25% of adults 18 years and older have no annual medical provider visits. While the role of preventative medicine in attenuating negative health outcomes has previously been demonstrated, whether there is an association between educational status and time between preventative health visits is poorly studied. A better understanding of this relationship could lead to the development of interventions for disadvantaged populations. Our study aimed to determine if levels of education are associated with the length of time between health maintenance visits in adults aged 18-64.

**Methods.** Secondary analysis of cross-sectional data was performed utilizing the 2019 Behavioral Risk Factor Surveillance System survey. Our study was limited to adults aged 18-64 in the US (n=255,268). The respondents missing information on health maintenance visits and/or education level were excluded from the analysis (n=3,939). The independent and dependent variables were education level (never attended school/kindergarten, grades 1-8, grades 9-11, grade 12/GED, some college, college, or more) and length of time since the last checkup (within the past year or greater than 1 year), respectively. Covariates included age, sex, race, ethnicity, income, number of children, marital status, health insurance, and health status. Unadjusted and adjusted logistic regression analyses were used to calculate odds ratios (OR) and 95% confidence intervals (CI).

**Results.** When controlled for covariates, participants with education levels between grades 1-8 (OR 1.19; 95% CI 1.02-1.39) and 9-11 (OR 1.15; 95% CI 1.03-1.26) had significantly higher odds of time between health maintenance visits exceeding one year as compared to those reporting college education. Other variables associated with increased time between visits included age 18-34 (OR 1.97; 95% CI 1.87-2.09), male sex (OR 1.59; 95% CI 1.53-1.66), income between $25-35,000 (OR 1.22; 95% CI 1.13-1.33), four or more children in the household (OR 1.28; 95% CI 1.15-1.43) and no health insurance (OR 3.66; 95% CI 3.45-3.88).

**Conclusions-Implications.** Future studies are needed to investigate avenues for intervention, such as adult education programs to address healthcare barriers. Local interventional studies such as training physicians to identify and counsel patients with lower education may yield positive results. Given that
those with lower education levels often have limited job flexibility, implementing weekend and/or telehealth appointments may address these obstacles.

P24

The Effect of Race on Short-Term Postoperative Complications in Patients with Cardiovascular Risk Factors Undergoing Urologic Surgery

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Keywords: urologic surgery, health disparities, cardiovascular risk factors

Introduction and Objective. Patients with cardiovascular risk factors (CVRF) have an elevated risk of postoperative complications after urological surgery. African American patients suffer from renal and prostate cancers along with cardiovascular disease at higher rates than Caucasians. The objective of this study was to determine whether race modifies the association between CVRF risk factors and short-term postoperative outcomes in patients undergoing urological surgery.

Methods. The 2015 and 2016 National Surgical Quality and Improvement Program (NSQIP) databases were queried for all adult patients undergoing partial or total nephrectomy, nephroureterectomy, cystectomy or prostatectomy. Patients lacking information on race, CVRF or postoperative outcomes were excluded. The exposure variable was CVRF and the outcome variable was post-operative adverse events. The prespecified null hypothesis was that race is not an effect modifier of the association between CVRF and postoperative complications. Analyses included describing the baseline characteristics, assessing the associations between potential confounders and the exposure/outcome, and a multivariate analysis of the association between CVRF and postoperative complications including potential confounders and race as an interaction term.

Results. A total of 9,132 patients were included in the final analysis. Among included patients, 67.2% had CVRF and 12.7% had postoperative complications. Patients with preexisting CVRF had 70% increased unadjusted odds of developing a postoperative complication (OR 1.7, 95% CI 1.5-2.0). After adjusting for potential confounders, the association decreased but retained statistical significance (aOR 1.3, 95% CI 1.1-1.6). African American patients had 30% increased adjusted odds of a postoperative complication (aOR 1.3, 95% CI 1.1-1.5). The binary logistic regression model was used to assess the interaction between race and CVRF and found that race does not modify the association between race and post-operative complications.

Conclusions-Implications. African American patients and those with CVRF have higher odds of postoperative complications than other groups. While race was not a risk modifier in the association of CVRF with surgical complications, additional studies are needed to elucidate the mechanisms of the inequities of outcome in minority patients.

P25

The Association Between Rural and Urban Location on Cancer Attitudes and Beliefs: A Cross-Sectional Study of the Health Information National Trends Survey

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Keywords: rural-urban, cancer perceptions, cancer disparities

Introduction and Objective. Residential location is an important factor in cancer prognosis, with rural populations suffering from increased mortality rates in comparison to urban counterparts (182 versus 162 per 100,000, respectively). Cancer screening rates also differ between rural and urban populations (77.4% vs 82.0% met screening recommendations). Cancer worry has shown to be a motivator for completing screening, which in turn reduces cancer mortality. There is insufficient data examining the differences in cancer perceptions between these communities. Therefore, we aimed to determine whether residential location, urban versus rural, is associated with cancer worry in US adults.

Methods. A cross-sectional study was conducted using the 2019 HINTS 5 Cycle 3 database, consisting of 5,438 responses from randomly surveyed American adults. Our sample excluded participants ever diagnosed with cancer and those with missing information on the key variables (n=1,050). The main exposure variable of geographic location was categorized as rural or urban. The main outcome variable was cancer worry. Covariates included age, race/ethnicity, gender, household income, family history of cancer, and depression/anxiety symptoms (PHQ-4 scoring). Unadjusted and adjusted logistic regression were performed to calculate odds ratios (OR) and 95% confidence intervals (CI).

Results. The adjusted logistic regression did not demonstrate any association regarding cancer worry in rural or urban populations (aOR 0.92; 95% CI 0.55–1.53). However, those with a household income of less than $20,000/year had a higher likelihood of cancer worry when compared with those making over $75,000/year (aOR 0.41; CI 0.26–0.65). Individuals with mild and moderate depression/anxiety symptoms were more likely to worry about cancer compared with those without symptoms (aOR 1.73; CI 1.10–2.70 and aOR 2.99; CI 1.68–5.31, respectively). Finally, women had a higher likelihood of cancer worry when compared with men (aOR 1.37; CI 1.01–1.85).

Conclusions-Implications. Our study found no associations between cancer worry and residential location. Physicians may identify patients who are less likely to worry about cancer. This may lead to guided conversations to encourage the completion of screening. Further studies should aim to characterize other aspects of cancer attitudes, such as the Health Belief Model and sociocultural factors.

P26

The Association between Socioeconomic Factors and Influenza Vaccination Uptake in Pregnant Women

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Keywords: influenza, vaccination, pregnancy

Introduction and Objective. Influenza vaccination is recommended during pregnancy, yet vaccinations rates are still suboptimal. Only 54% of pregnant women received the influenza vaccine in 2019. The aim of our study is to assess if maternal education and household income is associated with influenza vaccination in pregnant women in the United States.

Methods. We analyzed data from the PRAMS years 2016-2019. Participants from most states were included (exceptions were Hawaii and Alaska) (n= 2,977). Independent variables included self-reported maternal education level (>high school, high school, some college education, ≥college), and annual household income ($0-20,000, $20,001-40,000, $40,001-60,000, $60,001-85,000, and >$85,000). The
dependent variable was receipt of influenza vaccination, based on maternal self-report of having been vaccinated for influenza during or in the three months prior to pregnancy. STATA v15 software was utilized to perform logistic regression analysis accounting for the complex survey design. Effect modification was tested, and results were stratified by household income groups accordingly.

**Results.** Sixty-one percent of women received influenza vaccination. Education was not associated with vaccination uptake in women with yearly income ≤ $20,000. In all other groups with income above $20,000, compared to women with ≥ college degree, pregnant women with lower education were consistently less likely to receive the influenza vaccination. For instance, in the income group >$85,000, compared to women with ≥ college degree, those with some college, high school, or > high school were respectively 54%, 47% and 66% less likely to be vaccinated against influenza during pregnancy (OR: 0.46, 95% CI: 0.39-0.54, OR: 0.53, 95% CI: 0.37-0.74), and OR: 0.34, 95% CI: 0.15-0.73, respectively).

**Conclusions-Implications.** Lower odds of vaccination were found as education level decreases during pregnancy only in women with annual household incomes above 20,000 dollars. Primary care and OB/GYN physicians could better advocate and intervene for improving vaccination rates during pregnancy by understanding that education might not be equally effective in all socio-economic groups. Yet, further confirmatory studies are needed.

**P27**

The Effect of Race and Ethnicity on Extirpative Procedures on Ectopic Pregnancy Patients

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**Keywords:** invasive, uterine tubes, oviducts, extrauterine pregnancy, tubal pregnancy

**Introduction and Objective.** Ectopic pregnancy is a rare complication of pregnancy that requires emergency treatment. The most definitive treatment is surgical removal of the fallopian tubes, with or without oophorectomy. However, salpingostomy, a type of conservative treatment, has shown to be a comparable treatment option to extirpative surgery. Some studies have determined which patient factors have an association with conservative versus extirpative surgical management. Our study’s goal is to investigate whether race and ethnicity influence surgical treatment.

**Methods.** We used the NSQIP database with records taken from 2014-2016. This database extracts data from randomly selected patients starting peroperatively to 30-day postoperative. The independent variable in our study was race/ethnicity of the patient, including White non-Hispanic (NH), Black NH, Asian NH and Hispanic. The dependent variable was type of surgery, extirpative if tubes and/or ovaries are removed and conservative if they are preserved. Our data analysis included 1) a descriptive analysis of sample baseline characteristics, 2) a bivariate analysis to assess the crude association between race and other characteristics and the outcome, and 3) a binary logistic regression to determine the association between the exposure and the outcome while controlling for potential confounders.

**Results.** Our sample included 3,174 patients undergoing surgical intervention for ectopic pregnancy. After controlling for potential confounders, both Black NH and Hispanic patients had increased odds of extirpative surgery, as compared to White NH women (Black NH race: aOR 1.50, CI 95% 1.05 - 2.14; Hispanic: aOR 1.45, CI 95% 1.00 - 2.09). Other factors significantly associated with the type of surgery included elective surgery, outpatient status, ASA classification II and III-V, and steroid use. Age, BMI, diabetes, smoking status, operation year, transfusion, sepsis, hematocrit, and emergency case status were not found to be associated with the type of surgery.
Conclusions-Implications. Our study found that the odds of having an extirpative treatment in women with ectopic pregnancy is significantly increased among Blacks and Hispanics compared to Whites and Asians. Additional studies are needed to address the insufficient information on races and ethnicities not often studied. Practical implications are to make surgeons aware of the implicit bias when managing ectopic pregnancy surgically.

P28

Assessment of the Potential Interaction Between Antepartum Depression and Physical Abuse on The Occurrence of Postpartum Depressive Symptoms in US Women

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Keywords: intimate partner violence, postpartum depression, antepartum depression history, physical abuse

Introduction and Objective. Depression is the most common psychiatric condition affecting pregnant and postpartum women. Both intimate partner violence and history of depression have been independently associated with the development of postpartum depression. Our aim is to assess whether physical abuse and antepartum depression interact to increase the risk for postpartum depressive symptoms.

Methods. We conducted a secondary analysis of data from the PRAMS collected between 2016-2018. Postpartum depressive symptoms were defined as either feeling down, depressed, or hopeless or having little interest in previously enjoyed activities since childbirth. Multivariable logistic regression analyses were used to compare the odds of postpartum depressive symptom occurrence in crude and adjusted models. Stata v 15 was used to account for the complex survey design. Statistical significance was set at p<0.05.

Results. We analyzed data from 101,143 women. History of physical abuse was observed in 4.0% and PPDS in 18.9% of respondents. After adjusting for age, family income, insurance, and pregnancy intention, physical abuse increased 1.85 times the odds of PPDS (aOR 1.85 95% CI 1.62-2.11) and history of depression increased odds of PPDS by 3.53 times (aOR 3.53 95% CI 3.29-3.78, p<0.001). No effect modification by depression history was observed (OR=0.99, 95% CI 0.76-1.30, p=0.977).

Conclusions-Implications. History of depression and physical abuse were independent risk factors for development of PPDS in women, suggesting the need for increased screening for those factors during pregnancy and close follow up for PPDS in women who reported physical abuse or depression.

P29

Association between Race/Ethnicity on Influenza Vaccination Status of Pregnant Women in the United States from 2016-2018

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Keywords: PRAMS, maternal influenza, racial/ethnic diversity, vaccination
Introduction and Objective. Influenza complications and morbidity are higher among pregnant women. Maternal vaccination against influenza is safe and effective. Still, vaccination rates in this population are suboptimal. Racial disparities in influenza vaccination exist in the general population, but are less explored in pregnant women. The objective of this study is to assess if there is an association between race/ethnicity and influenza vaccination among pregnant women in the US and assess whether this association is modified by age.

Methods. Cross-sectional study using data from the Pregnancy Risk Assessment Monitoring System (PRAMS) from 2016-2018 (n=70,078). Characteristics of the study population were described, followed by bivariate analysis of characteristics by outcome and exposure. Multivariate logistic regression was conducted controlling for maternal age, maternal education, marital status, pregnancy intention, prenatal care utilization patterns, insurance status, household income, and health-care provider vaccine recommendation. Effect modification assessed through interaction terms (age categories x race). Stata V14 was used in all analyses accounting for the complex survey design.

Results. Our population was 49% Non-Hispanic (NH) White, 18% NH-Black, 8% NH-Asian, 17% Hispanic, and 8% NH-Other pregnant women. 60% of our study sample received the influenza vaccine. The relative percentage of influenza vaccination receipt among racial/ethnic groups ranged from the highest being 69% NH-Asian to 58% being NH-Other. Results suggest effect modification by age thus, results of the stratified analysis showed that in both age groups (20-34 and 35 and older), NH-Black have a decreased odds of being vaccinated compared to Non-Hispanic White (OR=0.80, 95% CI 0.77-0.93 and OR=0.62, 95% CI 0.49-0.78, respectively). Hispanic and NH-Asian had an increased odds of being vaccinated compared to NH Whites in both age groups (OR=1.60, 95% CI 1.4-1.7 for Hispanics and OR=1.50, 95% CI 1.3-1.8 for NH Asians between ages 18-34, and OR=1.40, 95% CI 1.1-1.7 for Hispanics and OR=1.495% CI 1.1-1.8 for Asians between ≥35 year).

Conclusions-Implications. Vaccination rates in pregnant women remain suboptimal. Racial/ethnic disparities in influenza vaccination are especially worrisome for Non-Hispanic Black women 18 years or older. These results should increase awareness and potentially guide future studies focused on reducing racial disparities worldwide.

P30

Association Between the Adequacy of Prenatal Care and the Incidence of Primary C-Section Deliveries

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Keywords: prenatal/antenatal care, cesarean section, pregnancy

Introduction and Objective. The dramatic increase in cesarean (c-section) delivery rates over the past 25 years has raised concern for potential overuse. Appropriate prenatal care may help address overuse. The purpose of this study was to assess for an association between the adequacy of prenatal care and the incidence of primary c-section delivery in low-risk pregnancies.

Methods. A non-concurrent cohort study was assembled using the Centers for Disease Control and Prevention’s 2017 Natality Public Use File. Incidence of primary c-section delivery was assessed in singleton term pregnancies delivered in hospitals. Adequacy of prenatal care was determined by the Kotelchuck Index. Control variables include demographics, socioeconomic factors, pre-pregnancy and pregnancy health and comorbidities, as well as profession of the attending provider. Crude and adjusted
odds ratios and their respective 95% confidence intervals were computed (multiple logistic regression) as measures of association.

**Results.** A total of 2,683,547 women were included. Most participants were 20-34 years old, non-Hispanic white, normal BMI, with no preexisting chronic disease. Intermediate care had the lowest odds of primary c-section (OR 0.89, 95% CI 0.88-0.91). Adequate plus care had the highest odds (OR 1.16, 95% CI 1.15-1.17). Independent risk factors for primary c-section included age 35+ (OR 1.3, 95% CI 1.29-1.31), non-Hispanic black race (OR 1.31, 95% CI 1.3-1.32), and overweight BMI (OR 1.34, 95% CI 1.33-1.35).

**Conclusions-Implications.** Sufficient but not excessive utilization of prenatal care, as seen in intermediate care, may allow for proper care and education, resulting in fewer interventions at birth. Thus, decreasing the recommended number of prenatal visits may help reduce c-section overuse.

**P31**

**Racial Disparities Determining Survival Rates in Individuals with Laryngeal Squamous Cell Carcinoma in the US between 1998 and 2015**

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**Keywords:** neoplasm, larynx, cancer, mortality, race

**Introduction and Objective.** It is estimated that in 2018, there will be approximately 13,150 new cases of Laryngeal Cancer with 3,710 deaths in the US. Data on the survival of minorities with laryngeal squamous cell carcinoma (LSCC) since 2012 is scant. Since then, there has been a shift in incidence and treatment modalities, which may have improved or worsened survival disparities among races. This study investigated if being Black or Asian/Pacific Islander (API) with LSCC was associated with a lower overall survival as compared to Whites in the US between 1998-2015.

**Methods.** Retrospective cohort study analyzing secondary data from the Surveillance, Epidemiology, and End Results (SEER) database collected data from 1998-2015. Inclusion criteria were adults 18 years and older (identified as Black, White, or API) who were diagnosed with LSCC between 1998-2015. The main outcome variable was 5-year survival, while the main independent variable was race. Covariates included in the model were age, sex, year of diagnosis, marital status, primary site of tumor, tumor grade, stage at diagnosis, surgery, and insurance status. Kaplan-Meier curves and log-rank test were assessed. Unadjusted and adjusted Cox proportional hazard model were used to calculate Hazard ratios (HR) and 95% confidence intervals (CI).

**Results.** When compared with Whites in the unadjusted model, both Blacks and API had a statistically significant hazard of death (HR 1.55; 95% CI 1.42-1.69 and HR 1.18; 95% CI 1.02-1.38, respectively). After adjusting for potential confounders, Blacks HR decreased but remained statistically significant (HR 1.16; 95% CI 1.05-1.29). However, API patients did not have a statistically significant difference (HR 1.14; 95 CI 0.96-1.37) in survival compared with White. In patients that were uninsured compared with insured patients, the Hazard of death within 5-years was 1.59 (95% CI 1.23-2.05).

**Conclusions-Implications.** The lower 5-year survival seen in Blacks with LSCC is a vital topic in the clinical community that can further help to understand and isolate the specific factor causing it. Therefore, studies that have more complete information on insurance status and other social determinants of health should be conducted to continue to investigate the causality of the difference in survival.

**P32**
Diurnal Range and Intra-patient Variability of ACTH is Restored after Successful treatment of Cushing’s Disease

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Keywords: endocrinology, Cushing’s disease, diurnal variation, ACTH, variability

Introduction and Objective. In patients with Cushing’s Disease (CD), intra-patient variability of hormones levels creates significant clinical challenges. The variation of urinary and salivary cortisol has been well described, however, intra-patient variation of adrenocorticotropic hormone (ACTH) in CD remains unknown. As such, a single static ACTH value after surgery has not been shown to have utility in predicting remission. Considering the pathophysiology of illness, CD treatment should presumably modify ACTH levels prior to affecting cortisol. We hypothesized that the ACTH coefficient of variation (CV) at each diurnal time-point can help predict remission from CD following trans-sphenoidal surgery (TSS).

Methods. We conducted a retrospective review of patients with histologically confirmed diagnosis of CD between 2005 - 2019. Patients with ≥1 pre-operative and post-operative plasma ACTH, drawn between 0400 – 0800h (AM ACTH) and 2200 – 0200h (PM ACTH) were included (n=253). ACTH variability (VarACTH) was defined as the CV of ACTH from the mean. Patients were identified to be in remission if a nadir AM serum cortisol was <5 g/dL within ten days after TSS. ACTH measurements were grouped into morning (AM) and midnight (PM) values to account for diurnal variation (DV). The ability of ACTH variables to predict non-remission was evaluated by univariable and multivariable logistic regression.

Results. Of 253 included patients, 223 achieved remission following first-time or repeat TSS. Patients in remission showed greater AM and PM VarACTH compared to non-remission patients (AM: 36.31 vs 24.38, p=0.02; PM 44.24 vs 17.02, p<0.001). DV was also noted to be greater in patients who achieved remission (87.77 vs 28.33; p≤0.0001). Additionally, we found that absolute plasma ACTH and the ratio of pre-operative to post-operative ACTH on the morning of POD1 correlated with identifying remission after multivariable logistic regression (adj. p<0.001)

Conclusions-Implications. Patients with CD have a compressed intra-patient VarACTH that is restored following remission from the disease. Additionally, we found that in remission patients, the DV of ACTH increased while the mean overall plasma ACTH decreased. The restoration of ACTH variation following treatment can serve as an early indicator of remission.

P33

Understanding differences in echocardiographic characteristics between stroke patients of Haitian and non-Haitian descent

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Keywords: stroke, Haitian, Left ventricular size, extracranial, echocardiogram
**Introduction and Objective.** Miami-Dade is home to the largest diaspora of Haitians living outside of Haiti. Stroke is a leading cause of death in this population. Previous studies found differences in the etiology of stroke between Haitians and non-Haitians, with Haitian etiology likely rooted in intracranial vessels and non-Haitian etiology in extracranial vessels. The aim of this study was to determine if Haitian and non-Haitian patients with stroke differ in five echocardiographic parameters: left atrial size, left ventricular hypertrophy, ejection fraction, right ventricular size, and left ventricular size.

**Methods.** We conducted a comparative case series using secondary data from “Get with the Guidelines” stroke database, containing adult patients treated for stroke at Baptist Hospital of Miami, Florida, between January 2008 and August 2014. A previous study identified Haitian patients and non-Haitian matched controls for sex and stroke type in a 1:2 ratio. For our study, we included only those patients with echocardiograms. The exposure was Haitian ethnicity, and the outcomes were five echocardiographic parameters. Our data analysis included baseline characteristics and binary logistic regression to control for potential confounders. Associations were analyzed estimating odds ratios and 95% confidence intervals.

**Results.** Our sample included 52 Haitian and 111 non-Haitian patients. The Haitian group was mostly Black or African American (86.3%), while the non-Haitian group was predominately White (86.4%). The percentage of patients with Medicaid and with no insurance was significantly higher among Haitians, while the opposite was observed for Medicare. The crude odds of left atrial enlargement decreased by 68% among Haitians compared to Non-Haitians (OR 0.32 95% CI 0.14 to 0.75, p=0.009). After adjusting for age, Medicaid status, and atrial fibrillation/flutter, the difference remained significant (aOR 0.32, 95% CI 0.13 to 0.79, p=0.013). No statistical differences were found in any other echocardiographic parameter, but the precision of the findings does not rule potential clinically significant differences.

**Conclusions-Implications.** Our study found that non-Haitians had higher odds of having left atrial enlargement when compared to Haitians. Further investigation with larger samples is needed to better understand the etiology of stroke and develop effective preventative interventions for the Haitian population.

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**P34**

**The Association Between Parental Nativity and Flourishing of Children Aged 6 -17 years**

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**Keywords:** nativity, US native, child flourishing, immigration, mental health

**Introduction and Objective.** Child flourishing is a relatively novel construct that has been shown to be directly related to future mental health. Experience of migration and resettlement in a new country is a stressful event also shown to be associated with later mental health risks. Yet, studies assessing whether nativity of the parents might affect their child’s flourishing status are scarce. Objective: To assess whether there is an association between parental nativity and flourishing in US children.

**Methods.** We used data from participants of the National Survey of Children’s Health. Children of 6-17 years of age, without developmental disabilities were studied. The outcome was child flourishing, considered present if parents answered “definitely true” for these 3 items: 1) the child shows interest and curiosity in learning new things; 2) the child works to finish tasks he or she starts; and 3) the child stays calm and in control when faced with a challenge. Parent answers other than “definitely true” on
any of these 3 items were considered as not flourishing. The independent variable of interest was parental nativity dichotomized as either having both parents born in the US or one or more parents born outside of the US. Independent associations were estimated using multivariate logistic regression models.

**Results.** We studied 26,727 children. About 18% of children had one or both parents born outside the US. About 48% of children were considered flourishing. Children whose one or more parents were born outside the US had higher odds of flourishing than children whose both parents were US natives (OR=1.23, 95% CI= 1.02-1.46, after adjusting for age, sex, race/ethnicity, income, parental level of education, primary caretaker’s mental health and children’s health rating).

**Conclusions-Implications.** We found evidence for differences in children’s flourishing according to parental nativity status. Non-native US born parents perceived their child as flourishing more often. Further research is needed to confirm these findings and possibly, to assess the potential mechanisms for these differences.

**P35**

**Association between Race and Mortality due to Nasopharyngeal Cancer in the United States From 2007 to 2016**

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**Keywords:** nasopharyngeal cancer, Asian Pacific Islanders, insurance status, effect modifier, survival

**Introduction and Objective.** Asian-Pacific Islanders (API) exhibit high incidence of nasopharyngeal cancer (NPC). However, they are often excluded when the disease is studied. Risk-factors and incidence are well-researched while cancer-specific mortality trends remain unclear. We aimed to determine whether insurance status modifies the association between race and cancer-specific mortality in NPC patients.

**Methods.** This retrospective cohort study used secondary data analysis from the Surveillance, Epidemiology, and End Results Program (SEER) database. Patients ≥18 years with histologically confirmed primary nasopharyngeal cancer from 2007 - 2016 were included. The main outcome assessed was 5-year survival and the main exposure variable was race (API, white, black). Insurance status was classified into uninsured, any Medicaid, and insured (with any insurance). Potential confounders included age, sex, marital status, stage at diagnosis, and surgical treatment. Adjusted Cox regression analysis was used to calculate hazard ratios (HR) and corresponding 95% confidence intervals (CI).

**Results.** 1610 patients were included (72.98% male, 27.02% female). The majority were API (49.8%), followed by Whites (40.5%), and Blacks (9.8%). Maximum follow-up was 5-years. The adjusted hazard of 5-year cancer-specific death for API and Blacks compared with Whites were 0.77 (95% CI 0.62 – 0.96) and 0.92 (95% CI 0.65 – 1.31), respectively. Cases decreased with age in API and Blacks. 8.2% of cases had localized disease, 45.3% had local spread, and 44.6% had distant metastasis. Insurance status did not modify the association between race and mortality.

**Conclusions-Implications.** Race is an important prognostic factor to account for in NPC patients. Investigating risk-factors and subtypes stratified by race may explain our findings.
Abstracts Received but Not Presented

R1

Pre- and Post-Immigration Correlates of Alcohol Misuse Among Young Adult Recent Latino Immigrants: An Eco-Developmental Approach

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Keywords: Latino, alcohol, misuse, substance use problems, immigrants

Introduction and Objective. Latinos in the United States (US) experience numerous alcohol related health disparities. The rate of alcohol use among Latino immigrants increases as their time in the US increases, with heavy drinking persisting into adulthood. Examining risk factors of alcohol misuse among this population is a pressing public health concern as Latinos account for 59 million individuals of the US population. While the bulk of investigations have focused on post-immigration experiences, little is known about how pre-immigration factors impact post-immigration alcohol use in this population. The present study is a secondary data analysis from the Recent Latino Immigrant Study (RLIS), the first community-based cohort study to examine the pre- to post-immigration alcohol use trajectories of young adult Latino immigrants during their initial years in the United States.

Methods. Exploratory analysis and logistic regression were conducted to assess associations between pre-immigration family history of substance use problems (FHSUP) and post-immigration alcohol misuse. Using an ecodevelopmental framework, we examine potential social and environmental determinants across multiple levels of influence associated with post-immigration alcohol misuse in this population. The study sample consisted of 474 young adult Latino immigrants between the ages of 18-34. The sample comprises the following national/regional origins: Cuban (43%), South American (28.7%), and Central American (28.3%).

Results. Results revealed various social and environmental factors associated with pre-immigration FHSUP+ and post-immigration alcohol misuse. Approximately half of the sample (49.6%) reported FHSUP+. Participants who reported FHSUP+ and who engaged in alcohol misuse prior to immigrating to the US were more likely to engage in post-immigration alcohol misuse.

Conclusions-Implications. Study findings can inform culturally tailored prevention interventions aimed at mitigating problem drinking behaviors among young adult recent Latino immigrants. Screening for social factors, FHSUP and alcohol misuse routinely in general practice and emergency care can help identify recent Latino immigrants who would benefit from early interventions.

R2

Differences in Infant Mortality between Black non-Hispanic, Hispanic and White non-Hispanic U.S. Pregnant Women with Diabetes Mellitus

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Keywords: race, infant mortality, diabetes mellitus, disparities

Introduction and Objective. Infant mortality rates are two times higher in infants born to Black non-Hispanic mothers compared to white non-Hispanics. In addition, diabetes mellitus (DM) in pregnant women is associated with poor neonatal outcomes and infant mortality. This study explores if amongst pregnant women ages 18-35 with DM, do Hispanic and Black non-Hispanic have higher infant mortality when compared to White non-Hispanic.

Methods. A historical cohort was assembled using the US 2013 Birth Cohort Linked Birth-Infant Death Data Files. Mothers ages 18-34 with either pre-pregnancy DM types 1 or 2 or gestational diabetes were included. Bivariate analyses using a chi-square test to determine the association between the exposure and outcome, and to identify confounders were done. A multivariable logistic regression model was fitted to estimate adjusted odds ratios and 95% confidence intervals.

Results. As compared to infants born to White non-Hispanic mothers with DM, the odds of infant mortality in the adjusted model were 71% (aOR=1.7, 95% CI 1.33-2.20) higher in infants born to Black non-Hispanic mothers while no statistically significant difference was observed in the Hispanic group. Black non-Hispanic mothers had a 2 times higher frequency of infants born at less than optimal age at delivery and below normal birth weights.

Conclusions-Implications. Black non-Hispanic pregnant diabetic mothers between ages 18-34 had the greatest odds of infant mortality when compared to white non-Hispanics. More research is needed to identify if factors such as variation in the biological differences and/or social determinants of health are mediators of this adverse outcome.

R3

Cas 9/gRNA Bound Magneto-Electric Nanoparticles (MENP) Targeting NeuroHIV

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Keywords: magneto-electric nanoparticle (MENP), Cas9/gRNA, neuroHIV, nanotherapy

Introduction and Objective. Evaluation of LTR expression after successful delivery of Cas9/gRNA to HIV infected microglia cells. In addition, assays will be completed to guarantee quality control and adherence to the appropriate protocol.

Methods. MENP will be formulated using the established hydrothermal method. Cas9/gRNA nanoformulation is bound via incubation and agitation. Cell lines are culture per manufacturer’s protocol, and BBB in-vitro model is constructed as a bilayer and then quality controlled. HIV-transfection is assessed with p24 ELISA and cell viability assay. LTR expression and subsequent efficacy of our nanoformulation is determined by ethidium bromide agarose gel and Sanger sequencing.

Results. Cas9/gRNA shows absorbance at 260 nm with constant release over time at constant frequency. LTR was measured in vitro for HIV, HIV + Cas9/gRNA, and HIV + nanoformulation. HIV alone demonstrated 70-fold change and reduction to 50 and 15 respectively for HIV+Cas9/gRNA and HIV + nanoformulation.

Conclusions-Implications. Nanoformulation for localization and controlled delivery of gRNA is a reasonable alternative to current pharmaceutics for the treatment of neuroHIV. The electromagnetic field enables precise localization and delivery across the blood brain barrier. This formulation treats and immunizes microglia against HIV that is promising. More research is needed with in-vivo studies.
Investigating the Association between Positive Pre-existing Notions of Breastfeeding and Their Impact on Successful Breastfeeding Initiation and Maintenance in Pregnant Women

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Keywords: breastfeeding, preconceived, outcomes, initiation, maintenance

Introduction and Objective. Initiation and maintenance of breastfeeding throughout the first six months postpartum continues to be a recommendation encouraged to mothers of newborns for its positive benefits. The objective of our study is to investigate the association between positive pre-existing breastfeeding beliefs and initiation of breastfeeding and maintenance of breastfeeding.

Methods. We used the Infant Feeding Practice Study II (IFPS II) questionnaires administered by the CDC and FDA for our secondary analysis and included singleton pregnant women, eighteen years or older, who responded to the questions deemed as the exposure and outcome. The independent (exposure) variable was defined by questions gauging pre-existing beliefs about breastfeeding and the dependent (outcome) variable was defined by questions selected from the neonatal, 3- and 6-months questionnaires that probe the women’s’ breastfeeding practices. Our study used a multiple logistic regression model for the adjusted odds ratio and confidence interval.

Results. Our sample included 1,163 women aged at least eighteen. Unadjusted logistic regression indicated that women with ‘high positive beliefs’ were 25.9 times more likely (95% CI 6.9 - 97.7, p < 0.001) to initiate breastfeeding. Adjusted analysis found a decrease in the association showing women with ‘high positive beliefs’ being only 2.5 times more likely (95% CI 1.3 - 4.8, p 0.010) to breastfeed. Unadjusted analysis of our secondary outcome indicated that women with ‘high positive beliefs’ were 6.7 times more likely (95% CI 4.1 - 11.0, p < 0.001) to maintain breastfeeding for at least 6 months or more. When adjusted, the association decreased, showing that women with high positive beliefs were 2.5 times more likely (95% CI 1.3 - 4.8, p 0.007) to maintain breastfeeding for at least 6 months.

Conclusions-Implications. Our study found that women with high positive pre-existing beliefs had an increased odds of breastfeeding initiation and maintenance compared to those with low beliefs. Further research should be conducted to assess for residual confounders. Additionally, a more comprehensive way to assess pre-existing breastfeeding beliefs should be created in an effort to better determine this factor among women.

Investigating the Association Between Asthma and Anxiety in Children

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Keywords: asthma, anxiety, children, adolescents, sex differences

Introduction and Objective. There is a scarcity of information regarding the association between asthma and anxiety. We aim to estimate the direction and magnitude of the association between these two variables and to assess whether this association is modified by the sex of the subjects.
Methods. Secondary data analysis of the National Survey of Children’s Health was used with an eligible population of children between 6 and 17 years old. The exposure variable is the presence or absence of asthma (variable K2Q40A) and the outcome of interest is the presence or absence of anxiety (variable K2Q33A). Control variables include race, income, health insurance status, other chronic health conditions, and household conditions. We used a multiple logistic regression model to adjust for confounders.

Results. Our sample included 35,084 children with an overall prevalence of asthma of 9.7%, and anxiety of 10.3%. The unadjusted odds ratio indicated that children who had asthma were 2.38 times more likely (95% CI: 1.92-2.96) to have anxiety. The adjusted analysis found an association between asthma and anxiety (1.74, 95% CI: 1.29-2.35).

Conclusions-Implications. We found that the prevalence of anxiety is higher in children with asthma and that this association is not modified by sex. Further research should explore the associations of other comorbidities with the development of anxiety.

R6

The Association between Electronic Cigarette Use During Pregnancy and Unfavorable Birth Outcomes

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Keywords: e-cigs, electronic cigarettes, pregnancy, preterm birth, low birth weight

Introduction and Objective. While electronic cigarettes (e-cigarettes) continue to gain popularity, literature focusing on the safety and risks of e-cigarette use is somewhat scarce, especially about the use of e-cigarettes and their potential effects in fetal development. Our objective was to investigate the association between the use of e-cigarettes during pregnancy and unfavorable birth outcomes.

Methods. We conducted a retrospective cohort using secondary data analysis extracted from the Pregnancy Risk Assessment Monitoring System (PRAMS) 2016-2017 Phase 8 survey. This database contains both state-specific as well as population-based information on maternal attitudes and experiences before, during and shortly after pregnancy. Women participating in the study are initially found through each state’s birth certificate file. Eligible women include those who have had a recent live birth. Data collection procedures and instruments are standardized to allow comparisons between states. The independent variable was self-reported use of any e-cigarette products during pregnancy. The dependent variable was dichotomized into the presence of at least one unfavorable birth outcome (preterm birth, low birth weight, extended postnatal hospital stay for the newborn) or the absence of all. Binary logistic regression analysis was used to calculate adjusted odds ratios (aOR) and corresponding 95% confidence intervals (CI).

Results. 71,940 women were included in our study. After adjusting for age, race, ethnicity, insurance, maternal education, prenatal care, abuse during pregnancy and complications during pregnancy, the odds of unfavorable birth outcomes increases by 62% among women who reported e-cigarette use during pregnancy versus women who did not (aOR 1.62, 95%Ci 1.16-2.26, p-value 0.005).

Conclusions-Implications. Moving forward, it is imperative for consumers to understand the implications of utilizing e-cigarettes, such as the significant increased risk of unfavorable birth outcomes associated with use during pregnancy. Moreover, healthcare providers, particularly obstetricians, are expected to relay this novel information to at risk patients in both a clear and concise way. Overall, researchers must continue to study the long-term effects of e-cigarettes, including those on fetal development, as there is still much to be uncovered.
**R7**

**Exploring Changes in Volume of Services Provided by Planned Parenthood Federation of America: An Analysis over Time**

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**Keywords:** Planned Parenthood, policy, government funding, abortion,

**Introduction and Objective.** Planned Parenthood Federation of America (PPFA) is a nationwide organization that advocates for a plethora of services including STI testing and treatment, cancer screenings, contraception, and abortion. Due to its provision of abortions, PPFA’s government-based funding fluctuates significantly based on the political climate. These funding changes may impact PPFA’s offering of key health services. The objective of this study is to assess how the allocation of government funds relates to changes in volume of services and proportion of each service offered by PPFA from 2000-2018.

**Methods.** An ecological study was completed using data from PPFA Annual Reports from 2000-2018. Fiscal year and proportion of government funding of total were used to assess changes in the number and proportion of each service (contraception, STI, abortion, and cancer services) of total provided by PPFA utilizing a correlational study

**Results.** All of the services measured had an increase in total number provided from 2000-2018; STI services had the largest increase and abortion the smallest. Abortion represented less than 4% of all services provided throughout fiscal years. The proportion of government funding of total was positively associated with STI service proportion, negatively associated with cancer services and contraception proportions, and not associated with abortion proportion.

**Conclusions-Implications.** Results suggest a relationship between the proportion of government funding allocated to PPFA and the distribution of services, with the exception of abortion. Better understanding of government funding impact on PPFA services could guide evidence-based recommendations of PPFA funding needs and lessen political influence on provision of these services.

**R8**

**Sleep Duration as a Predictor of Missed School due to Illness or Injury in School-Aged Children**

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**Keywords:** Sleep, children, Missed School, Illness, injury

**Introduction and Objective.** Previous studies have shown an association between lack of sleep and increased risk of injury in children and adolescents, but they have not evaluated their effect on school attendance. This study aims to examine the association between hours of sleep and missed days of school due to illness/injury in a nationally representative sample of children ages 6-17 years.

**Methods.** The data for this cross-sectional secondary analysis were obtained from the National Survey of Children’s Health (NSCH) 2016. Data collection was conducted via mail and web-based questionnaires in all 50 states and DC from June 2016 to January 2017. The households surveyed had at least one child
age 0-17 years. The sampling design included stratification by state and a child presence indicator to target households more likely to have a child. The final sample size of the original survey was 50,212 child-level interviews (approximately 958 per state). The main independent variable was sleep hours [adequate sleep (≥9 hours) vs. inadequate sleep (<9 hours)], while the main outcome was number of school days missed due to illness and injury [normal (<7) vs. increased (≥7)] in children ages 6-17 years. We further assessed confounders related to child, household, parent, and community characteristics using logistic regression.

**Results.** Among 34,728 students included in the final multivariate model, parents progressively reported inadequate sleep as children increased in age. We did not find a significant association between inadequate sleep hours and increased number of missed days of school due to illness or injury (adjusted OR= 1.0, 95% CI: 0.8-1.2). The study revealed that the following survey responses were risk factors for increased missed days of school due to injury/illness: Good or Fair/Poor health, being bullied, having a chronic illness, no sports participation, and living with someone with an alcohol/drug problem. Alternatively, protective factors included a race description of Black or African American and speaking a primary language other than English or Spanish.

**Conclusions-Implications.** The multivariate statistical model presented in this study provides empirical evidence for three important conclusions. First, inadequate sleep was not significantly associated with an increased risk of missed days of school due to illness or injury. Second, missed days of school is significantly associated with race, physical health of the child, and primary language of the household. Third, as previously described in the literature, increasing age is associated with decreased sleep duration in this study. Further study is needed to explore the relationship between sleep quality and missed days of school due to illness/injury.

R9

**The Association Between Early Cigarette Smoking and Current Electronic Cigarette Use in American Adolescents: A Cross-sectional Study**

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**Keywords:** e-cigarettes, vaping, cigarettes, adolescents, high school

**Introduction and Objective.** This study examines previously reported associations between cigarette use and current e-cigarette use in American high school students, with particular attention to the effect of age of first cigarette use on this association, while also examining motivation for use of e-cigarettes in this population. Findings of our study can aid development of interventions to address the increasing prevalence of e-cigarette use in American adolescents.

**Methods.** A secondary data analysis of a cross-sectional survey of 6,881 American high school students 16 to 18 years old using the 2018 National Youth Tobacco Survey. Rate of current e-cigarette use was analyzed with respect to age of first cigarette use, establishing exposure groups of no previous cigarette use, early first cigarette use (≤15 years) and late first cigarette use (≥16 years), as well as age, sex, race, ethnicity and school grade. Unadjusted and adjusted logistic regression analysis were used to calculate odds ratios (OR) and 95% confidence intervals (CI).

**Results.** When compared with never smokers, both early (OR 6.65; 95% CI 5.45-8.11) and late first cigarette use (OR 7.36; 95% CI 5.83-9.30) were associated with current e-cigarette use. Those who had early first use of cigarettes more frequently reported using e-cigarettes as alternatives to other tobacco products.
Conclusions-Implications. Our results provide scientific evidence for targeted educational interventions focused on risks of all tobacco products, and particularly e-cigarettes, as well as further age-based restrictions on e-cigarettes and flavored cartridges. Further research should focus on causal factors and progression of use of cigarettes and e-cigarettes.

Implementation of Team Based Care in a South Florida Family Medicine Clinic

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Keywords: team, based, care, quality, improvement

Introduction and Objective. The United States continues to face primary care physician shortages with predictions of drastically increasing shortages from 2017-2030, with this ongoing issue there are increasing demands of primary care providers measured by: increased patient volume, electronic medical record documentation, and medication management all which take time away from quality care provided to the patient. The necessity for team-based care implementation is rising and is thought to increase productivity, teamwork, and the quality of patient care provided. Team Based Care can have many interpretations, the framework followed in this study are based on the nine-elements of TBC2.

Methods. Creation of TBC at a primary care family medicine residency clinic, part of Baptist Health Medical group a multi-specialty organization associated with the Baptist health south Florida health system, was chosen as the pilot clinic with hopes to expand this framework at an institutional level. The following TBC elements were created: Pre-visit planning, huddles, multidisciplinary Huddles, expanding the role of the Medical Assistant (MA), use of standard operating procedures (SOP’s), utilizing the medical students as additional scribes.

Results. Measuring improvement via the team-based care model will rely on a multifaceted approach aimed at measuring various competencies. These competencies fall under the categories of productivity (encounters per month, RVU, chart lag analysis), quality metrics (preventative care screenings, chronic disease management measures), and access (measured by third available appointment) The efficacies of these competencies will be recorded and then analyzed against data from current metrics. When compared with each other, information on the advantages of these interventions will be drawn out to further carry out their implementation.

Conclusions-Implications. Team based care is a collaborative approach model aimed at tackling modern issues such as those surrounding increased patient volume, EMR documentation, and medication management. By assigning clear roles to individuals in the multidisciplinary care team, team-based care focuses on a streamlined approach towards the management of patient wait times, patient satisfaction, access to care, and improved quality metrics. Some examples of these metrics positively affected by the TBC model include improved BP control, LDL control, and adherence to antiplatelet medications. In the end, patients end up receiving care from specific teams which they can identify, bridging the gap between large impersonal clinics to small units that patients find familiar and often prefer. By creating these teams, the 15-minute physician visit becomes more efficient and expands to include a wider spectrum of care. With the core values of team-based care implemented in a hospital or private practice, the end result revolves around the ultimate goal of increasing productivity and favorable health outcomes for patients.
The Effect of Race on Staging of Breast Cancer Diagnosis in Miami-Dade County

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Keywords: breast cancer, race, ethnicity, health disparity, Miami-Dade County

Introduction and Objective. Current literature shows that white women are more likely to be diagnosed with early stage breast cancer than black and Hispanic women. Miami-Dade County is home to a diverse and underserved population that is underrepresented in scientific literature. The objective of our study is to determine if non-Hispanic white race is associated with an earlier stage at the time of diagnosis of breast cancer than women of other races in female breast cancer patients in Miami-Dade County.

Methods. This is a cross-sectional comparative study conducted through secondary analysis of the Florida Cancer Data System (FCDS). The independent variable was race/ethnicity and the dependent variable was breast cancer stage at time of diagnosis classified as early (in situ and local) and late (regional and distant). In measuring the association, we adjusted for odds ratios (OR) of confounders (age, insurance status, poverty level, and year of diagnosis) and 95% confidence intervals (95% CI) were computed by fitting a multiple logistic regression model.

Results. The sample of this study consists of 21,987 female breast cancer patients in Miami-Dade County who were diagnosed between 2007 and 2017. Late stage at diagnosis frequencies were 26.7% among non-Hispanic whites and 33.3% among other races (p<0.001). Prior to any adjustment for potential confounders, the odds of having an advanced stage at time of breast cancer diagnosis were 37% higher in “other races” as compared to non-Hispanic white participants (OR 1.37 95%CI 1.27-1.47). After adjusting for age, insurance status, poverty level, and year of diagnosis via multiple logistic regression, the point estimate of the association decreased slightly (OR 1.20 95%CI 1.12-1.30) but remained statistically significant.

Conclusions-Implications. Our results show a disparity in getting a timely diagnosis of breast cancer between non-Hispanic whites and all other race/ethnic groups in recent years in Miami-Dade County. Evidence of this disparity remains even after controlling for several potential confounders. Future research is needed to further characterize the prevalence of late staging at the time of diagnosis of breast cancer for those that identify as any other race than non-Hispanic white.

R12

Retrospective Analysis of the Association Between Race and Stage at Diagnosis of Thyroid Cancer Using Multinomial Logistic Regression

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Keywords: health disparity, race, stage, thyroid cancer

Introduction and Objective. Over the last 30 years, the incidence and mortality of thyroid cancer has increased substantially. Thyroid cancer is the most common endocrine cancer and the eighth most common cancer in the world. It has become the fastest growing cancer diagnosis in women. The subtype of papillary carcinoma accounts for nearly 80% of this increase. There were 859,838 reported individuals living with thyroid cancer in America alone, and 255,490 new cases worldwide in 2017.
Thyroid cancer is uniquely more prevalent in Whites, whereas most cancers are more prevalent in Blacks. Likewise, Whites have experienced the largest increase in incidence of thyroid cancer (5.6% per year), followed by Blacks (4.8% per year), American Indian/Alaskan natives (3.2% per year), and Asian/Pacific Islanders (2.3% per year). Thyroid cancer is known to have a low mortality rate due to relatively successful treatment modalities. Thus, early diagnosis of thyroid cancer is critical since the available treatments are so effective. Race is a well-established social determinant of health. Analyzing the stage of thyroid cancer at diagnosis in Whites and Nonwhites may elucidate existing inequalities.

**Methods.** Using data from SEER from 2007-2016, a multinomial logistic regression was performed comparing race (White and Nonwhite) to stage at diagnosis (localized, regional, distant). Adjustment for potential confounders was also performed.

**Results.** A total of 98,893 patients were analyzed. Whites comprised 81.5% of the study’s population and Nonwhites were 18.5%. 22.6% identified as male 22.6% and 77.4% were female. 2.5% were uninsured, 9.8% were covered under Medicaid, and 85.4% had insurance. Nonwhites were 37% (p &lt; 0.001) more likely to be diagnosed at distant stage vs localized stage compared to Whites. After adjusting for sex, age, insurance status, and year of diagnosis, the difference in stage at diagnosis was still significant at 38% (p &lt; 0.001).

**Conclusions-Implications.** Nonwhites are more likely to be diagnosed with thyroid cancer at the distant stage vs localized stage compared to Whites; therefore, delayed diagnosis may contribute to these findings and result in worse outcomes. Clinicians and epidemiologists should design and implement robust targeted solutions, such as screenings, to address this racial disparity in the stage at diagnosis of thyroid cancer in Nonwhites. Further research and interventions should target this apparent inequality.

R13

**The Safe Introduction of Robotic Surgery in a Free-Standing Children’s Hospital**

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**Keywords:** pediatric surgery, robotic surgery, minimally invasive surgery

**Introduction and Objective.** The advantages of robotic surgery as a therapeutic modality are well known and afford a practice of minimally invasive surgery that allows for the precise application of surgical techniques in ever smaller anatomic locations. It is believed by many that robotic surgery has a significant role to play in the future of minimally invasive surgery. The aim of this study is to report the experience of building a pediatric robotic surgery service at a tertiary, free-standing pediatric teaching hospital and expound upon the potential benefits and current logistical difficulties associated.

**Methods.** A database was created to collect perioperative data for all robotic surgery operations performed by the general pediatric surgery team at a 309-bed free standing children’s hospital. This database was retrospectively reviewed to analyze the performance of a designated “master surgeon” and two attending pediatric surgeons who had no previous experience with the da Vinci robot.

**Results.** From October 2015 to December 2019, the three surgeons in the study performed 166 robotic surgeries that had been accurately logged into the database. Of the 166 cases, 51 (30.7%) were male and 115 were female (69.3%). Our patient population for this study had a median weight (IQR) of 62.6 kg (49.9-76.6kg) and a median (IQR) age of 16 years (14-18 years). The 166 procedures consisted of the following self-made categories: 25 (15.1%) foregut surgeries, 6 (3.6%) thoracic surgeries, 92 (55.4%) cholecystectomies, 9 (5.4%) inguinal hernia repairs, 21 (12.7%) intrabdominal mass excisions, 9 (5.4%)
ovarian or paratubal cyst resections, 4 (2.4%) colorectal surgeries. The median (IQR) operative time between all procedures was 97 minutes (75.25-118.75 minutes). In the 166 procedures there were zero complications, no technical failures of the robot and only two operations (1.2%) had to be converted to open procedures. The converted cases consisted of a 12-year-old female undergoing robotic-assisted laparoscopic lysis of adhesion with open re-do fundoplication and hiatal hernia repair. While the second was an 18-year-old female undergoing a robotic-assisted laparoscopic cholecystectomy and intraoperative cholangiogram. All procedures were performed by one of three pediatric surgery attendings. In total, 25 different trainees assisted on 115 (69%) pediatric robotic surgery cases. General surgery residents were able to see between one and three cases while fellows assisted between 16 and 29 cases.

Conclusions-Implications. The data from this study highlights an implementation strategy to successfully integrate a pediatric robotic surgery program into a free-standing children's hospital. This therapeutic modality allows for a highly effective means of enhancing a surgeon’s ability to perform complex minimally invasive surgery without complications and an extremely low conversion rate.

Low Literacy Tool for Community Health Workers: COVID-19 Community Prenatal Visit Checklist

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Keywords: healthy literacy, prenatal care, COVID-19, low-literacy tool, community health workers

Introduction and Objective. Obstetric care in low-income countries is structured around at-home care by community health workers (CHW) including traditional birth attendants (TBAs), nurses, and midwives. CHWs face many barriers to providing care, including health literacy. Literature states that TBAs are often illiterate and have minimal training necessary to reduce maternal and fetal mortality although they play a crucial role in providing prenatal care to women worldwide. The use of standardized clinical training programs benefits and improve prenatal skills of TBAs. Utilizing low-literacy tools, has also increased access to healthcare in remote communities and should continue to be implemented whenever possible. We created an antenatal care (ANC) low literacy pictorial checklist aimed at mitigating risk for CHWs during the COVID-19 Pandemic.

Methods. Through the combined efforts with Saving Mothers, a nonprofit organization dedicated to eradicating preventable maternal deaths and birth-related complications in low-resource settings, we created a pictorial checklist based on their COVID-19 prenatal visit protocol for TBAs in Santiago Atitlan, Guatemala. This protocol was created utilizing information from WHO, CDC, ACOG and Guatemalan national guidelines. The checklist was tailored to the needs and health literacy of the whole community. Canva, a graphic design platform, was utilized to convert a written document into a visual infographic. With the use of culturally sensitive symbols, numbers, and few words, the checklist trained TBAs to provide proper care to pregnant women in their community. The checklist was written in English, Spanish, and the local community's native language of Tzutujil.

Results. The COVID-19 Community Prenatal visit checklist was successfully implemented over zoom and in-person sessions, training eight TBAs skilled in ANC delivery to recognize two main barriers during the pandemic: expectant mothers feeling hesitant to have health providers inside their homes and false information regarding the transmission of COVID-19. The checklist covered four topics to address these two major barriers: proper risk assessment prior to entering the home, thorough understanding of COVID-19 transmission, infection control for both healthcare workers and pregnant women, and proper
use of PPE. During the implementation of the checklist from July 2020-December 2020, the CHWs have provided 389 prenatal home visits and have tested negative for COVID-19 monthly.

**Conclusions-Implications.** The implementation of this low-literacy checklist emphasizes the necessity for educational resources that are culturally appropriate. It is crucial to create low-literacy tools to advance CHWs’ medical knowledge to provide optimal care for underserved patients. Pictorial checklists can serve as a model not only to train TBAs providing prenatal care in Guatemala, but also for multiple disciplinary health care workers worldwide.

**R15**

**Anterior “W” Tongue Reduction for Macroglossia in Beckwith-Wiedemann Syndrome**

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**Keywords:** Beckwith-Wiedemann syndrome, macroglossia, tongue reduction, glossectomy

**Introduction and Objective.** Macroglossia occurs in 80-99% of patients with Beckwith-Wiedemann Syndrome (BWS) and a variety of surgical techniques for tongue reduction are offered by surgeons. The purpose of this study is to evaluate the early postoperative outcomes of the Anterior “W” tongue reduction technique in patients with BWS.

**Methods.** A retrospective review was conducted of all patients diagnosed with BWS that underwent an Anterior “W” tongue reduction for macroglossia in the past 10 years, performed by two surgeons. Patients diagnosed with BWS and macroglossia that underwent Anterior “W” tongue reduction were included. Demographics, procedural characteristics, perioperative outcomes, and complications were assessed. Outcome measures included intraoperative complications, need for prolonged intubation in ICU, postoperative bleeding, blood transfusion, wound dehiscence, bacterial infection, thrush, hematoma, tongue tissue necrosis, tongue paresis or paralysis, and inadequate correction of macroglossia.

**Results.** Nineteen patients met inclusion criteria. The population consisted of 8 male and 11 female patients with an average gestational age of 36 weeks. The mean age at the time of surgery was 405 days, mean length of ICU stay was 1.2 days, and mean total length of stay in the hospital was 2.2 days. The mean length of follow-up for the cohort was 467 days. The mean surgeon operating time was 1.06 hours with a mean estimated blood loss of 6 ml. Postoperative oral competence was observed in 100% of patients. There was no reported history of sleep apnea episodes or airway compromise pre- or postoperatively. Speech delay was seen in 4 patients before surgery and 3 patients after surgery. Feeding issues decreased from 7 patients preoperatively to 2 patients postoperatively. Preoperative prevalence of class III malocclusion (53%) and isolated anterior open bite (26%), which decreased postoperatively to 37% and 16% respectively. The only reported complications were superficial tip wound dehiscence in 3 patients associated with thrush and successfully treated with nystatin anti-fungal therapy without the need for further surgical intervention. None of the patients required revisional surgery.

**Conclusions-Implications.** Patients treated with the anterior “W” tongue reduction technique had low rates of perioperative complications and significant improvements in oral competence. Anterior “W” tongue reduction is safe and effective for the correction of macroglossia in patients with BWS.
**Prolonged Dwell Time with Intrapleural Tissue Plasminogen Activator Effectively Evacuates Complex Pleural Effusions**

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**Keywords:** parapneumonic pleural effusion, empyema, tissue plasminogen activator, fibrinolytics

**Introduction and Objective.** Pleural effusions are common and occur in up to 57% of patients with pneumonia. Often thoracentesis is sufficient but in many patients the effusion is loculated and complex. Intrapleural fibrinolytic therapy can be an effective alternative to surgery. The current standard is tissue plasminogen activator (tPA), 10 mg, and DNAase given every 12 hours for 3 days and allowed to dwell for one hour (MIST-II). MIST-II reported a 6% rate for referral to surgery. This study is a review of our experience with a lower dose of tPA (4 mg) but a longer dwell time (12h) given once daily, and without DNase.

**Methods.** Records were reviewed for all patients treated with tPA for a pleural effusion during calendar year 2020. Demographics, chest tube data and treatment information were collected. Outcome assessments were based on radiographic resolution of the effusion and need for surgery

**Results.** 72 effusions in 69 patients (3 bilateral) were identified. 84% were either infectious (parapneumonic or empyema, n = 41) or malignant (n = 20). 76 drainage catheters were used, including 73 “pigtail” catheters, one 28 Fr chest tube, and four PleurX catheters. 184 doses of tPA (174 of 4 mg, 10 of 2 mg) were given and all but one had a dwell time of 12 hours. 82% (59/72) of effusions were treated with 3 or fewer doses (median 2.5, range 1 – 10 doses/effusion). No patient experienced bleeding sufficient to require urgent transfusion or surgery. Drainage was considered complete for 79% (57/72) of effusions, and only 6% (4/72) required surgery for decortication (table). Five patients (one with bilateral effusions), died with a chest tube in place, none from complications related to tPA therapy. Four patients were discharged with catheters in place. For the remaining 66 effusions, duration of chest tube drainage ranged from 1 to 99 days (median = 7, IQR 5-10)

**Conclusions-Implications.** Low dose tPA with a longer dwell time was effective for treatment of complex pleural effusions, with a failure rate requiring surgery similar to MIST-II. This protocol uses less drug than MIST-II and is therefore less expensive and is logistically easier with daily rather than q12h dosing. A randomized trial comparing the two regimens is planned.

**COVID-19 Remote Assessment by Medical Students and Health Outcomes in NeighborhoodHELP**

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**Keywords:** SARS-CoV-2, population health, health disparities, NeighborhoodHELP, medical students

**Introduction and Objective.** During the COVID-19 pandemic, existing healthcare disparities in the US are exacerbated as vulnerable populations bear outsized morbidity and mortality. Telemedicine was
embraced to reach patients safely, but it does not come without its limitations especially for vulnerable groups. The goal of this project is to describe the use of a COVID-19 remote assessment tool on vulnerable individuals with COVID-19 or suspected COVID-19 enrolled in FIU’s NeighborhoodHELP and its impact on symptom monitoring and health outcomes.

**Methods.** This is a descriptive study monitoring the symptom progression, risk factors and outcomes in exposed, suspected or confirmed COVID-19. Participants were included in the study if they were exposed, suspected or confirmed of having COVID-19 and their primary care providers referred them for monitoring by the COVID-19 Remote Assessment Task Force of NeighborhoodHELP. Participants were monitored by medical students and healthcare providers using a novel symptom assessment tool via telehealth. Patients were followed at regular intervals based on their assessment score until their primary care provider determined they were eligible for discharge. Patient information was collected and inputted into a secured electronic medical record before being extracted and de-identified for statistical analysis using R programming language/STATA/SAS.

**Results.** Preliminary data shows that this project successfully monitored 43 patients who were exposed, suspected of being positive or tested positive for COVID-19 with the help of 51 students and 8 providers. Patients ranged from 13-67 years old and the most common comorbidities were diabetes mellitus type two and cardiovascular disease. Six pulse oximeters were distributed for close patient monitoring. Three patients were hospitalized under the guidance of RATF and one patient was hospitalized before being referred.

**Conclusions-Implications.** This research will inform a strategy for approaching a novel pandemic using healthcare providers and medical students, particularly for vulnerable communities.

**R18**

**Comparison of QIIME2 and DADA2 Bioinformatic Platforms for Microbiome Analysis**

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**Keywords:** Microbiome, bioinformatics, metagenomics

**Introduction and Objective.** A microbiome is a diverse collection of microorganisms that inhabits a specific ecological niche, such as the human gut. Technology has enabled scientists to generate massive metagenomic data to study microbiomes associated with health and disease. The avalanche of data has created a pressing need for efficient bioinformatic tools to crunch the data for meaningful interpretations. There are multiple tools currently available with varying outputs, many of them losing more than fifty percent of the input data (sequence reads). The objective of this study was to compare and improve two of the most commonly used bioinformatics pipelines, Quantitative Insights Into Microbial Ecology (QIIME2) and Divisive Amplicon Denoising Algorithm (DADA2).

**Methods.** The QIIME2 algorithm clusters sequences into open-reference Operational Taxonomic Units (OTUs), which are groupings based on sequence similarity with a typical threshold of 97% similarity. The DADA2 algorithm discriminates true reads from erroneous ones based on the abundance of a read in the dataset. This discrimination is based on the premise that (1) a true read will be present more frequently than a contaminant or one derived from an error in amplicon sequencing and (2) a less abundant read differing by only a few bases from a more abundant one is likely to be an erroneous copy of the latter. DADA2 clusters large groups of reads into Amplicon Sequence Variants (ASVs), followed by taxa
assignment. Both the DADA2 and QIIME2 platforms classify taxa using the SILVA genomic reference database. The metagenomic data from amplicon sequencing of the 16S rRNA region was generated from patients with alpha-1 antitrypsin deficiency (AATD) in a previous study. We compared each pipeline in its default setting against customized workflow with critical parameters.

**Results.** The loss of reads is more significant in QIIME2, both in the default and personalized versions. We improved QIIME2 by adding denoising steps from DADA2 and Deblur. In the QIIME2-Deblur pipeline, we also added the VSEARCH join-pairs command to merge paired-end reads and the Deblur Denoising plugin to denoise, or “clean up,” before clustering. We assessed losses of input reads at multiple steps, from initial quality filtering and truncation of reads to merging of paired-end sequences. The addition of the merging and denoising steps increased read retention.

**Conclusions-Implications.** In conclusion, DADA2 is more user-friendly than QIIME2, and using the software directly “off-the-shelf” with default parameters may lead to skewed representations of microbial communities. Researchers should use both platforms to determine microbiome composition that can be used to infer their relationships to disease accurately.

**R19**

**Postoperative Pain Management in Primary Horizontal Mattress Uterine Closure with Comparison to Conventional Running Lock Closure at Cesarean section**

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**Keywords:** Cesarean section, horizontal mattress, opioids, uterine closure

**Introduction and Objective.** Caesarean sections (c-sections) are common surgical procedures worldwide. Short-term recovery, hospital stay, and pain management may be affected by the uterine closure technique whether it be the conventional running lock suture or a proposed primary horizontal mattress suture technique. Postoperative opioid use for pain management in excess may contribute to the growing opioid crisis in the United States.

**Methods.** A retrospective cohort chart review of 802 patients was completed encompassing their operative note, post-operative note, and their progress notes during their hospital stay. Of this, medication data was reviewed for 252 patients. 126 of these subjects reviewed had a primary horizontal mattress uterine closure completed by one physician. The other 126 of these subjects reviewed had the conventional single-layered running lock uterine closure completed by multiple physicians in the same hospital setting. The inclusion criteria were patients must be at least 37 weeks gestational age, single gestation, no previously identified complications, and no complications during the C-section. The patients were specifically evaluated for non-opioid, (acetaminophen and ibuprofen) vs opioid pain management (oxycodone and codeine #3). SAS v.9.4 (SAS Institute Inc., Cary NC) was used for analysis.

**Results.** The average use of narcotic pain medication was noted to be less in the experimental group. Opioid usage in the control group on average was 4.968 tablets per hospital stay, while the experimental group on average only required 4.184 tablets per hospital stay which was not a statistically significant difference. However, any decrease in opioid usage must be appreciated for its clinical significance.

**Conclusions-Implications.** Historically obstetricians perform a running lock uterine closure at the time of cesarean, however, this study found that a primary horizontal mattress uterine closure is a viable option in providing an optimal postoperative course in patients undergoing a C-section by improving opioid pain management.