Analytical Methods: Administrative and Large-Scale Database Methods

PO-001 The repository for Caribbean cancer publications (ReCCaP): Database development and publication trends 2004-2019 Kimberly Badal, Moesha Moore, Mikhail Thomas. Caribbean Cancer Research Initiative, Port of Spain, Trinidad and Tobago.

Objective: In the Caribbean region, research has been limited, making it challenging to find. In order for the region to optimally access and utilize present research and identify gaps, we developed the Repository for Caribbean Cancer Publications (ReCCaP) to home publications on cancer in the Caribbean population and diaspora and report on publication trends. **Methods:** A systematic PubMed literature search for the period 2004-2019 (15 years) was developed using keywords related to "cancer" and "Caribbean." Three independent investigators verified included publications. The final database was formatted and hosted in an online database management software. Publication trends over time, by country, cancer type, and income classification were investigated. **Results:** Of the 4935 publications found, 1194 papers met the inclusion criteria with 803 publications (67.25 %) being on the Caribbean population, 139 publications (11.64%) including multiple Caribbean countries and 252 publications (21.11%) on the diaspora. Between 2004-2019 there was an overall 0.20 increase in publications regionally. Overall, most publications were on breast (n = 168, 14.07%), prostate (n = 156, 13.07%), cervical (n = 152, 12.73%), colorectal (n = 80, 6.70%), and lung cancer (n = 36, 3.02%). The highest number of papers were published by Puerto Rico (22.80 pubs/year), Cuba (8.27 pubs/year), Jamaica (6.27 pubs/year), Trinidad and Tobago (3.53 pubs/year), and Martinique (2.27 pubs/year). The high-income countries (n=10) collectively lead in publications over the 15-year period. **Conclusion:** ReCCaP provides an easily searchable database highlighting published work and gaps in knowledge on cancer in the Caribbean and diaspora.

Analytical Methods: Bioinformatics

PO-002 Sourcing real-world data to build the Determinants of Health Ontology of Mappable Elements (DHOME) Lauren Cuppy, Tami Crawford, Alexander V. Alekseyenko. Medical University of South Carolina, Charleston, SC.

It is widely accepted that social determinants of health (SDOH) play a significant role in the determination of health outcomes. There are several external factors in the natural, built, and social environment beyond the control of the individual which affect their health, and disproportionalities in the burdens of these elements perpetuate health and healthcare disparities. However, there is still no centralized repository that links geographic locations and entities to specific aspects of determinants of health. Moreover, there is not a comprehensive understanding of the spatial and conceptual relationships between them. Ontologies are widely used in health and biomedical research as a means of increasing interoperability between datasets and connecting them to predictable, subsequent health outcomes. Recent projects have also sought to include and expand upon SDOH domains to standardize SDOH vocabulary and make it more accessible in patient care (Dieterle, 2021; Jani et al., 2020; Brenas et al., 2019). However, there have been no ontologies found to date that consider mappable geographical elements for determination of spatial relationships between SDOH domains and health outcome data. The purpose of this study was to source real-world data on South Carolina SDOH elements from public domains, process and manipulate them to highlight relevant attributes and geographies, and compile them into a single repository to allow for proximity and accessibility analyses from geographic coordinate inputs. This methodology resulted in the creation of the `dhomer` R-package which enables the user to perform these analyses via simple coding functions within the R programming language. The package integrates several datasets of factors within the natural, built, and social environment at varying geographic granularities. While the purpose of this package is to assist in a larger study on colorectal cancer pathology and disparities, the capabilities of this repository to increase the ease of spatial analyses and eliminate the time normally relegated to data-sourcing extend well beyond the scope of that study and can be applied to any geographic study considering determinants of health and health disparities. By classifying the datasets into categories of SDOH within the repository as well, this project also prepares mappable data for easy integration to a new SDOH ontology and linkage to existing ontologies regarding SDOH and health outcomes. By creating a centralized repository for *all* SDOH data, rather than categorizing them independently, this project has the potential to revolutionize the way we conceptualize the relationships between elements of an individual's environment and their synergistic effects on human health. Furthermore, by considering all of the data concurrently, we can now better visualize disparities in the natural, built, and social environment and identify exacerbations of these disparities due to the compounding of several adverse elements that are otherwise invisible when considering the data separately.

Analytical Methods: Neighborhood Analysis

PO-004 Hot spot analysis of cervical cancer among racial and ethnic minorities in Los Angeles County Bibiana M. Martinez, Laura Thompson, Myles Cockburn, Jennifer Tsui. University of Southern California, Los Angeles, CA.

Background: Geospatial analysis of cervical cancer cases traditionally combines all racial and ethnic subgroups when examining patterns of disease distribution. Given the diverse populations of Los Angeles County (LAC), there are likely distinct barriers as well as linguistic needs of cancer preventive care unique to high risk populations. We compared the distribution of clusters of cervical cancer disease for Latinas, African Americans, and Asian Americans/Pacific Islanders (AAPI), the three largest racial/ethnic minority groups in LAC. **Methods**: We included data for all stages of cervical cancer (only malignant tumors) diagnosed from 2000 to 2018 in LAC separately for Latinas, African Americans, and AAPI from the Los Angeles County Cancer Surveillance Program. Hot spot analyses were performed using the Getis-Ord GI*statistic in ArcGIS to compare the distribution of statistically significant clusters of cervical cancer cases in LAC using a fixed band. Hot and cold spots with less than 11 cases were suppressed to protect patient confidentiality. **Results**: Results show that the pattern of cervical cancer clustering across racial/ethnic categories varies substantially across LAC. Among Latinas (N=4303), data show hot spots in Central and Eastern Los Angeles as well as the San Fernando Valley; hot spots exist in Hollywood, Mid-City, the South Bay, the San Gabriel foothills, and the Eastern suburbs of Los Angeles for Asians/Pacific Islanders (N=1332); and hot spots emerged in Central and South Los Angeles, Long Beach and Alhambra for African Americans (N=770). Cervical cancer hot spots do not fully coincide with the residential distribution of racial/ethnic groups in LAC based on data from the 5-year American Community Survey (2014-2018), particularly among Latinas. **Discussion**: Given the marked differences in cervical cancer disease clustering across racial and ethnic populations in LAC, hot spot analyses of these groups should be performed separately. Using appropriate methodologies for modeling the geospatial distribution of cervical cancer has important implications for the effective planning, location, and delivery of culturally and linguistically appropriate vaccination and screening interventions to address the diverse cervical cancer prevention needs of different communities in LAC.

PO-005 Geospatial hotspot analysis of cervical cancer among Asian American Native Hawaiian Pacific Islander (AANHPI) population in Los Angeles County Michelle B. Shin, Bibiana Martinez, Jennifer Tsui. University of Southern California, Los Angeles, CA.

Background: Higher cervical cancer incidence rates among subgroups of Asian American Native Hawaiian Pacific Islander (AANHPI) women are often overlooked in studies that aggregate this extremely heterogeneous population. There is a need to geographically target ethnic subgroup communities with the highest needs with culturally responsive services for cancer prevention. We analyzed the distribution of cervical cancer clusters among the ethnic subgroups of AANHPI women in Los Angeles County. **Methods**: We included data for first primary cancer cases with any stage of cervical cancer (only malignant tumors) diagnosed from 2000 to 2018 among AANHPI from the Los Angeles County Cancer Surveillance Program. We performed hotspot analyses using the Getis-Ord GI*statistic in ArcGIS to compare the distribution of statistically significant clusters of cervical cancer cases in Los Angeles County using a fixed band. Hot and cold spots with less than 11 cases were suppressed to protect patient confidentiality. **Results**: Among 8,708 cases of cervical cancer, AANHPI population accounted for 1332 cases (15%). Among the AANHPI population, the three most prevalent ethnic groups were Filipino (n=364, 28%), Chinese (n=314, 24%), and Korean (n=232, 18%) Americans. The hotspots varied by ethnic subgroups and emerged in areas with high proportions of Filipino (Glendale/Carson), Chinese (Arcadia/El Monte), and Korean (Hollywood Hills) American residents, respectively. **Discussion**: Our findings geospatially disaggregate the cervical cancer prevalence among AANHPI population in Los Angeles County by ethnic subgroups. Specifically, the cervical cancer hotspots contextualize potential geographic- and area-level factors that affect access to preventive services for these vulnerable populations and can facilitate allocating resources for culturally responsive services to increase uptake of HPV vaccination and screening.

Analytical Methods: Other

PO-006 Building a new clinical trial diversity alliance to transform our ability to reach understudied and underserved patients Ruma Bhagat, Meghan McKenzie, Melissa Gonzales[1], Gerren Wilson, Nicole Richie, Quita Highsmith. Genentech, South San Francisco, CA.

Not all segments of the population have benefited equally from advances in science and medicine. Distinct populations continue to be understudied in science, underrepresented in research, and underserved by medicine. Multiple complex factors, including the lack of diverse representation in research, are contributing to disparate health outcomes. For instance, among both men and women, Black patients have the highest cancer death rates. Without intervention, future medical innovations will not broadly benefit all patients and society. Genentech, a member of the Roche Group, believes data representative of real-world patient populations is required to optimize clinical outcomes for all patients. To make meaningful progress toward this goal, we created a system-level strategy. Last year, we began building a network of clinical trial sites to advance the representation of diverse patient populations in the company's oncology clinical trials, test recruitment and retention approaches, and establish best practices that can be leveraged across the industry to help achieve health equity for people with cancer. The first step in identifying potential partners for this alliance was to develop site criteria. We considered numerous attributes including: operational capabilities and performance in enrolling underrepresented patient populations, D&I reputation and community involvement with these patient populations, attitude and commitment to inclusive research, and scientific reputation. We used both internal and external data sources to stratify sites based on two key attributes. First, we compared sites' historical enrollment of Black, Latinx and other underrepresented patients in oncology trials. Second, we evaluated the size of the Black and Latinx populations within the catchment area of sites. Included in the data analysis were about 20,000 potential oncology sites. Within those sites that had a large number of underrepresented patient populations, we used enrollment and experience with Genentech oncology trials to further refine our search. We refined our list based on study teams' experience with site capability to conduct phase I-IV trials. We then conducted in-depth site interviews to identify those sites that were aligned with our mission and were making significant efforts to reach patients of color. After the interview process was completed, four inaugural sites were selected for the launch of the Advancing Inclusive Research Site Alliance. Each of the centers will focus on enabling historically underrepresented patient groups to participate in Genentech's oncology trials and work collaboratively to share key learnings and explore innovative ways of increasing clinical trial access for every patient who might benefit. The AIR Site Alliance plans to expand to more research centers and broaden its focus into additional disease areas in the future. Together, we will work to enrich science, eliminate disparity in outcomes and provide equitable access to innovative therapies for all patients.

PO-007 "You people"- A qualitative analysis of black cancer patients navigating a healthcare system of discrimination Elleyse Garrett[1], Albert Farias[1], Carol Ochoa[2], Cindy Ma[1], Stephanie Navarro[1], Paul Yoon[1]. [1]University of Southern California, Los Angeles, CA, [2]University of California, Los Angeles, Los Angeles, CA.

Background: Black cancer patients face significant disparities in medical care throughout the cancer care continuum. While multilevel factors contribute to these disparities including access to care, socioeconomic status and cultural factors, overt and perceived discrimination in the health care setting may likely exacerbate disparities for black cancer patients. However, little is known about how experiences of racial discrimination unfold for Black cancer patients when navigating care and the consequences of such treatment. Purpose: To explore how experiences of racial discrimination in the health care setting manifests for Black cancer patients and to understand how these experiences might contribute to disparities. Methods: We conducted semi-structured in-depth interviews with 18 Black cancer survivors, lasting between 45 – 60 minutes from 2019-20. All interviews were audio-recorded, professionally transcribed, and uploaded into Dedoose software for analysis. Two independent coders met regularly and analyzed the interview transcripts using a deductive constant comparison approach to establish and modify codes based on facets of the biopsychosocial model of stress. Results: Participants included breast, colorectal, and prostate cancer survivors aged 29 to 88 years old. Most patients expressed experiencing some form of racial discrimination, perceived more than overt when receiving medical care. Participants experienced instances of perceived discrimination from their interactions with healthcare staff, medical assistants, front desk staff, health insurance administrators, or other staff within the facility. Instances of perceived discrimination resulted in patients expressing that they did not trust their provider or was a stressor contributing to their mental well-being. Patients who experienced perceived discrimination noted "walking out" of their visit and not having their health issues addressed, demonstrating a broader link between the two factors. Patients internalized experiences of perceived discrimination, resulting in behavior changes in subsequent visits to mitigate the effects. Overt discrimination in the health care setting was rooted in stereotypes and manifested through verbal microaggressions such recollections of physicians using phrases such as "you people". Patients still sought care when they experienced discrimination out of necessity and believing it was an inevitable part of the Black experience. Patients who had positive experiences navigating care expressed a personal relationship and emotional connection characterized by mutual respect and compassion between them and their provider. Conclusion: Themes identified in this study support possible mechanisms for discrimination in the health care setting contributing to racial health disparities in cancer care such that discrimination serves as a stressor for Black cancer patients and impacts health-seeking behaviors. Future recommendations for healthcare staff should focus on ensuring patient-centered communication and care to support this vulnerable population.

Analytical Methods: Statistical and Epidemiological Models

PO-008 Predictive analysis of demographic factors to examine disparity in gynecologic cancer Zahra Bahrani-Mostafavi, Patricia Koplas. Queens University of Charlotte, Charlotte, NC.

Introduction: Cancer continues to be a major cause of mortality worldwide and is the leading cause of death for women age 40-79. Gynecologic cancers **(**GYNC) account for 6.3% of all cancers, making it the 4th leading cause of cancer death among US women. Research has shown that cancers are linked to various demographic factors. Cancer incidence may differ among people of different race/ethnicity due to socioeconomic status; specifically, these variables can impact exposure to risk factors, access to health education, and early detection and treatment. Race/ethnicity is a known risk factor for GYNC. Due to the disparity in the US healthcare system, analysis of the association of various demographic variables with cancer diagnosis in women is imperative to better understand health outcomes for GYNC in this country. **Methods:** We used the female portion of the 2012 Florida State Inpatient Database of the Healthcare Cost and Utilization Project as our sample. The outcome variable was presence or absence of a cancer diagnosis identified by ICD-9 codes for the following cancers: ovary (OC), uterine (UC), and cervical (CC). Logistic regression analyses examined the patient-level factors of race/ethnicity, age, insurance type, income level, and other comorbidities as potential independent predictors of cancer diagnosis. **Results:** Logistic regression analysis demonstrated that the odds of CC is increased in women who are black (OR=1.4, 95% CI 1.2-1.5), middle age (OR=5.9, 95% CI 5.1-6.9), and have Medicaid (OR=2.2, 95% CI 3.5-4.9). The similar pattern observed with the OC and UC analysis suggests the presence of cancer disparity among women of lower socioeconomic status. **Conclusions**: In this study we found that cervical, ovarian, and uterine cancers were significantly associated with variables such as race and lack of reliable health insurance which can indicate disparity. One factor which could potentially contribute to any health disparity in this sample is the lack of ACA Medicaid expansion in Florida. Findings from this study highlight the importance of considering access to healthcare for women from various backgrounds to improve management of cancer and women's health at large.

Behavioral and Social Science: Alcohol, Tobacco, and Substance Abuse

PO-009 Assessment of geographic and racial/ethnic variables in tobacco use among cancer patients in a widely dispersed academic-led cancer care network Kimlin Tam Ashing, Cary A. Presant, Sophia Yeung, Jonjon Macalintal, Brian Tiep, Sandoval Argelia, Dan Raz, Ravi Salgia, Loretta Erhunmwunsee, Arya Amini, Amar Merla, Heather Graves, Steven Rosen. City of Hope Medical Center, Duarte, CA.

Background: Tobacco use is among the most important factors in cancer patient survival. In order to appropriately prioritize resource allocation, we studied the frequency of tobacco use among cancer patients and racial/ethnic minorities in a widely dispersed academic-led cancer care network. Methods: City of Hope (COH) has an academic center in Duarte CA and has 36 community cancer treatment sites across Los Angeles, Riverside, San Bernardino, Orange and Ventura counties. A tobacco use control program was established across multiple departments. A tobacco use screen was developed for every cancer patient and followed by a more detailed tobacco use survey. Self reported racial/ethnic identity and socioeconomic data were collected. A survey of clinicians was performed to determine their attitudes and knowledge about tobacco use, and tobacco cessation treatments. Results: Completion of the tobacco use screen was 96.05%. Data indicated geographically different tobacco use rates at the academic medical center and community sites ranging from 2.75% to 10.81% with an average of 5.87%. The average use was 6.66% in community sites versus only 3.84% in the academic tertiary care center. Highest use was in Antelope Valley (AV), a site with high levels of poverty, chronic disease burden and concentration of dedicated tobacco retail shops. The AV tobacco use rate was 10.81%. Of smokers in AV, 17.30% were African-American, 14.60% were Hispanic, 1.8% were Asian-Pacific Islander, and 40.44% were non-Hispanic white. Tobacco use was highest among communities with the greatest social determinants of health (SDOH) burden and Black population density. 85.96% of clinicians agreed that tobacco cessation should be a standard part of cancer treatment, and 94.74% of clinicians agreed that current smoking and/or tobacco use negatively impact patient outcomes. Patient resistance to cessation advice and treatment as well as lack of proper support were described as the greatest barriers to smoking cessation. There was an association between physician attitude and tobacco use rate which was greater in community sites compared to the academic center. In the highest tobacco use center AV, compared to the academic center, there was perceived greater need for resource allocation to control tobacco use, and this was associated with a higher proportion of minority patients. Conclusions: There are racial, ethnic, SDOH and geographic variations in tobacco use. Allocation of cancer center resources must be based on metrics of patient tobacco use and community factors. Therefore, strategies to reduce tobacco use and cessation must include cultural, linguistic, and community-responsive approaches. Therefore, clinicians, cessation specialists, community advocates and policy makers must coordinate to reduce tobacco exposure and tobacco use disparities. A network-wide tobacco control program coordinated among multiple specialties is needed and elements of such a program at COH will be described as a model for implementation in other institutions.

PO-010 Increased risk of smoking-related health conditions for current and former smokers in the Chicago metro area Larisa A. Burke, Alana D. Steffen, Cherdsak Duangchan, Karriem S. Watson, Alicia K. Matthews. University of Illinois Chicago, Chicago, IL.

PURPOSE: Smoking is a main cause of lung cancer and COPD and is also a cause of coronary heart disease, stroke and a host of other cancers and diseases. The purpose of this study was to investigate rates of smoking-related health conditions in the Chicago metro area and to assess how cigarette use and demographic factors correlate with increased risk for these conditions. METHODS: The Behavioral Risk Factor Surveillance System (BRFSS) is a national system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. A subsample of the 2019 BRFSS data from the Chicago metro-area was used (n=4,838). Analysis was conducted with STATA survey analysis tools to account for the complex sampling design of BRFSS data. Logistic regression models predicting increased risk for each health condition for 3 categories of smokers (current, quit in past 10 years, quit >10 years ago) compared to non-smokers and including age, sex, race, income, and BMI as covariates were run. RESULTS: Rates of health problems of Chicago area residents were: 5.9% non-skin cancer, 5.1% COPD, 8.4% asthma, 5.0% coronary heart disease/myocardial infarction (MI/CHD), 2.8% stroke, 30.2% hypertension, 10.4% diabetes, and 7.5% poor/fair health. Current smoking was associated with increased odds of COPD (7.3 [4.7, 11.4]), asthma (1.8 [1.2, 2.6]), hypertension (1.6 [1.2, 2.1]), diabetes (1.5 [1.0, 2.3]), and poor/fair health (1.8 [1.3, 2.5]). Those that quit smoking in the past 10 years had increased odds of COPD (2.9 [1.7, 5.1]), stroke (2.6 [1.3, 5.4]), diabetes (1.9 [1.2, 2.9]), and poor/fair health (1.5 [1.1, 2.2]). Those that quit more than 10 years ago had increased odds of non-skin cancer (1.6 [1.1, 2.3]), COPD (2.3 [1.5, 3.6]), and MI/CHD (2.2 [1.4, 3.2]). Demographic factors also predicted greater risk of smoking-related health conditions after controlling for smoking status including greater risk for Black residents of stroke (2.0 (1.1, 3.7)], hypertension (1.7 [1.3, 2.2]), diabetes (1.7 [1.2, 2.4]), and poor/fair health (1.7 [1.3, 2.4]) and increased risk for Hispanic residents of diabetes (2.4 [1.6, 3.4]) and poor/fair health (2.5 [1.8, 3.3]). Lower income predicted greater risk for MI/CHD (1.9 [1.3, 2.9]), stroke (2.2 [1.2, 4.2]), hypertension (1.5 [1.2, 1.9]), diabetes (1.5 [1.1, 2.1]) and poor/fair health (3.0 [2.3, 3.8]). CONCLUSION: Risks for smoking-related health conditions varied for current and former cigarette users and also by different demographic factors for Chicago metro-area residents. These findings can inform clinical work by revealing the continued health risks even for those who quit smoking and how risks my be exacerbated for different racial groups and for those with lower income.

PO-011 Use of clinician and nurse tobacco cessation champions to implement a tobacco control program in a geographically disseminated academic center-led clinical network analyzed by patient racial/ethnic group Cary A. Presant, Kimlin Tam Ashing, Sophia Yeung, Jonjon Macalintal, Brian Tiep, Argelia Sandoval, Dan Raz, Ravi Salgia, Loretta Erhunmwunsee, Arya Amini, Amar Merla, Heather Graves, Ranjan Pathak, Shaira Dingal, TingTing Tan, Kelly Tarkeshian, Liana Nikolaenko, Kathleen Burns, Sagus Sampath, Beverly Laksana, Steven Rosen. City of Hope Medical Center, Duarte, CA.

Background: City of Hope (COH) is an NCCN academic cancer center in Duarte CA and delivers care in 36 geographically dispersed community sites in Los Angeles, Riverside, San Bernardino, Orange and Ventura counties. We implemented a multi-departmental tobacco use control program (TUCP) (J Clin Med 2020; 1820). In order to facilitate implementation of the TUCP, we developed a multi-level multi-departmental program of clinician/nurse tobacco cessation champions using implementation science principles. Methods: A TUCP centered in Population Science included representatives of all clinical specialties. Cancer center leadership was engaged for resource allocation, and monthly staff communications (Moonshot Shout-outs). Tobacco-using patients were referred for tobacco cessation. To incentivize and promote cessation referrals and patient participation, TUCP worked with physician leaders and nurse leaders to name a clinician and nurse in each academic center clinic and each community site as champions. Results of this program were evaluated by tobacco use assessments and clinician attitude surveys. Results: Among the 36 COH sites and the Duarte academic center, 6 sites were selected for pilot implementation of the champion program. Champions (physicians, advanced practice providers, and nurses in multiple oncology specialties) were appointed and received structured training. Champions were tasked to promote cessation referrals by clinicians and staff, provide support for any problems, meet with TUCP leaders, report barriers to effective cessation implementation, and provide assistance in prescribing tobacco control medications. Tobacco use screening was nearly universal (96%), and showed 5.87% current use overall. Among patients who were smokers, 7.92% were African American, 17.61% were Hispanic, 5.18% were Asian/Pacific Islanders, and 44.09% were non-Hispanic white. Current tobacco use was more prevalent in the community sites than in the academic center and more prevalent in minority patients in community sites. Clinician attitude surveys at the academic center versus community sites revealed similar importance of tobacco cessation, feeling that continued smoking adversely impacted treatment outcomes, referral of patients for cessation, and need for increased training in tobacco control and cessation. Clinicians at the community site with the highest rate of tobacco use and greatest percent of non-white patients, Antelope Valley, expressed the highest need for training into availability of tobacco control services and program support. Conclusions: Tobacco use is widely perceived by clinicians as an important component of cancer treatment, but requires increased resource allocation and leadership, especially at sites with higher tobacco use and greater percentage of racial/ethnic minorities, and worse social determinants of health. Among resources important for tobacco control, multi-level champions (e.g. physicians, nurses, and advanced practice providers) can help promote and implement a TUCP in both academic centers and community sites.

PO-012 Demographic factors and rural residence history associated with smoking history Tyra Reed[1], Destiny Gordon[1], Brenda W. Dyal[1], Keesha Powell-Roach[1], Miriam O. Ezenwa[1], Versie Johnson-Mallard[1], Janice L. Krieger[1], Folakemi T. Odedina[2], Yingwei Yao[1], Diana J. Wilkie[1]. [1]University of Florida, Gainesville, FL, [2]Mayo Clinic, Jacksonville, FL.

Purpose: Smoking rates are higher in rural regions compared to urban regions. Given the mobility within the United States, rural norms around tobacco use may persist even after individuals move to urban areas. Little research is available regarding the difference in smoking history by demographics and rural residence history. The purpose of the study was to examine the influence of age, race, gender, and rural residence history on smoking history. Methods: In a cross-sectional study, we surveyed 1,786 adults using two sampling approaches: representative panels and a community-engaged sample. Participants were asked to complete the Florida Health and Ancestry Study (FHAS) survey through a link or by the phone with a research assistant. The smoking history question asked whether participants had smoked 100 cigarettes in their lifetime (yes/no). The rural residence question asked participants to indicate (yes/no) whether they have lived in a rural or farming community, or on a farm. We examined associations of smoking history with demographic variables using the Chi-square test and logistic regression including as predictors age group (young=18-30, middle age=31-50, old=51+ years), gender, race, and rural living by gender. Results: Participants were mostly White (16% Black, 84% White), female (47% male) and with a mean age around 50 years (mean 47.9±17.5 years, ranged 18 to 91). 36% of the sample reported a history of rural residence, and 51% reported that they had not smoked 100 cigarettes in their lifetime. A larger proportion of males (61%) smoked at least 100 cigarettes compared to females (37%) ($p<.001$). A significantly larger proportion of White participants (50%) smoked at least 100 cigarettes in their lifetime than Black participants (39%) ($p=.001$). A larger proportion of participants who had lived in a rural place (53%) had smoked at least 100 cigarettes compared to those who had not lived in a rural place (46%) ($p=.005$). Difference in mean age for those with or without a history of smoking 100 cigarettes was not statistically significant in this sample ($p=.12$). Logistic regression analysis revealed that relative to the old age group, the young age group was less likely ($p<.001$) and the middle age group was more likely ($p=.002$) to have smoked 100 cigarettes. Males ($p<.001$) were more likely to have smoked 100 cigarettes than females. Rural residence was associated with smoking among females ($p<.001$) but not among males ($p=.70$). Adjusting for other predictors, the association with race was not statistically significant in this sample ($p=.06$). Conclusion: Findings that the age group 18-30 years is more likely to have avoided becoming smokers is encouraging but must be analyzed more thoroughly relative to possible use of e-cigarettes and other tobacco products. To reduce individuals becoming smokers, we recommend increased cancer control efforts targeted to males in general and to females with a rural residence history. Additional research is planned to examine additional smoking variables and compare them to national data.

PO-013 Racial differences in smoking rates among low-income adults living in a large urban area Alana D. Steffen, Larisa A. Burke, Cherdsak Duangchan, Karriem S. Watson, Alicia K. Watson. University of Illinois Chicago, Chicago, IL.

PURPOSE While smoking rates have decreased nationally, they remain elevated in underserved communities. The purpose of this study was to investigate smoking rates among race/ethnic groups in Chicago and for lower income levels across segregated neighborhoods served by a network of 6 federally qualified health center clinics. METHODS The Healthy Chicago Survey, an annual telephone survey of adults conducted by the Chicago Department of Public Health (2014-2018), was used to obtain rates and correlates of smoking using weighted analyses and linearized standard errors to account for the complex survey design and differential nonresponse. We examined city-wide estimates as well as a subsample composed of lower income (defined as <200% of the poverty level) residents of 3 geographic areas which represent roughly a quarter of Chicago adults (n=3,544 weighted to represent 517,271). RESULTS City-wide Chicago adults are 36% non-Hispanic (NH) White, 29% NH Black, and 26% Hispanic/Latino and have a smoking rate of 18.6% with 60% being daily smokers. The subsample results were 7% NH White, 49% NH Black, and 39% Hispanic Latino; smoking rate 26.8%. Background characteristics most associated with smoking include middle age (30-64 years), male sex, lesbian/gay/bisexual orientation, unmarried/no partner, NH Black, some college or less education, has no personal doctor, and experiences psychological distress. These relationships were consistent citywide and within the subsample except race/ethnic differences were less pronounced for those with lower income. NH Blacks, nearly half our low-income subsample, had the highest smoking rate (35.9%; 95% CI [33.1, 38.7]), followed by NH Whites (31.0 [23.6, 39.4]) with lower rates among Hispanic/Latinos (16.0 [13.4, 19.0]). The subsample comprised three distinct regions within the city with varying levels of race/ethnic diversity. CONCLUSION While tobacco use has declined over recent years there are significant disparities based on race and income. Among lower-income adults, NH Blacks, middle-aged, and males are at greater risk for smoking-related health conditions. Our findings demonstrate the higher rates of smoking among Black, medically underserved adults in low-income communities that contribute to health disparities.

Behavioral and Social Science: Cancer Communications

PO-014 Online cancer misinformation interventions for young adult cancer patients and caregivers Ashley J. Green[1], Keely Smith[2], Jennifer Traslavina Jimenez[2], Margaret Raber[3], Terry Badger[2], Echo L. Warner[4]. [1]University of Arizona Cancer Center, Tucson, AZ, [2]University of Arizona College of Nursing, Tucson, AZ, [3]USDA/ARS Children's Nutrition Research Center at Baylor College of Medicine and Texas Children's Hospital, Houston, TX, [4]University of Arizona Cancer Center/University of Arizona College of Nursing, Tucson, AZ.

Purpose: We aimed to identify potential intervention strategies to mitigate the influence of online cancer misinformation among young adult cancer patients and caregivers. Adolescent and young adult (AYA) patients and caregivers suffer from health disparities throughout the cancer experience, including lack of knowledge about resources and support available. Methods: Participants completed an online survey and semi-structured interviews over the telephone, which lasted 19-40 minutes (average= 33.7 minutes). We calculated descriptive statistics on sociodemographic and cancer factors. Participant's expectations and suggestions for interventions that mitigate cancer misinformation were categorized through qualitative description. Results: Of 50 screened participants, 17 completed an interview and an online survey (34% participation rate). Participants were 64.7% female, and relatively diverse: 52.9% White, 29.4% Black, 11.8% Asian, 5.9% American Indian/Alaska Native, and 5.9% preferred not to answer. Participants had multiple suggestions on how to improve social media cancer information for patients and caregivers in three areas: platform suggestions, clinician suggestions, and concerns about privacy. Feedback to resolve platform problems included adding filters/warnings to platforms to block insensitive or inaccurate information, adding more virtual events for cancer patients and caregivers (e.g., zoom calls or online conferences that share resources, personal stories, and provide interaction with fellow AYA patients/caregivers), and having an option to mute ads or suggested pages that contained cancer information. Participants also suggested that clinicians should be more vocal about recommending high quality cancer-based social media pages and online resources. Finally, some participants worried about the confidentiality of their cancer online. For example, some were concerned that online information seeking would lead their cancer diagnoses to be exposed to employers on social media. One suggestion to ameliorate this issue was to have an option of blocking specific accounts from seeing posts or group statuses that contained sensitive information about the cancer experience. Conclusions: Young cancer patients and caregivers are exposed to online cancer misinformation, and this may negatively influence their engagement in cancer care, relationships with others, and self-perception. We identify potential opportunities for social media businesses, health care teams, and legal entities to intervene with young patients and caregivers.

PO-015 An examination of the implementation of a navigation patient navigation program to improve breast and cervical cancer screening rates of Chinese immigrant women Marquita W. Lewis-Thames, Laura S. Tom, Ivy S. Leung, Anna Yang, Melissa A. Simon. Northwestern University Feinberg School of Medicine, Chicago, IL.

Background: In 2020, national breast cancer rates for female breast cancer and cervical cancer for all races were 72.8% and 81%, respectively. Chinese Americans have lower breast and cervical cancer screening rates than the national average. For example, breast and cervical cancer screening rates for Chinese American women from Chicago's Chinatown are 60% and 47%, respectfully. Patient navigators have improved screening and follow-up rates for medically underserved populations, yet investigations of cancer navigation programs and their implementation among Chinese Americans are limited. To address this gap, we used the Consolidated Framework for Implementation Research (CFIR) to examine facilitators and barriers to implementing the Chicago-based Chinatown Patient Navigation Program (CPNP) for breast and cervical cancer screening, follow-up, and treatment. **Methods:** Between February and April 2019, stakeholders from a local safety-net hospital, supportive care services, and a community-based organization were invited to participate in qualitative interviews to illuminate implementation processes and stakeholder perspectives of facilitators and barriers to program implementation. Interviews were audio-recorded, transcribed, and deductively coded according to CFIR domains, including 1) intervention characteristics; 2) outer setting; 3) inner setting; and 4) the implementation process. We interviewed 16 stakeholders. **Results** Findings suggest that perceived program benefits, such as patient navigators preparing Chinese-speaking patients for their clinic visits, providing interpreter services, being accessible to patients and stakeholders, and consistently providing high-quality flexible services facilitated stakeholder engagement in the CPNP. However, barriers to program implementation included limited regular feedback provided to stakeholders regarding their program involvement and in the early stages of the program, limited awareness among some clinical staff on navigators' roles and responsibilities, insufficient office space for the navigators, and few Chinese language patient resource materials. **Conclusions:** Lesson's to apply to future patient navigation programs are that patient navigators should be able to guide patients at all points of care—from scheduling to follow-up, navigator services should be high quality and complement the existing clinical workflow, clinical partners and end-users need regular and frequent communication about the navigator's responsibilities before the program's implemented, and limitations with practice-level supports (e.g., infrastructure, administration) can pose challenges to implementing the navigation program. These findings provide valuable information on the implementation of future patient navigation programs serving Chinese American and other limited-English speaking immigrant populations.

PO-016 A latent class analysis of communication patterns between Hispanic and non-Hispanic childhood cancer survivors, parents, and medical providers Carol Y. Ochoa[1], Junhan Cho[1], Kimberly A. Miller[1], Lourdes Baezconde-Garbanati[1], Randall Y. Chan[1], Albert J. Farias[1], Joel E. Milam[2]. [1]University of Southern California, Los Angeles, CA, [2]University of California Irvine, Irvine, CA.

Introduction: The triad of communication between childhood cancer survivors (CCS), their parents, and their medical providers may motivate CCS healthcare engagement but has not been examined. This may be particularly important for Hispanic/Latino populations, who are more likely to trust and receive health information from hospital providers and are less likely to remain engaged in survivorship care compared to non-Hispanic white persons. **Methods:** We analyzed data from the Project Forward pilot study, a population-based study that evaluated follow-up care among 160 CCS-parent dyads (CCS mean age=20 years, 7 years from diagnosis, and 29% of parents identified as Spanish-speaking Hispanic). Nine indicators representing multiple dimensions of communication were used in latent class analysis to identify distinct classes of communication. These indicators were selected from the parent and CCS survey and asked about communication between CCS, parents, and medical providers. The association between resulting classes and various covariates (e.g., parent ethnicity/language, CCS demographic, clinical characteristics) was examined using multinomial logistic regression. **Results:** Three classes of the triad of communication were identified: *(1) high healthcare-focused communication* (37.5%); *(2) high comprehensive communication* (15.6%); and *(3) overall low communication* (46.9%). The *high healthcare-focused communication* class was characterized by patterns of high probability for communication about future health care needs among CCS, parents, and medical providers. The *high comprehensive communication* class was characterized by a high probability of communication about future healthcare needs and a high probability for parent-CCS communication about different cancer facets. The *overall low communication class* was characterized by a low probability of endorsing any communication items. Greater time since diagnosis was marginally significantly associated with reduced odds of the dyad's membership in class 2 [OR=0.798, 95% CI=0.635, 1.002, p-value=0.0520], compared to class 3 (low communication). Additionally, dyads with English-speaking non-Hispanic parents were less likely to be in class 2 [OR=0.361, 95% CI=0.130, 1.005, p-value=0.0511], compared to class 3. After adjusting for all covariates simultaneously, greater time since diagnosis was associated with reduced odds of membership in class 2 (vs class 3). Dyads with Spanish-speaking Hispanic parents were more likely to be in classes 1 and 2 (vs. class 3). **Discussion:** Our results support the need to enhance communication among CCS, parents, and medical providers generally to improve knowledge and understanding about the long-term effects of cancer, treatment, and outcomes. Our study suggests that dyads, where parents were Spanish-speaking Hispanics tended to engage in high communication. Examining language preference provides an important contextual understanding as it supports the notion that Hispanic/Latino cultural values may play a favorable role in high levels of communication.

PO-017 The association of COVID-19 and cancer screening inquiries among Spanish speakers: An examination of NCI Cancer Information Service data Heather N. Platter[1], Adaora Ezeani[1], Travis Hyams[1], Grace C. Huang[2], Robin C. Vanderpool[1], William M.P. Klein[1]. [1]National Cancer Institute, Rockville, MD, [2]Westat, Rockville, MD.

The disruption of routine cancer screening during the COVID-19 pandemic is a public health priority given documented delays in the diagnosis and treatment of screening-eligible cancers, and future impacts on cancer mortality. Furthermore, COVID-19 has disproportionately affected historically underrepresented populations such as the Hispanic community, who already experience lower cancer screening rates compared to non-Hispanic whites. The purpose of this study was to examine inquiries about cancer screening among Spanish-speaking general public users before and during COVID-19, using data from the National Cancer Institute's Cancer Information Service (CIS). For this analysis, we examined cancer screening inquiries before (February 2019-March 2020) and during (March 2020-January 2021) COVID-19 among Spanish-speaking general public users. We analyzed CIS point of access (email, LiveHelp, social media, telephone), subjects of interaction, and referrals. Cancer sites with low cell sizes (e.g., lung) were combined into the category "other." We conducted Chi-squared tests to compare counts for cancer screening inquiries before and during COVID-19 across these variables. There were 47.3% (*n*=691) cancer screening inquiries among English-speaking users before COVID-19 and 52.7% (*n*=770) during COVID-19. In comparison, among the 300 cancer screening inquiries from Spanish speakers, there were 57% (*n*=171) before COVID-19 compared to 43% (n=129) during COVID-19. There was a significant difference in patterns between these two groups ($p<.002$). Cancer site inquiries among Spanish speakers included breast (*n*=66), general (*n*=108), and 17 other cancers combined (*n*=126). The proportion of breast and general cancer inquiries from Spanish speakers increased during COVID-19 compared to pre-COVID ($p<.001$), whereas other cancer inquiries decreased. Additionally, Spanish-speaking telephone-based inquiries increased during COVID-19 whereas all other points of access decreased ($p<.001$); subjects of interaction regarding general cancer questions increased, but those on finding healthcare services, screening tests, and other subjects decreased ($p<.01$); and there was an increase in referrals to national/community organizations and to the CDC National Breast and Cervical Cancer Early Detection Program, although referrals to healthcare providers and other sources decreased during COVID-19 ($p<.001$). We found that COVID-19 was associated with a significant decrease in cancer screening inquiries among Spanish speakers compared to English speakers using the CIS, with changes in point of access, referrals, subject of interaction, and cancer site for Spanish-speaking CIS users. It is critical to evaluate how these changes in information-seeking may affect screening behaviors post-COVID in Hispanic communities and may potentially widen existing disparities that have worsened during COVID-19. Despite overall inquiry reductions, there was an increase in some cancer screening referrals, hopefully resulting in increased screening behavior among Spanish-speaking CIS users.

PO-019 General social media use amongst young adult cancer patients and caregivers

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Purpose: Our purpose was to describe the social media platforms and experiences of adolescent and young adult (AYA) cancer patients and caregivers. We aimed to identify the general social media use of this group in order to determine the information seeking and sharing behaviors within the AYA cancer experience. Methods: From March 2021 to July 2021, we recruited participants through online repositories (e.g., ResearchMatch), and posted flyers on social media and at a large adolescent and young adult (AYA) conference. Eligible participants included 1) cancer patients who were between the ages of 18-39 and were diagnosed within this age range, use social media weekly, and speaks English and 2) informal cancer caregivers between the ages of 18-39, use social media weekly, and speaks English. Semi-structured interviews were conducted with participants over the telephone. We summarized sociodemographic and cancer factors, then categorized qualitative and quantitative data about general social media usage into platform use, differences between platform experiences, and information found. Results: There were 50 participants who completed an online screening form regarding social media platform usage, 17 of whom completed the study (36.0% participation rate). Of the 17 participants, Facebook (88.2%), Instagram (82.3%), and Twitter (76.5%) were the most common social media platforms used. Participants described that when using social media during cancer their preferred platforms were Facebook and Instagram, respectively, because of their ease of use and accessibility. This allowed a large population of cancer patients to be active on these platforms. Facebook was used most frequently for finding support through “groups”, from which participants could seek advice, anecdotes, or support from other cancer patients. On Instagram, participants most often interacted with cancer information through cancer specific pages like “Stupid Cancer” or “The Cancer Patient”. These pages target the adolescent-young adult age group. Participants felt as if the aspect of humor, the sharing of survival stories, research findings and opportunities, and fellow cancer survivors within the comments or through direct messages helped support them. The anecdotes/stories that were shared on social media often detailed a patient’s treatment regimen, survivorship, and daily life, which helped patients and caregivers analyze their own cancer experiences and routines. Conclusions: Adolescents and young adults are diagnosed at a developmentally unique time in life, where they may seek support and comfort through social media platforms. By studying the types of platforms used, the reasons for using social media, and patterns of social media use this work provides a foundation for targeting AYA cancer patients and caregivers for social media interventions.

PO-020 An examination of online experiences among young adult cancer patients and caregivers reveals the pervasiveness and influence of diet and supplement-related misinformation Echo L. Warner[1], Margaret Raber[2], Ashley Green[3], Keely Smith[4], Jennifer Traslavina Jimenez[4], Terry Badger[4]. [1]University of Utah, Tucson, AZ, [2]USDA/ARS Children's Nutrition Research Center at Baylor College of Medicine and Texas Children's Hospital, Houston, TX, [3]University of Arizona Cancer Center, Tucson, AZ, [4]University of Arizona College of Nursing, Tucson, AZ.

Purpose: Adolescent and young adult (AYA) patients and caregivers identify unmet information needs as a top priority, in part, because they experience disparities throughout cancer, including higher mortality, financial toxicity, lack of support, and late diagnosis. While the Internet is increasingly used by this population for cancer information seeking, the perception of online information among AYAs is not well studied. We describe AYA patients and caregivers' experiences with online cancer information. Methods: From March-July 2021, we recruited participants via online repositories (e.g., ResearchMatch), posted flyers on social media, and a large AYA conference. We conducted telephone interviews with AYA cancer patients and caregivers who spoke English and were ages 18-39 (N=17). We summarized sociodemographic and cancer factors, then categorized feedback about participant's experiences with 1) cancer information/misinformation and 2) the influence of misinformation on their decisions and behaviors. Results: Average age was 32 years (SD: 3.9), 65% identified as female and 53% had a graduate degree. Daily social media use was common: Facebook (65%), Instagram (65%), YouTube (53%), Twitter (47%), LinkedIn (23%), TikTok (23%), Snapchat (18%) and Pinterest (18%). Participants noted that cancer information on social media is problematic because it is non-specialized, inaccurate and/or unhelpful. Over one-third felt cancer information on social media remains very inaccessible because it is vague or not relevant to their cancer diagnosis (e.g., rare cancers). Three participants experienced unsolicited advice or rude/insensitive comments online, including judgements about delaying treatment or pressure to maintain a toxic positivity about the cancer experience. The majority reported online misinformation focused on diet and lifestyle changes including using essential oils, taking supplements-like ESSIAC (e.g., herbal tea alternative to chemotherapy), changing to a vegan or sugar free diet, and/or drinking alkaline water. Misinformation exposure led participants to engage other online sources (i.e., WebMD) and their healthcare providers to investigate online claims. Some participants experimented with diet-related claims they deemed would have no detrimental effect on their health or treatment (i.e., drinking alkaline water). Participants who experienced unsolicited and insensitive comments blocked the user or unadded them from their personal pages, while one participant chose to completely stop posting their cancer experience on social media. Conclusions: AYAs may be especially vulnerable to online information that seeks to alter their perceptions of cancer, cancer treatment, and cancer caregiving, particularly in the context of lifestyle behaviors. If they felt it was safe, participants acted upon information of questionable legitimacy from social media. Other negative aspects of online cancer interactions influenced caregivers' decisions to leave online support communities and modify relationships with their social networks.

Behavioral and Social Science: Community-based Interventions

PO-021 LGBTQ cancer care: Assessing the benefits and limitations of a novel cancer care coordination tool Nihmotallahi Adebayo[1], Will Dunne[1], Toni Madorsky[1], Sankirtana Danner[1], Juan Rivera[2], Elena Molina[2], Abbey Ekong[3], Elizabeth Adetoro[3], Cassandra Osei[1], Julia Trosman[4], Christine Weldon[4], Melissa Simon[1]. [1]Center for Health Equity Transformation, Feinberg School of Medicine, Northwestern University, Chicago, IL, [2]Howard Brown Health, Chicago, IL, [3]AllianceChicago, Chicago, IL, [4]The Center for Business Models in Healthcare, Glencoe, IL.

Background: Lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals experience health disparities at disproportionate rates which drive reduced cancer screenings and late-stage cancer diagnoses. These disparities are the result of barriers to care including a lack of LGBTQ-competent providers, lack of health insurance, unstable housing, and avoidance of care due to medical trauma and concerns about abuse and mistreatment. Community health centers are critical for providing primary care to LGBTQ+ patients with cancer. Unfortunately, once a patient is diagnosed with cancer and referred to specialty care outside the health center, primary care services are often disrupted or even discontinued as a result of gaps in communication between primary and oncological care providers. The © 4R Oncology Model (Right Information and Right Care for the Right Patient at the Right Time) is a novel, patient-centric care coordination tool developed to facilitate cancer planning and serve as a longitudinal primary care checklist for patients and their care team. Our project aims to assess the benefits and limitations of the 4R as a component of care delivered to LGBTQ cancer survivors. **Methods:** In collaboration with Howard Brown Health, we conducted semi-structured interviews with clinical care team members (N=10) to assess the benefits and limitations of the 4R implementation as a component of care delivered to LGBTQ cancer survivors. A Rapid analysis process, a method used when a quick analysis is required to adopt changes to ongoing processes, will be utilized. **Results:** Clinical care team members indicate that a lack of adequate research on solutions to the disruption of primary care services caused by cancer care for LGBTQ cancer patients is a significant barrier for this patient population. Team members agree that the 4R is a necessary intervention for addressing primary care gaps caused by inadequate care coordination. **Conclusions:** The 4R shows promise as a solution for initiating and sustaining more continuous communication between primary care and cancer care delivery for LGBTQ cancer survivors. Future interviews with patients, caregivers, and community organization members will further elucidate the barriers and facilitators to cancer care coordination for this population and how iterations of the 4R can improve access to care and outcomes.

PO-022 Community-driven recommendations for a culturally and contextually tailored HPV campaign for Arab and Mexican communities in Brooklyn Perla Chebli, Sonia Sifuentes, Victoria Foster, Yousra Yusuf, Abiha Kazmi, Sally Idris, Chau Trinh-Shevrin, Simona Kwon. NYU Grossman School of Medicine, New York, NY.

Purpose. Uneven language access in policy implementation perpetuates health disparity for limited English proficient populations. This study engages Arab and Mexican communities in Brooklyn to identify individual, community, and health system-level determinants of HPV vaccine uptake and hesitancy and inform a multilevel and culturally tailored HPV campaign. Methods. Guided by an integrated framework of community-based participatory research and social marketing for behavior change, we are conducting semi-structured interviews with community stakeholders (target n=18; health care providers, community and faith-based leaders) and community members (target n=80; parents/caregivers and adolescents) from the Arab and Mexican American communities in Brooklyn to examine challenges and facilitators to HPV vaccination and garner recommendations for a HPV campaign. Results. To date, we interviewed 14 community stakeholders (9 Arab, 5 Mexican) and 14 parents (11 Arab, 3 Mexican); data collection is ongoing. Preliminary content analysis revealed an overall consensus that in-language HPV-related materials are lacking and translated education is needed in both communities. Both Arab and Mexican parents reported limited knowledge of HPV, including the vaccination status of their adolescents. Recommendations for a HPV campaign were organized around the 4 P's of the social marketing mix (Price, Product, Place, Promotion). For Price, the 2 communities shared restrictive norms about premarital sex, particularly for girls, and the perception that girls only should receive the HPV vaccine. For Product, they agreed that the HPV campaign should be available in-language and emphasize cancer prevention not sexually transmitted illness. Arab parents, in particular, preferred messaging that emphasizes risk reduction for their daughters *after* they get married and become sexually active. For Place, most participants cited doctors as ideal sources of information. They recommended different campaign dissemination strategies for parents and adolescents: virtual (e.g., Facebook) or in-person interactive workshops conducted in community-based organizations (CBOs) for parents, and social media (e.g., TikTok) for adolescents. For Promotion, all participants agreed that bilingual brochures should be available in doctors' offices and CBOs. Arab parents expressed interest in opportunities for interactive workshops to ask questions and Mexican parents suggested supplementing school-based PTA meetings with opportunities for HPV education. Social media was again mentioned by all as the ideal platform to reach adolescents. Conclusion. Preliminary findings identified low levels of knowledge on HPV and a lack of in-language education reaching these communities. To bridge these gaps and improve reach and vaccination rates, our participatory social marketing approach underscores the need for a multilevel in-language HPV campaign for Arab and Mexican communities that aligns with their cultural norms and leverages existing community assets such as CBOs, healthcare providers, and schools.

PO-023 ***Connecting under-resourced populations: A community-based prostate cancer screening intervention*** Dorothy Galloway[1], Dede Teteh[2], Leanne Woods-Burnham[1], Mya Walker[1], Rick A. Kittles[1]. [1]City of Hope Comprehensive Cancer Center, Duarte, CA, [2]Crean College of Health and Behavioral Sciences, Chapman University, Orange, CA.

Prostate Cancer (PCa) is the number one diagnosed cancer among Black men (BM) in the United States. Diagnosed earlier, with more aggressive disease, BM are dying at higher rates than other race/ethnic groups. Family history of PCa and lack of access to annual screenings are known contributors to the development of lethal disease. In addition, over 70% of BM are vitamin D deficient (VDD), which promotes tumor aggressiveness, and generally have little knowledge of their family history of PCa. When detected at an early stage, BM have higher survival rates for PCa than other racial/ethnic group. As a result, the American Cancer Society recommends that men with a higher risk of developing PCa should receive information about the benefits and limitations of screening between 40 and 50 years of. Community-based screening (CBS) interventions have been shown to increase early detection and increase knowledge of PCa risk for BM). The purpose of this study is to better understand the feasibility of CBS interventions in reducing PCa disparities among BM. **Methodology:** Participants were recruited between 2018-2020 from CBS events in Southern California. The men completed a 48-item questionnaire prior to receiving a Prostate-Specific Antigen (PSA) test. Vitamin-D levels were also measured. The survey included questions on demographics, general health, cancer history, and family history of cancer. Inclusion criteria involved BM over the age of 40, without a family history of PCa, with PSA scores greater than 4 ng/ml (abnormal screening result), and Vitamin-D values less than 20 ng/ml (Vitamin D deficiency level). Survey data was analyzed using SPSS Version 25. **Results:** Our participants (n=497) included 68.8% (n=342) BM, 10% (n=50) White, 11.9% (n=59) Latino, 6.8% (n=34) Asian, and 2.4% (n=12) other. 62% of participants (n=269) have never been screened for PCa, and 74% (n=313) are between 40 and 88 years old. Of the Black population, 62% (n=163) never received a PSA screening, and 66% (n=175) did not have a family history of PCa. In addition, 36% (n=113) of the BM were VDD. Of the BM with an Abnormal Screening Result (ASR) (n=32), 44% (n=14) have never been screened, and 53% (n=17) did not have a family history of PCa. In addition, 44% (n=14) of the participants with an ASR were VDD. Lastly, of the BM above the age of 40 with an ASR, and VDD, (n=14), 50% have never been screened and 57% did not have a family history of PCa. **Discussion**: This study aimed to identify the feasibility of a community based PCa screening intervention for BM in Southern California. As a result of our CBS program, we identified high risk men without a family history of PCa and were VDD. This program offers early detection and screening opportunities to further increase awareness of PCa risk factors for BM. Future research should include the impact of CBS interventions for BM at perceived lower risk of developing PCa.

PO-024 Survivorship care plan for cancer prevention and screening for people living with HIV (PLWH) Theresa W. Gillespie[1], Loree Mincey[1], Yuan Liu[1], Denise Ballard[1], Kimberly W. Scott[2], Robert Knott[1], Minh Ly T. Nguyen[1], Saurabh Chawla[1], Joseph Lipscomb[1], Jessica H. Wells[1]. [1]Emory University, Atlanta, GA, [2]Horizon Community Solutions, Albany, GA.

BACKGROUND. Over 1.2 million people living with HIV (PLWH) in the US are aging, many with the chance for normal or near-nomal life expectancy. Yet PLWH are at significantly increased risk for non-AIDS associated cancers due to immunocompromise, antiretroviral medications, lifestyle factors, and social determinants of health issues. HIV disproportionately affects Blacks, those from lower socioeconomic status, the uninsured, and the Southern US. Outcomes from PLWH diagnosed wtih cancer are consistently worse compared to those who are HIV negative, even when diagnosed at the same stage. However, PLWH are often unaware of their higher risk status and are infrequently referred for cancer prevention or screening by providers, despite these disparities in screening and outcomes. METHODS: To explore reasons why PLWH did not engage in cancer prevention or screening activities, we partnered with urban and rural community clinics with a mixed methods study design, including a quantitative survey and focus groups. RESULTS: In our sample (N=178), 90.4% Black, 57% female, significant differences were found between rural and urban settings related to guideline-concordant uptake of cancer screening and prevention. Only 37% subjects overall reported participating in regular cancer screening. Among women over 50 years who met criteria for breast cancer screening, 100% of women in the rural setting were screened while 55% of eligible women in the urban community received breast cancer screening ($p=0.009$). Participants from both settings demonstrated gaps in knowledge of their own cancer risk or need to pursue screening. Urban participants were more likely than rural to strongly disagree wtih the statement that HIV+ individuals are at higher risk for cancer ($p<0.001$). Qualitative data indicated the main reason why PLWH did not participate in prevention or screening activities was because participants were seldom referred for screening by their HIV clinic provider or informed of their risk status. Other qualitative data themes were shock and surprise at learning of their increased risk, or how certain behaviors might reduce cancer risk. DISCUSSION: Upon reviewing results with community partners, the suggestion was made that an HIV Survivorship Care Plan, similar to a Cancer Survivor Care Plan, be developed that could be part of the medical record. The HIV Survivorship Care Plan would incorporate cancer and other chronic disease screening, prevention interventions, and surveillance that would be important for aging PLWH to ensure both patients and providers adhered to evidence-based practices. CONCLUSIONS: PLWH are at increased risk for cancer incidence and mortality as they age, yet are often overlooked as a high-risk population that could greatly benefit from prevention and screening.The application of an HIV Survivorship Care Plan intervention is a novel approach to reduce disparities and improve quality of care and outcomes for PLWH. The tool will be tested and evaluated through additional community-engaged partnerships targeting PLWH .

PO-025 Implementing evidence-based interventions (EBI) to increase uptake of fecal immunochemical test (FIT) colorectal cancer (CRC) screening in Vulnerable Populations

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Purpose: We partnered with a local Federally Qualified Health Center (FQHC) to test implementation of evidence-based interventions (EBI) promoting Fecal Immunochemical Test (FIT) CRC screening in an environment in which colonoscopy has been the prevailing screening strategy. We report on implementation adaptations and preliminary results.**Background:** Sociocultural and medical concerns are barriers to colonoscopy uptake in some populations. An additional barrier to CRC screening is system level capacity for colonoscopy that results in a back log of cases and long wait times. With Covid-19, the additional backlog in overdue CRC screening has underscored the need to expand FIT testing capacity to address screening needs and to pre-empt further racial/ethnic and SES disparities in CRC outcomes. This trial tests the unique and additive value of multiple EBIs for increasing CRC screening (primarily through FIT testing, but also colonoscopy when indicated) while evaluating the success of implementing these approaches. EBIs include the use of medical reminders, addressing the structural barriers (social determinants of health [SDOH]), and assistance from community health workers. Methods**:** Participants (3500), ages 45-75, were identified from a large FQHC in New Haven, CT and determined to be overdue for CRC screening. Participants were randomly assigned to one of the four arms of the study: 1) Provider reminder (overdue for CRC screening) only; 2) Provider Reminder + SDOH short message and one-size-fits all link to resources; 3) Provider Reminder + SDOH short message and offer for individualized navigation (trained navigators from local community) to address SDOH and other barriers; 4) Provider Reminder + offer to participate in a CRC educational program as phase 2 of the NCI's Screen to Save program (not an EBI). Preliminary data on uptake of CRC screening will be presented. **Results:** With input from stakeholders , we have: 1) lowered age eligibility from 50 to 45 to align with new guidelines; 2) expanded the target population to 2 additional satellite clinics, more than doubling the proposed study enrollment; 3) incorporated design changes in the patient reminders. The collaboration between research team and clinician stakeholders has been critical in minimizing disruptions to clinical workflow while assuring fidelity to the evidence-based interventions. Preliminary outcomes (within one month of intervention) on uptake of intervention across the 4 arms of the study, i.e., referral for CRC screening and test completion will be presented. **Conclusion:** The unique challenges of this urban community of primarily African American/Black, Hispanic/Latinx and/or low socioeconomic status individuals stem from the disproportionate burden of SDOH barriers. Findings will inform primary care setting implementation of EBIs to address the anticipated increase in disparities in CRC screening, exacerbated by COVID-19 changes in health care access and utilization, as well as the increased demand associated with the change in guidelines.

PO-026 University of Arizona partnership for Native American Cancer Prevention (NACP), outreach core Keyauni Leist, Jacquanette Slowtalker. University of Arizona, Tucson, AZ.

Cancer among American Indian/Alaska Native (AI/AN) communities is the second leading cause of death. The Partnership for Native American Cancer Prevention (NACP) was established to addresses cancer health disparities in Native Americans. The Outreach Core of NACP ensures research and tribal community engagement are undertaken in a respectful and inclusive manner with tribal communities. The University of Arizona (UA) Outreach Core: (1) developed (& distributed to 22 Arizona tribal communities) information materials focused on proper tribal consultation and engagement, foundational cancer information including statistics on leading causes of cancers, considerations for cancer survivors and caregivers over the continuum of cancer care including palliative/hospice care and clinical trials. (2) Hosts an Indigenous Cancer Prevention webinar series to showcase successful community-led cancer control initiatives in Indian Country. (3) In collaboration with the UA Responsible Conduct of Research (RCR) Program, offer training in *Tribal Consultation & Engagement with Native Communities*. (4) Partnered to develop a well-women video to promote preventative cancer screening of Native American women. As part of the Indigenous Cancer Prevention webinar series, a total of seven speakers have presented on various Native American-focused cancer initiatives including: understanding pediatric acute lymphoblastic leukemia, initiatives to address cancer burden; human papillomavirus and cervical cancer; quality of life among cancer survivors and survivorship issues; cancer among Alaska Natives; and cancer trends in Indian Country. Both the webinar series and the UA RCR training have been well received and pre- and post-tests and evaluations demonstrate an increase in knowledge and positive review of content and delivery. The webinar series has reached over 200 attendees of students, service providers, community members, and faculty across half of the United States.

PO-027 A Puerto Rico free of preventable diseases: An online education intervention for school staff during the COVID-19 pandemic era in Puerto Rico Diana T. Medina-Laabes[1], VOCES PR Coalition[2], JAC-HPV PIVAC PR[3], Omayra Salgado Cruz[1], Roxana Soto Abreu[4], Olga L. Diaz Miranda[4], Marta M. Sánchez Aracil[4], Vivian Colón-López[1]. [1]UPR-Comprehensive Cancer Center, San Juan, Puerto Rico, [2]VOCES PR; Coalición de Inmunización y Promoción de la Salud de Puerto Rico, Guaynabo, Puerto Rico, [3]Junta Asesora de la Comunidad-Estudio HPV PIVac (JAC-PIVac), San Juan, Puerto Rico, [4]UPR- Comprehensive Cancer Center, San Juan, Puerto Rico.

Introduction: *Puerto Rico Libre de Enfermedades Prevenibles* (Puerto Rico Free of Preventable Diseases) was an online, community-based initiative consisting of eight educational training programs regarding school entry vaccines, including HPV vaccine as the most recent requirement. The Community Advisory Board of the HPV-PIVac study (CAB-PIVac) developed this activity in response to barriers identified on school personnel by the HPV-PIVac study: lack of knowledge about the HPV vaccine and its school entry requirement and need for training. In February 2020, CAB-PIVac members collected data through a self-administrated survey to identify potential topics. After several meetings, members identified the topics and resources for these webinar series. Our purpose is to present how the integration of community members into an ongoing research study allowed rapid response to developing an educative initiative to impact school staff concerning preventable diseases and the HPV vaccine. **Methods:** Eight webinars in four weeks were transmitted in-live through the Zoom platform from June 26 to July 17, 2020. They were on-demand until July 24, 2020. Theme per week: World without vaccine: COVID-19; Teenager vaccine in School; Future free of HPV-related cancer; and Legal aspects of vaccination for the school-entry. The participants received via email an evaluation form to assess the impact of these webinars. Using data from the registration form, we collected the following participants' characteristics: sex, age, education sector, and role in the school. We performed a thematic analysis collecting all the messages posted in the Q & A section of each webinar to identify the topics in which the participants had doubts or more interest. **Results:** A unique participation of 954 participants were registered, and the range of involvement on the education webinars was 588 to 780 participants. Based on the type of education, 28.8% were private, and 70.9% were from public education. Most of the participants were females (89.6%) and with an average age of 42 years (range: 21 -74). Of the participants who reported their role at their schools (n=648), 31.4% were school nurses, followed by the school director (22.7%). Twelve percent of the participants were teachers. The evaluation was satisfactory (99.7%) considering the tools offered and the clear information presented. The thematic analysis results showed that the two topics discussed in the Q &A section were the immunization registry (problems with system access) and the vaccination series (age to initiate the series). **Conclusion:** This initiative was developed and performed in less than five months. Many national and international organizations, coalitions, and government agencies are working to achieve the same goal: eradicated HPV-related cancers and strengthen the awareness for HPV prevention. Involve these community members in the research is crucial to secure how the results of the investigation studies could impact the community quickly and accurately.

PO-028 Successful implementation of Latina breast health programs: A multi-stakeholder analysis to answer a multilevel question Yamilé Molina[1], Perla Chebli[2], Stephanie A. Torres[1], Joanna Olazar[1], Jeanette Olazar[1], Katherine Reyes[1], Juanita Arroyo[3], Maria Medina[1], Nora Coronado[4], Araceli Lucio[3], Garth H. Rauscher[3], Lauren Green[1], Pamela Ganschow[1], Candyce H. Kroenke[5], Marc Atkins[1]. [1]University of Illinois at Chicago, Chicago, IL, [2]New York University, New York, [3]The Resurrection Project, Chicago, [4]Centro Comunitario Juan Diego, Chicago, [5]Kaiser Permanente, Oakland.

Background: Multiple interventions have been developed to address Latina-White breast cancer (BC) disparities. Yet, little is known about what drives successful implementation, resulting in limited and less successful translation to practice. Engaging participants, community staff, *and* academicians in program evaluation may enhance identification of factors driving implementation, given differences in lived experience and intervention roles. **Objective:** We engaged 20 Latina participants, 3 community health workers (CHWs), and 3 research staff to identify determinants of: (1) intervention appropriateness (extent to which interventions addressed BC disparities), (2) feasibility (extent to which intervention delivery/participation was possible), and (3) acceptability (extent to which interventions were satisfactory). **Method:** The "Empowering Latinas to Obtain Breast Cancer Screenings" trial compared the efficacy of two interventions on BC screening uptake among 142 Latinas who were non-adherent to US Preventive Services Task Force (USPSTF) BC screening guidelines. Both interventions employed CHWs with personal/family history of BC to deliver 3 group sessions and refer patients to navigation services. The current study focuses on a qualitative program evaluation of the trial. All participants completed audio-recorded semi-structured interviews. A sample question was "What helped make it possible to participate in/lead the intervention?." We conducted deductive content analysis, guided by the Consolidated Framework for Implementation Science, on verbatim transcripts. **Results:** Emergent themes suggest distinct multilevel determinants of different implementation outcomes. Intervention acceptability and appropriateness were driven by (1) characteristics at intervention (e.g., adaptability to personal needs – e.g., personalized literacy assistance; addressing diverse barriers to BC screening); (2) characteristics of the CHW interventionists (e.g., information delivered via BC survivors' personal experiences); and, (3) characteristics of organizations (e.g., trusted service providers). Intervention feasibility was driven by (1) organizational (e.g., intervention compatibility with mission; clear delineated *a priori* tasks for intervention delivery) and (2) partnership characteristics (e.g., strength of relationships between academics, community leaders, and clinical navigation BC services). Differences in stakeholder perspectives aligned with their lived experiences. For example, participants' personal challenges with BC screening, CHWs' past experiences leading BC programs, and researchers' awareness of past research on BC disparities affected perceptions about intervention appropriateness. **Conclusions:** Our findings highlight the value of multi-stakeholder analysis and specify the types of intervention and study team characteristics that are needed to make interventions appropriate, acceptable, and feasible for Latina-White BC equity.

PO-029 Community coalition and academic need assessment: Our first step for the development of an educational intervention on HPV vaccination targeting school staff during pandemic era in Puerto Rico VOCES PR Coalition[1], Josheili S. Llavona[2], Diana T. Medina Laabes[3], Omayra Salgado Cruz[3], JAC-HPV-PIVac PR[4], Roxana Soto Abreu[3], Olga L. Diaz Miranda[3], Marta M. Sánchez Aracil[3], Vivian Colón-López[3]. [1]VOCES PR; Coalición de Inmunización y Promoción de la Salud de Puerto Rico, Guaynabo, Puerto Rico, [2]Outreach Program, UPR-Medical Science Campus, San Juan, Puerto Rico, [3]UPR-Comprehensive Cancer Center, San Juan, Puerto Rico, [4]Junta Asesora de la Comunidad-Estudio HPV PIVac (JAC-PIVac), San Juan, Puerto Rico.

Introduction: Implementation of school-entry policies for vaccination for human papillomavirus (HPV) vaccination (HPV-PIVac study) is a five-year prospective study started in 2018 to evaluate the implementation of the HPV vaccine as a requirement for school entry in Puerto Rico. As part of these study efforts, we organized a Community Advisory Board (CAB) whose members are from government and private organizations, coalitions, and community-based organizations working for HPV prevention. As part of the preliminary results of the HPV-PIVac study presented to the CAB, key informant interviews demonstrated the lack of knowledge and the need to train school staff on the HPV vaccine and its school policy. CAB members worked on an educational initiative about vaccines to respond to these barriers, called *Puerto Rico Libre de Enfermedades Prevenibles* (Puerto Rico Free of Preventable Diseases). As a first step, a needs assessment survey was conducted to identify the most significant topics of interest and need issues about vaccines and the new HPV vaccine school requirement in this population. Methods**:** In February 2020, CAB members distributed a self-administration survey during the 2019-2020 Education Congress, an event in which teaching and non-teaching staff from the island's private education sector assisted in continuing education training. Data collection was gathered by convenience sampling. The survey collected the following variables: knowledge of the HPV school-entry policy, knowledge of HPV infection and the HPV vaccine, confidence in talking to parents about the HPV vaccine, and information of interest about the HPV vaccine. Results**:** A total of 76 participants were recruited. The largest number of participants (73%) were teachers, and 19% were school directors. At least 61% of the participants were unaware of the HPV vaccine as a requirement to enter school. We identified an insufficient knowledge of the following items: HPV-related cancers (43%) and HPV vaccine series (32%). Only 21% of school personnel reported been prepared to talk to parents about the HPV vaccine. According to the participants' responses, the top five information about HPV that they were interested in were: (1) Side effects of the vaccine; (2) Effectiveness of the vaccine, (3) Safety of the vaccine; (4) Messages to give to parents; and (5) Information on HPV vaccination policy. Conclusion**:** Through the need assessment, we were able to identify topics that should be addressed as information about the HPV vaccination series, HPV-associated cancers, HPV vaccine school entry policy, safety and effectiveness of the HPV vaccine. Based on this data, we developed an educational curriculum for the initiative. The collaboration of the different members of the CAB was essential to carry out this first step.

PO-030 Qualitative analysis of case notes and narratives reported by community health navigators in the Yale Cancer Disparities Firewall project Sakinah C Suttiratana[1], Monique Stefanou[2], Eiman Ibrahim[3], Jonathan Colon[2], Eduardo Reyes[2], Roy Herbst[4], Beth A. Jones[1]. [1]Yale School of Public Health/Yale Cancer Center, New Haven, CT, [2]Yale School of Public Health, New Haven, CT, [3]Quinnipiac University, School Of Medicine/St Vincent's Medical Center, New Haven, CT, [4]Yale School of Medicine/Yale Cancer Center, New Haven, CT.

Background: The Yale Cancer Disparities Firewall Project launched a pilot "health" navigation program that combines multicultural and bilingual health navigators, geo-coded resource referrals, screening for social determinants of health (SDOH), and telephonic support to set and achieve cancer screening and prevention (lifestyle change) goals among vulnerable populations. This study examines benefits of and barriers to program participation based on navigators' interaction notes and case narratives. **Methodology:** Qualitative analysis of interaction notes recorded in electronic databases as well as case narratives documented over the course of the pilot program. Thematic analysis highlighted benefits of and barriers to program participation. Triangulation of qualitative findings with quantitative measures of SDOH and demographic factors helped characterize goal progress related to cancer screening, preventive medicine appointments, and healthy lifestyles (e.g. healthy eating, quit smoking). **Results**: Between May 2019 and December 2020, 196 community members expressed interest in receiving navigation support focused on cancer screening and healthy lifestyle support; 73 completed an intake process and 69 had at least one post-intake interaction with a navigator. Demographic characteristics of those who completed the intake were: 75.4% female, 60.9% Black, 27.5% Latinx, and 23.2% immigrant. Based on a validated screening tool, 66.7% of participants had one or more SDOH need. Representing more than 2,500 interactions between navigators and participants, 658 case notes revealed the complexity of making and attending medical appointments and maintaining healthy lifestyles amidst dynamic life circumstances and limited resources. Data describe institutional, interpersonal/social, and individual level benefits of and barriers to program participation. Navigator-facilitated benefits included Spanish language access to information, improved navigation of local health systems, tangible support to address SDOH and make appointments, health information dissemination, and enhanced trust in health care workers. Barriers to participation included: a mismatch between community resources and resource needs, consistent and reliable access to technology, time constraints and household or individual health/medical conditions. **Conclusion**: The Yale Cancer Disparities Firewall was designed to identify and address SDOH for vulnerable residents, while facilitating healthy lifestyles and cancer screening. Based on two years of implementation data, we have identified areas for program refinement that might enhance navigation services for community members and advance cancer prevention and screening strategies to help address cancer disparities. Furthermore, systematic analyses of administrative case notes, a commonly available source of data for many health and social service programs, has been a valuable tool to help reveal barriers and facilitators to program engagement that may complement conventional evaluation strategies.

PO-031 Qualitative analysis of focus group data for liver cancer prevention program planning Jordan Swan. University of Texas MD Anderson Cancer Center, Houston, TX.

Texas currently has the highest reported age-adjusted incidence rate of hepatocellular carcinoma (HCC) in the nation. Minority communities tend to have a higher incidence rate of HCC compared to non-Hispanic Whites. Individuals with a past medical history of fibrosis, cirrhosis, and alcoholic and non-alcoholic fatty liver disease – all of which are potentially preventable – are known to be at greater risk for developing HCC. Early detection of HCC is known to improve survival rates; however, rates of screening for risk factors and timely detection are low. Improved efforts are, therefore, required to educate minority communities on prevention of risk factors that may lead to development of HCC. The HOPE Clinic is a community based 501(c)(3) that aims to provide culturally competent healthcare to all Greater Houston Area. The aim of this analysis is to determine characteristics of an effective and retentive intervention program that would be attractive to and serve the Greater Houston Area using focus group data from HOPE Clinic patient participants. Patients were recruited from the HOPE Clinic to participate in focus groups. A total of five focus group interviews were conducted in English, Vietnamese, and Spanish and translated for analysis to determine patient's knowledge of risk factors of liver cancer, barriers to lifestyle changes, and health management efforts. Focus group data was analyzed using qualitative methods of analysis. Atlas.ti 8 for Windows was used to assign labels (codes) to focus group data, determine frequency of codes, and aid in organization of recurring themes across all interviews. The results of this qualitative analysis found themes of health barriers, motivating factors, willingness to participate in intervention programs, program needs, knowledge of liver health, suggested protective efforts, and past program involvement. Participants often pointed out their awareness of important health behaviors such as nutrition, alcohol consumption, and physical activity while also acknowledging barriers such as time constraints due to overworking, accessibility of physical activity, and culturally specific diets. Fear of illness and aging were prominent motivational factors. Program format should include tailored scheduling with the option of virtual, in person, and asynchronous participation. Content of the program should include objectives such as healthier recipes and food preparation, recipe adaptation, time management skills, and physical activity for beginners. Overall, there was a consensus that interventions should promote positive health behaviors in both younger and older age groups.

PO-032 Cancer supportive care needs and resource use among Asian American cancer patients: Preliminary findings from a pilot patient navigation intervention, "Patient COUNTS" Katarina Wang, Janice Tsoh, Carmen Ma, Ching Wong, Hoan Bui, Corina Liew, Junlin Chen, Salma Shariff-Marco, Janet N. Chu, Laura Allen, Mei-Chin Kuo, Debora L. Oh, Scarlett L Gomez, Tung T. Nguyen. University of California San Francisco, San Francisco, CA.

Background: Cancer is the leading cause of death for Asian Americans. Patient navigation has shown benefits in enhancing cancer treatment outcomes and quality of life. Navigational needs in accessing cancer supportive care among Asian American cancer patients and how to address such needs, however, remain understudied. Asian Americans face unique language and cultural barriers in cancer care. We designed a culturally and linguistically-tailored pilot patient navigation intervention, Patient COUNTS, to better understand and address the needs of Asian American cancer patients. **Objective:** To examine cancer supportive care needs and resource use among patients, who participated in a pilot study that aimed to provide culturally and linguistically-tailored navigation for Asian American cancer patients. **Methods**: We recruited Asian American adults diagnosed with stage I-III colorectal, liver, or lung cancer from the Greater Bay Area Cancer Registry and San Francisco hospitals. Participants spoke English, Chinese, or Vietnamese and had not completed treatment. Participants were assigned a language-concordant patient navigator, who provided support for six months. This study describes participants' cancer supportive care needs and resource use from telephone and self-administered surveys collected at baseline, three, and six months. Participants included 24 Asian Americans with cancer who completed the baseline survey, with 18 (75%) who completed at least one of the follow-up surveys. **Results**: Of the study sample (n=24), 63% were men, 55% were 65 years or older, and 42% did not complete high school. A majority (75%) spoke limited English; participants' preferred language included Cantonese/Mandarin (61%), Vietnamese (26%) and English (13%). Most participants had stage I (54%) or III (42%) cancer of the lung (42%), colon (37%), or liver (21%). Across the three surveys, the most frequently reported types of needs by the 24 participants were: cancer information (83%), language translation (54%), basic resources such as financial, transportation, legal, housing, and food access resources (50%), access to healthcare (42%), and mental health (33%). Among the 18 participants who completed the three- or six-month surveys, 90% reported using one or more resources that navigators directed them to. Specifically, of the 18 patients, the most frequently used resources included healthcare (77%), basic needs (67%), language translation (56%), and mental health (28%). **Conclusions**: The Asian American cancer patients enrolled in Patient COUNTS, a pilot patient navigation program, had a variety of cancer supportive care needs. Findings provided preliminary support of Patient COUNTS as a promising approach to assess cancer supportive care needs and assist navigation of resources among Asian American cancer patients. These findings will inform future interventions to improve the care that Asian American cancer patients receive.

PO-033 Qualitative analysis of the lifestyle programming preferences of Mexican-origin breast cancer survivors and cancer caregivers living on the U.S./Mexico border Samantha J. Werts[1], Melissa Lopez-Pentecost[1], Meghan Skiba[2], Rosi Vogel[1], Maia Ingram[1], Tatiana Enriquez[3], Lizzie Garcia[3], Cynthia Thomson[1]. [1]University of Arizona, Tucson, AZ, [2]Oregon Health Sciences University, Tucson, AZ, [3]Mariposa Community Health Center, Nogales, AZ.

Introduction: Hispanics face unique challenges after cancer treatment, including less cancer survivorship knowledge, lower quality of life, higher comorbid conditions, and socioeconomic disadvantages. Using a community-based participatory approach, we engaged in a qualitative exploration of lifestyle-related behaviors and behavior modifiers of Mexican-origin breast cancer survivors and their caregivers living in a border community to inform the development and implementation of an evidence-based lifestyle intervention to reduce cancer burden and metabolic co-morbidities. Methods: The study was conducted through a community-academic partnership (La Vida Plena) between the University of Arizona and Mariposa Community Health Center located on the Arizona/Mexico border. Eligibility criteria for cancer survivors included 1) self-identification as Hispanic and 2) cancer diagnosis in the previous 15 years. For cancer caregivers, eligibility criteria included 1) self-identification as a caregiver for an individual with cancer. Participants completed a questionnaire querying diet and physical activity behaviors pre- and post-cancer diagnosis. Semi-structured interviews included ten open-ended questions related to the impact of cancer on lifestyle, perceptions of lifestyle and health after cancer, and intervention content/delivery. Interviews were transcribed and analyzed using a deductive thematic approach grounded by the Cancer Survivorship Care Quality Framework. Results: A total of 23 participants were recruited with 19 (n=12 cancer survivors, n=7 caregivers) completing the study. Mean age was 55.6 ± 12.5 years and 41.1 ± 15.3 years for cancer survivors and caregivers, respectively. All survivors experience at least one comorbid condition with 58% experiencing 4 or more comorbid conditions. Key themes identified among cancer survivors included: 1) family as an influence on lifestyle behaviors; 2) perception of the Mexican diet as unhealthy; 3) financial barriers for a healthy lifestyle; 4) the role and challenges of physical activity after cancer treatment; 5) impact of physical effects of treatment on lifestyle behaviors; and 6) challenges to obtaining accurate health-related information. Key themes among caregivers included: 1) effects of the cancer experience on caregiver's lifestyle behaviors and 2) providing support to the survivor. Important considerations in adapting and developing lifestyle programming for border-dwelling cancer survivors include 1) access to content experts, 2) support with the management of physical symptoms, 3) inclusion of written materials, 4) incorporation of family in the program, and 5) inclusion of cancer survivor support groups. Conclusion: This study identified key concepts and themes important for the adaptation, development, and implementation of an evidence-based intervention supporting lifestyle behavior change to reduce the burden of cancer and comorbidities among cancer survivors and their caregivers living along the U.S./Mexico border.

Behavioral and Social Science: Community-based Participatory Research

PO-034 Is clinical trials the answer to cancer: Preliminary results from City of Hope Multi-ethnic Community Engagement Program Kimlin Ashing, Marisela Garcia, Sophia Yeung, Alejandro Fernandez. City of Hope, Duarte, CA.

Background: The biomedical community is struggling to develop viable strategies to increase ethnic minority enrollment in studies -- a result of both historical and current medical injustices in communities of color. Therefore, we aimed to reach multiethnic community health leaders to determine barriers and facilitators of research participation by providing an educational program that focuses on the importance of ethnic minority participation in research. **Methods:** We conducted a stakeholder evaluation study as part of a community research engagement education program. An online survey was administered to community ambassadors (N=88) representing multiethnic health organizations from across Southern CA as well as an On-Demand "Community Research Navigator (CRN)" education program; that brought awareness of the importance of clinical trials. Participants were identified and provided the survey link by the leadership of our partners. Participants were asked to rank barriers and facilitators of research participation of their communities from least to greatest and complete the educational component. Results**:** Respondents were Korean-American (35%), African-American/Black (33%), Filipino-American (18%), and Latino (14%). Respondents were mostly female (88.10%) and 45-55 years old (33.33%). Participants ranked fear of biomedical research, lack of provider invitation; lack of diversity in the researchers doing the research, language, cost/coverage barriers as the top 5 barriers. The top 5 methods endorsed by participants to increase minority research participation were increase knowledge and awareness for patient and family; provide coverage/compensation; increase diversity among researchers, provider and broad media, referrals, and ensure practical facilitators. We found CRN training results showing increases in 28% of respondents feeling prepared to help their community overcome barriers to accessing medical research, 29% feeling prepared to help their community with trust and willingness to participate in medical research; and 26% feeling prepared to navigate their community into trial studies. Conclusion**s:** Findings suggest that barriers to research participation are influenced by multiple factors including structural (health system, lack of minority scientists), societal determinants (discrimination, cost), and social (interpersonal, familial, cultural) and emotional (fear) factors. Therefore, strategies to increase minority participation in biomedical studies must attend to barrier domains. Our community Ambassadors emphasized, that the *social* component refers to the significant systemic barriers especially the intersection of cost and racism in the medical sector rooted in societal determinants including medical/scientific discrimination. These findings provide a broader contextual conceptualization of barriers to inform novel strategies including CRN to increase community leaders preparedness for greater diversity engagement and participation in biomedical studies as an achievable answer to cancer disparities and cancer, overall.

PO-035 Knowledge, motivation, and mental health: Factors associated with adherence to Hepatitis B medication among underserved Asian Americans Aisha Bhimla[1], Lin Zhu[1], Wenyue Lu[1], Sarit Golub[2], Chibuzo Enemchukwu[2], Elizabeth Handorf[3], Yin Tan[1], Minhhuyen T. Nguyen[3], Min Qi Wang[4], Grace X Ma[1]. [1]Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, [2]Hunter College, City University of New York, New York, NY, [3]Fox Chase Cancer Center, Temple University Health System, Philadelphia, PA, [4]School of Public Health, University of Maryland, College Park, MD.

Introduction: Chronic Hepatitis B (CHB) Virus disproportionately affects Asian Americans, where they represent 6% of the total United States (U.S.) population but make up 58% of Hepatitis B Virus (HBV)-linked hepatocellular carcinoma (HCC) cases. HBV is the leading risk factor for developing HCC. Vietnamese and Chinese Americans suffer from disproportionate amounts of HBV infections as they represent foreign born immigrants that have come from countries with endemic HBV levels. The consequences of non-adherence to medication among is increased virological failure and a higher risk of disease progression to CHB leading to conditions such as cirrhosis as well as HCC. Understanding what factors contribute to medication adherence can be crucial for providing appropriate support for maintaining long-term treatment adherence and sustaining a virological response through interventions and strategies for high-risk populations affected by HBV. This study aims to examine the sociodemographic and psychosocial predictors of low versus medium/high adherence to medication among a community-based sample of Chinese and Vietnamese HBV infected patients. Methods: Study participants were comprised of 382 Asian American CHB patients, including 298 (78.01%) Chinese Americans and 84 (21.99%) Vietnamese Americans. Study participants were recruited between March 2019 to March 2020 and were enrolled through multiple recruitment approaches in the Greater Philadelphia Area and New York City regions. This presentation reports data from the study baseline survey with measures that included medication adherence measured by the Morisksy Medication Adherence Scale, knowledge regarding HBV diagnosis, prevention and treatment, motivation of HBV medication treatment, self-efficacy about HBV medication treatment, depression, and socioeconomic status. Multivariable logistic regression model was used, controlling for recruitment source and clustering by site. Results: Multivariable logistic regression analysis revealed that with regards to sociodemographic predictors, living longer in the U.S. (OR=4.46; 95% CI: 1.23, 16.14; p=0.023), and greater English proficiency characterized as speaking English well or very well were associated with greater odds of medium/high medication adherence (OR=0.31; 95% CI: 0.10, 0.89; p=0.030). With regards to psychosocial predictors, greater knowledge about HBV diagnosis, prevention, and treatment was associated with greater odds of medication adherence (OR=1.46; 95% CI: 1.16, 1.83, p=0.025). Additionally, greater depression score was associated with lower odds of medium/high medication adherence (OR=0.88; 95% CI: 0.78, 0.98, p=0.025). Conclusion: The study findings suggested a need for intervention regarding medication treatment and tertiary prevention and management of CHB among underserved Asian Americans. Furthermore, the association between depression and medication adherence suggests the need for psychological interventions to enhance mental health outcomes and quality of life to potentially improve or maintain medication adherence.

PO-036 Healthcare and colorectal cancer screening needs among older adults in a cancer center catchment area Ifeanyi B. Chukwudozie[1], Chibuzor Abasilim[2], Jessica M. Madrigal[1], Vida A. Henderson[1], Erica Martinez[1], Alana A. Aziz-Bradley[3], Jeanette Santana Gonzalez[1], Nasima Mannan[1], Ahlam Al-Kodmany[1], Karriem S Watson[1]. [1]University of Illinois Cancer Center, Chicago, IL, [2]University of Illinois at Chicago School of Public Health, Chicago, IL, [3]University of Illinois at Chicago Department of Medicine, Division of Hematology and Oncology, Chicago, IL.

Background and objective Cancer centers and healthcare systems play a pivotal role in identifying and responding appropriately to the population's cancer burden and health needs in their catchment area to reduce health inequities. Community health needs assessment (CHNA) is an integral instrument in identifying individuals' fundamental health needs in a given community. This study utilizes data from a pilot CHNA collected by a Cancer Center at community engagement events to examine cancer screening status, cancer screening education, having a primary care doctor, and barriers to healthcare among older participants. We hypothesize that screening and healthcare needs will differ by racial/ethnic groups. ***Methods*** The initial CHNA comprises data from eligible participants aged 18 years and older who attended 13 cultural and health events in Chicago from August to December 2019. The study analysis focused on Hispanic, Non-Hispanic Black (NHB), and Non-Hispanic White (NHW) participants aged 50 years and older. We examined colorectal cancer (CRC) screening and education interest questions as emblematic for both sexes in this age group based on the U.S. Preventive Services Task Force recommendations in 2019. Participants responded to (1) having received colon/rectal cancer screening with stool test (FOBT/FIT) or colonoscopy within the past ten years and (2) interests in learning more about the screening tests. We conducted descriptive bivariate analyses to examine CRC screening status and interests, having primary care, and barriers to care by race/ethnicity and used the Chi-square test of association to compare differences for the descriptive analyses. ***Results*** The study consisted of 308 men and women aged 50 years and older. Of these, 25% were Hispanic, 59% were NHB, and 16% were NHW. Compared to NHW participants, a smaller proportion of Hispanics (59.2% vs 78.4%; p=0.02) reported receiving CRC screening while no differences were observed for NHB participants (73.5% vs 78.4%; p=0.47). Compared to NHW participants, more Hispanics (31.6% vs 11.8%; p=0.01) and NHB (27.6% vs 11.8%; p=0.02) participants expressed interest in receiving education on CRC screening. Likewise, more Hispanic participants reported not having a primary care doctor (86.8% vs 94.1%; p=0.02), while no differences were observed for NHB vs NHW participants (92.3% vs 94.1%; p=0.08). Furthermore, compared to NHWs, more Hispanics and NHB participants reported barriers to screening such as transportation (NHW=0% vs Hispanics=7.9% vs NHB=16%), knowledge of screening services (NHW=1.96% vs Hispanics=7.9% vs NHB=20.4%), and lack of provider trust (NHW=3.9% vs Hispanics=11.8% vs NHB=14.3%). ***Conclusion*** The study findings show differences in CRC screening status and education interests, having primary care, and barriers to care by race/ethnicity. Minority groups reported higher screening education interests and barriers to care. This study demonstrates a means of identifying the population's healthcare needs and interests within a catchment area using a community engagement model.

PO-037 Connecting cancer research and communities: Assessing barriers and facilitators to the implementation of a community scientist program Will Dunne[1], Kai Holder[1], Kevin Wamala[1], Magdalena Nava[1], Laura Tom[1], Catherine O'Brian[1], Sharon Post[2], Carmen Velasquez[3], Candace Henley[4], Rosemarie Rogers[5], Joanne Glenn[6], Jose Lopez[7], Jorge Girotti[8], Qi Cao[1], Yanis Boumber[1], Deyu Fang[1], Tarneka Manning[9], Adam B. Murphy[1], Melissa A. Simon[1]. [1]Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Northwestern University Feinberg School of Medicine, Chicago, [3]Alivio Medical Center, Chicago, IL, [4]The Blue Hat Foundation, Chicago, IL, [5]Patient Advocate, Chicago, IL, [6]Women on Top of Their Game Foundation, Chicago, IL, [7]Puerto Rican Cultural Center, Chicago, IL, [8]University of Illinois College of Medicine, Chicago, IL, [9]Robert H. Lurie Comprehensive Cancer Center of Northwestern University, Chicago, IL.

Introduction: Community Scientist (CS) programs — often referred to as Citizen Scientist programs — that facilitate direct engagement between scientific researchers and community members have emerged as effective strategies for building community trust in scientists and better informing research design and dissemination to address true community needs. While population health research has increasingly incorporated community stakeholders into the research continuum, basic and translational sciences struggle to do the same and may contribute to cancer disparities. We designed and implemented a virtual CS program at the Robert H. Lurie Comprehensive Cancer Center of Northwestern University (LCC). We report barriers, facilitators, and lessons learned. Methods: Translational scientists (TSs) were recruited from among LCC investigators, and CSs were identified for participation from among LCC community networks. We sought to recruit a CS cohort representing LCC's catchment area and a TS cohort whose research focuses on cancers most impacting LCC catchment. CS program interactions included monthly meetings between two CSs and one TS wherein the CS-TS triad discuss TS research in lay terms and work together to co-create educational infographics suitable for dissemination to the catchment and LCC scientists. Virtual attendance was tracked and meeting recordings retroactively reviewed to identify and create product development. Results: Six CSs and three TSs agreed to participate in the CS program. The CS cohort includes cancer survivors, patient advocates, community organization leaders, a nurse, and an educator, while the TS cohort includes breast, prostate, and lung cancer researchers. Currently, 11 of 18 triad meetings have been completed, with attendance averaging 97%. Barriers to program implementation have included technological difficulties, restrictions on in-person meeting, scheduling conflicts, time limitation, and language barriers, while facilitators have included small group meetings to promote comfortable group-member contribution, presence of a trained facilitator, articulation of achievable meeting goals and mission for product creation, and clear assignment of team roles. Conclusion**:** The COVID-19 pandemic has illuminated pre-existing needs for improved connectivity between communities impacted by cancer disparities and cancer researchers. By identifying current barriers and facilitators to successful virtual CS program implementation, our findings can be used to guide development and implementation of similar programs at LCC and other cancer centers that are aimed at mitigating cancer health disparities.

PO-038 Assessing Spanish health literacy and cervical cancer knowledge, attitudes, and behaviors in a student-run free clinic Anna Ulyanenkova Fusani[1], Nat Jones[2], Sage Hewitt[2], Valeria Pereira Martinez[2], Lucy Guerra[2], Eduardo Gonzalez[2]. [1]University of South Florida, Tampa, FL, [2]USF Health Morsani College of Medicine, Tampa, FL.

It is well-established that Hispanic populations in the United States have a higher incidence of invasive cervical cancer compared to non-Hispanic populations. Variations in cancer screening utilization and socioeconomic status are thought to account for much of this observed difference, and examination of health literacy has the potential to illuminate further aspects of this disparity. In addition to an association between English health literacy and Papanicolau (Pap) test knowledge, research has shown that in the setting of Spanish health materials low Spanish health literacy is strongly associated with never having a Pap test. This indicates that even when health information is provided in Spanish, low functional health literacy limits adequate care. The objective of this project is to examine Spanish health literacy and cervical cancer screening knowledge, attitudes, and behaviors in the patient population of the BRIDGE Healthcare Clinic; a student-run free clinic that serves primarily Spanish-speaking populations in the Tampa area. Spanish health literacy will be measured by the Short Assessment of Health Literacy–Spanish (SAHL-S), a validated health literacy questionnaire. A short questionnaire examining functional cervical cancer health literacy will measure the knowledge and attitudes of BRIDGE patients. Cervical cancer screening behaviors will be measured via the electronic medical record. Patients will be approached for recruitment as they wait for their appointments. Eligibility criteria include having a cervix, speaking Spanish as a primary language, and being over 21. Spanish health literacy will be assessed using the SAHL-S followed by a Spanish questionnaire assessing cervical cancer screening knowledge and attitudes. This questionnaire will consist of simple words and short sentences, with question structure based on previous studies of cancer health literacy. Patients will be asked to agree or disagree with knowledge statements such as “HPV causes cervical cancer” as well as attitude statements such as “I think it is important to get regular Pap smears.” Data quality will be monitored as the questionnaires are completed and manually transcribed into an Excel file. All data will be managed and analyzed using SPSS. This project is not powered to test hypotheses, but to robustly describe Spanish health literacy and cervical cancer screening knowledge, attitudes, and behaviors using descriptive statistics. Results will be used to generate information on how Spanish health literacy may mediate adequacy of cervical cancer screening. Additionally, quality improvement will be pursued by creating targeted cervical cancer educational materials for BRIDGE patients. There is also potential for future projects, such as re-administering the knowledge and attitudes questionnaire after an educational intervention. Ultimately, this project will illuminate understudied aspects of the widening disparity in Hispanic cervical cancer incidence and identify future directions for addressing this disparity from a health literacy perspective.

PO-040 Understanding views against the HPV vaccine school-entry requirement in Puerto Rico Gloriany Rivas[1], Roxana Soto-Abreu[2], Glizette O. Arroyo-Morales[3], Diana T. Medina-Laabes[2], Olga L. Díaz-Miranda[2], Coralia Vázquez-Otero[4], Vivian Colón-López[2]. [1]Penn State College of Medicine, Hershey, PA, [2]University of Puerto Rico Comprehensive Cancer Center, San Juan, Puerto Rico, [3]University of Puerto Rico School of Dental Medicine, San Juan, Puerto Rico, [4]Harvard T.H. Chan School of Public Health & Dana-Farber Cancer Institute, Boston, MA.

Introduction: Individuals and groups against vaccination have used various outlets, such as mass media, social media, and legislative hearings to express doubts about the human papillomavirus (HPV) vaccine. In 2018, the Puerto Rico Department of Health included the HPV vaccine as a school-entry requirement for children ages 11-12. Currently, the requirement extends to students ages 11-16. Since the announcement in 2017 of the new school-entry requirement as a preventive cancer strategy, many groups have expressed opposition. Although studies have documented the barriers and facilitators for implementing this policy on the island, qualitative studies assessing stakeholders' views against the implementation of the new requirement are lacking. We aimed to describe stakeholders' perspectives who opposed the HPV vaccine and the implementation as a school-entry requirement in PR. Methods*:* In-depth interviews (n=8) were conducted between March 2019-January 2020. Healthcare providers, religious leaders, and coalition spokespersons were interviewed. The Consolidated Framework for Research Implementation (CFIR) was used to develop the semi-structured interview guide. CFIR domains (and constructs) included were characteristics of individuals (knowledge, attitudes, and beliefs about the HPV vaccination, school-entry requirement, and exemptions), intervention characteristics (current practices, advantages and disadvantages of the implementation), and implementation procedures (planning, commitment of implementers and evaluation). Interviews were audio-recorded and transcribed in Spanish. Transcripts were analyzed using qualitative thematic analysis. Additional constructs were derived from CFIR constructs and emergent codes were included. Results*:* The most common CFIR domain observed was individual characteristics (knowledge and beliefs), of which HPV hesitancy and vaccine distrust were emergent themes. Arguments against the policy also cited the adverse effects of the vaccine under the intervention characteristics domain (evidence strength and quality). Lastly, excessive government interference was discussed by stakeholders in which concerns regarding the HPV vaccine school-entry requirement and how this policy does not align with their values of religious freedom, parental, educational and sexual rights were mentioned. Conclusion*:* Despite the recent documented positive impact of the school-entry requirement in HPV immunization rates in PR, many continue to oppose the vaccine mandate. Stakeholders' arguments against the HPV vaccine policy, including knowledge and beliefs, and excessive government interference, echo concerns of other mandated vaccines reported in the literature. Understanding arguments against school-entry requirements is necessary to tailor educational campaigns to increase vaccination rates, which were affected by the COVID-19 pandemic, prevent HPV-related cancers, and reduce the hesitancy in of school-entry policies in the future.

PO-041 The impact of COVID-19 on cancer care in the Latinx community in Northern California: A mixed method community-engaged research study Patricia Rodriguez Espinosa[1], Darcie Green[2], Yessica Martinez Mulet[1], Miriam L. Trigo[3], Natalia M. Zamora Zeledon[3], Eric Meléndez[4], Lisa G. Rosas[1]. [1]Stanford School of Medicine, Palo Alto, CA, [2]Latinas Contra Cancer, San Jose, CA, [3]Stanford University, Palo Alto, CA, [4]Mission College, San Jose, CA.

The COVID-19 pandemic has negatively impacted cancer care including delayed diagnosis, procedures, and patient fears of COVID-19 infection. However, less is known about the impact on specific populations, including Latinx adults, who have been disproportionately affected by COVID-19. Cancer is the leading cause of death among Latinx adults. Alarmingly, they have low participation rates in cancer prevention programs and face multiple barriers in accessing healthcare, even before the pandemic. Rigorous methods and community-engaged approaches are needed to uncover key barriers and facilitators to cancer care across the socio-ecological spectrum and to translate findings into culturally congruent educational strategies and dissemination efforts. The present mixed methods study entails a bi-directional partnership between the Stanford Medicine Office of Community Engagement and Latinas Contra Cancer, a community-based organization increasing equitable cancer care access for Latinxs. This study aims to determine barriers and facilitators of cancer screening, diagnostics, and treatment in the Latinx community as a result of COVID-19 using a community-based survey (n=500) in Northern California. To gain a deeper understanding of the lived experience of Latinxs obtaining cancer-related care during the pandemic, we will conduct focus groups (n=4) with study participants stratified by barriers and facilitators they endorse across the socio-ecological spectrum, as well as by key demographics (e.g., socioeconomic status, nativity, health literacy). Moreover, medical providers and community clinics will be interviewed (n=15) to understand their unique circumstances during this pandemic (e.g., changing healthcare system logistics, telehealth challenges). Data collection is ongoing and expected to be complete by the end of the summer. We will present descriptive data and statistical analysis (e.g., chi-square tests, logistic regressions) exploring associations key sociocultural and demographic participants characteristics and their endorsement of a variety of barriers and facilitators to care. We will also present key themes from the qualitative data to further contextualize survey findings and gain deeper meaning of the complexities of cancer related care during the pandemic. Study findings will allow us to understand the complexity of barriers and facilitators of cancer prevention and care for Latinxs adults, inform the development of health promotion resources, and guide policy and solutions to reduce excess cancer burden for Latinxs communities.

PO-042 Incorporating Latino patient input in messaging for follow-up colonoscopy after abnormal fecal testing Jamie H. Thompson[1], Jennifer Rivelli[1], Anne Escaron[2], Joanna Garcia[2], Esmeralda Ruiz[2], Evelyn Torres-Ozadali[2], Dawn Richardson[3], Priyanka Gautom[3], Gloria Coronado[1]. [1]Kaiser Permanente Center for Health Research, Portland, OR, [2]AltaMed Health Services, Los Angeles, CA, [3]OHSU-PSU School of Public Health, Portland, OR.

Introductory sentences indicating the purposes of the study: We used boot camp translation (BCT), a validated community based participatory strategy, to elicit input from diverse stakeholders (i.e., patients and clinic staff) to develop messaging and patient education materials for follow-up colonoscopy after abnormal fecal testing. BCT is a process that engages participants in translating health information into ideas, messages, and materials that are understandable and relevant to patients. **Brief description of pertinent experimental procedures:** Colorectal cancer is the second-leading cause of cancer death in the United States, and screening rates are disproportionately low among Latinos. Mailed fecal immunochemical test (FIT) outreach programs have been shown to improve colorectal cancer screening rates in federally qualified health centers (FQHCs), with improvements ranging from 22% – 45%. Patients with an abnormal FIT result have an increased risk of having colorectal cancer, and the risk increases if the necessary follow-up colonoscopy is delayed. Unfortunately, rates of follow-up colonoscopy among adults with an abnormal FIT result are low in FQHCs. As part of the Participatory Research to Advance Colon Cancer Prevention (PROMPT) study, a partnership with a Los Angeles-based FQHC that provides medical services to over 300,000 patients annually (82% Latino), we used BCT to gather input from patients and staff to develop messaging and materials for patients in need of a follow-up colonoscopy after abnormal FIT. Due to the COVID-19 pandemic, we conducted BCT using a digital platform. Eligible patient participants were Latino, ages 50 to 75 years, Spanish-speaking, and willing to participate in three virtual sessions. Recruitment and BCT materials were developed in English and Spanish, but all three sessions were held in Spanish consistent with patient preferences. The sessions included presentations on colorectal cancer screening, effective messaging to improve Latino screening participation, and brainstorming sessions to obtain feedback on messaging and materials. **Summary of the new unpublished data:** A total of 10 adults (7 patients and 3 clinic staff) participated in the BCT sessions. Key themes learned were 1) increasing awareness about the colonoscopy procedure (why it is important, what the procedure is, how to prepare), 2) using simple and clear wording, including statistics, and using family as a motivator, and 3) providing different patient outreach modalities to broaden reach, such as patient-facing fact sheets, videos in clinic or sent by text. **Statement of the conclusions:** Using BCT, we successfully incorporated feedback from Spanish-speaking Latino patients to design culturally relevant materials to promote follow-up colonoscopy after abnormal FIT results. Targeted efforts are needed to improve rates of follow-up colonoscopy among patients with abnormal FIT results in FQHC settings. (Final materials, including patient-facing fact sheets and screenshots from short videos, will be showcased in the poster.)

PO-043 Perceived everyday discrimination, socioeconomic status, and mammography screening behavior Jessica Vinegar[1], Marissa Ericson[2], Kommah McDowell[3], Tonya Fairley[4], Rick Kittles[5], Lindsey Treviño[5], Dede Teteh[6]. [1]California State University, Fullerton, Fullerton, CA, [2]University of Southern California, Los Angeles, CA, [3]Breast Cancer Solutions, Lake Forest, CA, [4]TS Fairley Hair Restoration Center, Covina, CA, [5]City of Hope Comprehensive Cancer Center, Duarte, CA, [6]Chapman University, Orange, CA.

Black women (BW) experience age-adjusted breast cancer mortality rates that are 40-70% higher than White women. Although BW are more likely to report having had a mammogram compared to other racial/ethnic minority groups, differences in mammography utilization exist among women with lower socioeconomic status (SES). Moreover, perceived everyday discrimination (PED) has been shown to have an inverse relationship on health screening behavior among BW. However, mammography screening behaviors of BW with low SES, who also report higher levels of PED, is not well known. This study aims to explore the relationship between perceived discrimination, SES (income, education, health insurance), and mammography screening behavior. **Methods**: Participants completed a 40-item survey and were recruited between 2020-2021 through a community-based participatory research initiative—*Bench to Community*. Logistic regression was used to test the associations of mammography utilization with PED—short version of Everyday Discrimination Scale, SES, and race/ethnicity. Results: Most participants (n=159) identified as BW (55%)—African American, African, and Caribbean, followed by White (34%), and other groups (9.3%). Twenty-five percent had some high school (HS) or a HS diploma, 25% had some college education with 15% reporting an income below $25,000. Many respondents had health insurance (96%), and 74% reported having had a mammogram. Discrimination alone significantly impacted whether an individual had a mammogram, such that those who reported higher levels of PED were 38% less likely to have a mammogram, $\chi 2(12) = 36.924$, $p<.001$. Additionally, while education significantly contributed to the model, income demonstrated a trending influence overall, with less than $25,000 income reaching significance (B=-3.331, SE=1.210, Wald = 7.576, p=.006). As race and insurance did not significantly contribute to the overall model, subsequent model fitting excluded these variables. In a model that included only discrimination, education, and income, all three predictors significantly contributed to the model $\chi 2(9)= 33.571$, $p<.001$. Discrimination (B= -.536, SE=.178, Wald = 9.106, p=.003), education overall (B=-1.177, SE=.604, Wald = 3.797, p=.051), and income (B=-2.674, SE=.956, Wald = 7.815, p=.005) were significant predictors. More specifically, those with some college education or less were 3.245 times less likely to have a mammogram. In this final model, those who reported making less than $25,000 household income were .069 times less likely to have a mammogram. Lastly, race alone was significantly (p=.006) predictive of mammogram screening behavior. **Discussion/Conclusion**: PED, education, and income were associated with mammography screening behavior. The excess mortality faced by BW, is a probable reflection of their position within our hierarchal society. Addressing these social determinants of health factors may improve our understanding of ways discrimination leaves BW vulnerable to disparate health outcomes, including breast cancer.

PO-044 Cancer resources and needs assessment of immigrant communities based in New York Yousra Yusuf, Victoria Foster, Perla Chebli, Sonia Sifuentes, Chau Trinh-Shevrin, Simona Kwon. NYU Langone Health, New York, NY.

Study Purpose: Immigrants and foreign-born individuals, many with low English proficiency and low socio-economic status, make up a high proportion of the population in New York City (NYC). Immigrant populations have distinct demographic, immigration, social and biological histories, and environmental exposures that differentially impact their cancer risk profiles. However, while data on cancer incidence and mortality are widely available in this group, data on cancer-related social and behavioral priorities and resources among immigrant, low-income, low-English proficient communities is sparse. Methods**:** Our research focus is to engage community stakeholders to identify multilevel determinants surrounding cancer prevention and disparities and assess resources available to adults within NYU Langone's Perlmutter Cancer Center (PCC) catchment area with a focus on racial/ethnic minority and immigrant populations through a health resources and needs assessment survey. With this research focus, we harmonized measures across questionnaires from other NCI-designated Community and Engagement Core (COE) Centers. Further, health priorities and questions in the survey were informed by listening sessions with diverse community partners and feedback from NYU PCC clinicians and basic scientists. We are translating the survey questionnaire into 8 languages commonly used in the geographical area of focus to prioritize data collection among immigrants in NYC: namely, Arabic, Bangla, Chinese, Haitian Creole, Korean, Spanish, Russian, Urdu. Data collection will be conducted through Open REDCap and paper surveys (n=1200). We are simultaneously developing a multilingual REDCap survey tool to be administered in the identified languages. Results**:** Participant recruitment strategies are tailored to survey hard-to-reach, low-English proficient communities through in-person recruitment, social media outreach, and engaging existing community-and faith-based organization partners. To facilitate wider reach, community health workers (CHWs) with strong community connections, language fluency, deep cultural knowledge, and training in working with immigrant communities have been recruited for data collection. Survey modules will explore common measures asked by NCI-designated Centers on sociodemographic information and knowledge, attitude, and behaviors and also include assessment on contemporary topics related to the impact of COVID-19 on cancer screening and care, including telehealth services. Recruitment and data collection phases are ongoing. Conclusion**s:** This survey will determine community-driven cancer-related priorities and available resources among under-resourced immigrant communities and will contribute to strategic planning and resource allocation for the PCC to meet the needs of this population.

Behavioral and Social Science: Decision Making

PO-045 Experiences of oncologists treating cancer patients living with HIV: Opportunities to improve care and reduce disparities Ashley Khouri[1], Jeanette Young[2], Patrick Galyean[2], Brandon Knettel[3], Emily M. Cherenack[3], Anthony Ariotti[2], Noelani Ho[4], Susan Zickmund[2], Melissa Watt[2], Kathryn Pollak[5], Peter Ubel[5], Angela Fagerlin[6], Gita Suneja[2]. [1]University of Utah School of Medicine, Salt Lake City, UT, [2]University of Utah, Salt Lake City, UT, [3]Duke University, Durham, NC, [4]University of North Carolina School of Medicine, Chapel Hill, NC, [5]Duke University School of Medicine, Durham, NC, [6]Salt Lake City VA Center for Informatics, Decision Enhancement and Surveillance (IDEAS), Salt Lake City, UT.

Introduction: Prior database studies have demonstrated that cancer patients with comorbid human immunodeficiency virus (HIV) have higher cancer-specific mortality and are less likely to receive cancer treatment. People living with HIV (PLWH) who achieve viral suppression have near normal life expectancy, highlighting the critical importance of reducing cancer treatment disparities. The purpose of this study is to understand how oncologists make treatment decisions for cancer patients living with HIV and to elicit recommendations for improving care in this population. Methods**:** We conducted in-depth interviews with 25 attending medical, radiation, and surgical oncologists from Duke University, University of Utah, and community practices in Florida, Georgia, Louisiana, Pennsylvania, and Virginia who had recently engaged in a consultation with PLWH and cancer. In semi-structured interviews, we explored three domains: (1) care coordination with other healthcare professionals, (2) knowledge and attitudes regarding patients with comorbid HIV and cancer, and (3) recommendations for improvements in care delivery. Two analysts coded the data using ATLAS.ti. We utilized applied thematic analysis to identify inductive themes across the three domains. Results**:** Many participants (n=11) reported always communicating with a patient's Infectious Disease (ID) doctor, and others (n=5) said they only communicate with ID if the patient's HIV is not well-controlled. Ten medical oncologists noted they found it helpful to speak to an HIV pharmacist, particularly about drug-drug interactions. Participants also discussed efforts to connect patients with supportive services, such as transportation, payment assistance, and mental health counseling. Many participants described concerns in discussing the patient care plan in the presence of caregivers, given the possibility that patients have not disclosed their HIV status. None of the participants had formal training in management of comorbid cancer and HIV, and most noted that they learned through their own clinical practice. Participants made suggestions for improving treatment decision-making for PLWH, including: more evidence of the risk-benefit ratio of treatment (e.g. treatment goals, life expectancy calculators), greater access to social work and mental health resources, streamlined access to communication with HIV providers, and multidisciplinary HIV cancer rounds. Conclusion**s:** This is the first physician-focused qualitative study interviewing oncologists caring for PLWH. Communication among multiple healthcare providers, particularly oncologist and ID doctor, are noted to be common but not universal in the care of comorbid HIV and cancer. Formal training in cancers in PLWH is lacking in medical training. Future steps to reduce disparities in cancer treatment and outcomes for PLWH may include the establishment of multidisciplinary HIV cancer rounds, facilitating connection and communication between healthcare providers, and enhancing supportive care resources for patients.

Behavioral and Social Science: Diffusion and Dissemination Research

PO-046 Building the country's first gynecologic cancer disparity SPORE: A labor of love Denisha R. Brown[1], Laura Tom[1], Magdalena Nava[1], Catherine A. O'Brian[1], Ivy Leung[1], Rabih Dahdouh[1], Edgardo Ramirez[1], Araceli Estrada[1], Sankirtana Danner[1], Cassandra Osei[1], Will Dunne[1], Sharon Post[1], Nihmot Adebayo[1], Ann Yau[1], Terri Fraterrigo[2], Melissa A Simon[1]. [1]Center for Health Equity Transformation and Department of Obstetrics and Gynecology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Northwestern University, Chicago, IL.

The NCI P20 SPORE aims to support the feasibility, development and planning activities to build cancer research programs with a dedicated translational focus. The Northwestern University Cancer Health Equity Research SPORE (NU-CHERS) is entering its second year of collaboration with the Lurie Cancer Center and John H. Stroger, Jr. Hospital of Cook County (SHCC). NU-CHERS is dedicated to conducting translational research on gynecologic cancer disparities experienced by women of color in Chicago. This presentation will report the challenges and successes of establishing the nation's first gynecologic cancer disparity SPORE, focused on understanding the clinical disparities experienced by women in Chicago, to improve health outcomes and build trusting reciprocal relationships with the community. Success of NU-CHERS hinges on local partnerships to achieve the elimination of gynecologic cancer disparities. The Lurie Cancer Center has thirty years of experience in developing and implementing cancer research programs and infrastructure. SHCC is a publicly funded hospital that provides access to healthcare to patients, including the uninsured, through a sliding scale based on income or inability to afford insurance deductibles. SHCC also serves a diverse patient population, making it an ideal community partner to facilitate a deeper understanding of gynecologic cancer disparities in the region and develop a richly diverse specimen biobank. NU-CHERS leverages these partnerships to advance research specific to underrepresented groups most impacted by gynecologic cancer disparities that will ultimately establish equitable access to precision medicine oncologic treatments. Through partnerships and infrastructure development, our team has identified lessons learned, opportunities for improvement and challenges requiring even more courage to achieve mandated milestones. For example, for the crucial step of building a robust biobank of annotated specimens, NU-CHERS supported SHCC in adapting protocols to meet local site constraints, as well as aligning data collection capabilities within clinical constraints versus research interests. Other important program achievements fall under the categories of fostering collaborations with communities through partnership with trusted healthcare organizations to facilitate education and reciprocity; best practices for establishing a multi-site research initiative with a Single Institutional Review Board (sIRB); and advancing the work of research projects during a pandemic. Sharing these findings advances the work of eliminating cancer disparities by providing a blueprint for researchers to improve upon for their collaborative cancer disparities programs. NU-CHERS is committed to establishing strong local partnerships and infrastructure in the community and thus legitimizing translational research to leverage basic science discoveries into clinical practice improvements through all the tools afforded by basic and population science researchers.

PO-047 Extraction and organization of all published results on impact of systemic racism on treatment of cancer patients Shania Lunna, Samuel Gauthier, Stacia Richard, Rachel M Bombardier, David N Krag. University of Vermont Larner College of Medicine, Burlington, VT.

Statement of the problem: Unconscious bias and systemic racism is evident in published reports that describe persistent asymmetric outcomes in our entire health care system including oncology. Framework of the solution: There already is a very large set of publications that describe the extent and outcomes of health disparities. An extensive data set also describes mitigation strategies. Changing the outcomes includes policy changes within the health care system but also with regulatory agencies and the legislative branch of government. It is critical that these different systems are armed with the totality of available information in a manner that can be leveraged to improve the health care of all. We have developed a system of describing large sets of data manually extracted from published articles. These results are aggregated together independent of the framework of the manuscript so that similar outcomes can be placed side by side. This system can provide the necessary comprehensive data that is available today to begin to implement changes. Results to date: We have used COVID-19 publications as a prototype topic that has so many articles no single person can comprehend or manage. We extracted data from 1000 COVID-19 manuscripts that presented new data. This rendered 26,000 note fields arranged in a parent child relationship. The data base described 12,000 individual observations. A read only version is available at COVIDpublications.org. We are now applying this system to bias and stigma of the health care profession to persons who use drugs, and a demo of this project is available at (https://app.refbin.com/app/embed?m=1188). We have now established the rules to manually extract data from any clinical article that presents new data. This involves 4 types of note fields per observation arranged in parent child relationships. 1) The observation, 2) description of the observation, 3) the population, and 4) the topic. This system allows the observations from an unlimited number of studies to share parents. This results in about a 5-fold reduction in the total number of note fields. It also allows grouping of information so that a user can scan the data base and access the entirety of information without specifically knowing what they are looking for. Conclusions: We are expanding this data base bias and systemic racism of the health care system on persons with substance use disorder to include the broader range of patients. By capturing all of the data that is known we hope to influence implementation of improved health care to patients including those with cancer. These results will be presented in October.

Behavioral and Social Science: Genetic Testing and Counseling

PO-049 Evaluation of disparities in genetic testing-related outcomes among *BRCA1/2*-positive women: Impact of race/ethnicity and residential locale Kate E Dibble, Avonne E. Connor. Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Individuals who test positive for *BRCA1/2* genes, or hereditary breast cancer mutations, are 33-55% more likely to develop breast and ovarian cancers before the age of 70. While research on hereditary genetic testing for these mutations continues to emerge, there remains unanswered questions regarding access to testing and related cancer care. The purpose of this study is to determine the associations between race/ethnicity, residential locale, and several genetic testing-related outcomes among women with *BRCA1/2* mutations. This study is a cross-sectional study of US-based women (18+ years) who have tested positive for either (or both) *BRCA1/2* genetic mutations within the past 5 years and who identify with one or more disadvantaged health population (racial, ethnic, or sexual minority, person with a physical disability, chronically-ill, those in poverty, immigrant populations). Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were estimated using multivariable logistic regression models for the associations between race/ethnicity (non-Hispanic white [referent], minority status), locale (urban [referent], suburban, rural), and genetic testing outcomes (i.e. specific genetic mutation, behavioral/family therapy referral post-testing, receiving family-based genetic testing, genetic testing through a primary care provider (PCP) or direct-to-consumer (DTC) [vs. genetic counseling office or hospital genetics program], and undergoing surgery or surveillance). A total of 211 women were recruited from Facebook *BRCA1/2*-oriented support groups to complete an online survey measuring demographic, cancer, and genetic information, psychosocial variables, access to care, experiences with genetic testing, and suggestions for future care and 194 were included in the current analysis. Most participants were NHW (67.2%), employed full- or part-time (81.5%), and lived in a suburban locale (56.4%). Women living in suburban areas were significantly less likely (aOR=.394, 95% CI, .191-.816) to receive behavioral/family therapy referrals after genetic testing compared to those living in an urban locale. Women living within a rural locale were 3.39 times more likely to receive genetic testing from a PCP or DTC (95% CI, 1.15-9.91) compared to women living in urban locales. No significant results were observed for adjusted models with race/ethnicity as the predictor or with other genetic testing outcomes. Our study identifies disparities in genetic testing resources and access among women living in suburban and rural areas of the US. These findings can be used to inform future care, research, and resources that may impact services relating to genetic testing within these locales.

PO-050 Characterizing access to genetics referrals for prostate cancer in a safety net hospital Christine M. Gunn[1], Gretchen Gignac[2], Magdalena Pankowska[2], Kimberly Zayhowski[2], Catharine Wang[3]. [1]Boston University School of Medicine, Boston, MA, [2]Boston Medical Center, Boston, MA, [3]Boston University School of Public Health, Boston, MA.

Genetic testing, as a key component of precision medicine, may reduce prostate cancer treatment-related disparities, but only if widely disseminated outside of tertiary cancer care settings. This study sought to characterize predictors of germline genetic testing referrals and use among patients diagnosed with prostate cancer at a safety-net hospital using electronic medical record data. Men who had a confirmed diagnosis of prostate cancer between January 1, 2011 and March 10, 2020 were identified via the tumor registry. Using a centralized clinical data warehouse, we collected data on age, race, ethnicity, primary language, marital status, clinical stage, and insurance. The primary outcome was receipt of a referral to genetic counseling. We hypothesized that men who were foreign-born, non-English speaking, identified as Black race or Hispanic ethnicity, and were older would be less likely to be referred for genetic testing. A secondary outcome was the completion of genetic testing. Descriptive statistics (means, standard deviations, frequencies) described the cohort. In multivariable analyses, logistic regression estimated odds ratios (OR) and 95% confidence intervals (95% CI) for factors hypothesized to influence referral to genetic testing: age, race (Black, White, Asian, Other), ethnicity (Hispanic vs. non-Hispanic), language (English vs. non-English), country of origin (US vs. Other), insurance (Medicare, Medicaid, Private, Other), and clinical cancer stage (Local, Regional, Metastatic). Overall, 1,877 patients were diagnosed with prostate cancer in the study period. The mean age was 65 years (SD=9). 44% identified as Black race, 32% White. Ethnic composition was 17% Hispanic, 80% Non-Hispanic. Almost half (49%) were married, 46% were foreign born, and 34% had Medicaid insurance at diagnosis. Two-thirds (67%) spoke English, and 33% were non-English speakers. The majority (65%) had local-only disease at diagnosis, 3% had regional disease, 9% metastatic, and 22% had missing clinical stage data. For the primary outcome, 163 (9%) of all patients received at least one genetics referral. In multivariate models, we found that those who were older (OR=0.95, 95% CI: 0.93, 0.98) and identified as White race (OR=0.60, 95% CI: 0.38, 0.96) had lower odds of receiving a referral. Those with regional or metastatic disease at diagnosis were significantly more likely to receive referral, as expected (OR= 4.45 and 4.78, respectively). No other demographics significantly predicted referral. Of the 163 men referred to genetics, 136 (83%) had at least one genetics encounter and 19 (14%) had genetic testing. In sum, few patients received referrals for genetic counseling and testing from 2010-2021, with 80% occurring post-guideline changes in 2018. When referrals were made, our sample had high rates of genetics encounters, although lower rates of testing completion. Low rates of referral and testing indicate opportunities to improve both identification of eligible patients and resolve barriers to completing genetic testing post-encounter.

PO-051 Blending research paradigms and methods to compare 3 modes of cancer genetic counseling with diverse public hospital patients: Insights from case studies Rena J. Pasick[1], Claudia Guerra[1], Selina R. Flores[2], Galen Joseph[1]. [1]University of California, San Francisco, San Francisco, CA, [2]San Francisco State University, San Francisco, CA.

Purpose: Genetic counseling (GC) and testing for hereditary breast/ovarian cancer (HBOC) is concentrated in elite medical centers and not offered in most public hospitals despite comparable risk across income levels. GC may be extended remotely by phone or video to patients in low resource settings, but the benefits and harms of these modes for these patients are unknown. Methods: We conducted a multicenter partially randomized preference noninferiority trial in 3 public hospitals to compare the effectiveness of 3 GC modes (in-person, phone, video) among 679 diverse patients at high-risk for HBOC. To answer some of our most important questions (e.g. How engaged are patients with counselors and how does that affect outcomes? What about the GC affects key message recall? How do patients' life/health contexts affect GC impact? How do these dynamics differ by GC mode?), we compiled 23 case studies (CS) for a multifaceted understanding of patient context, intended to reveal influences that may be subtle, complex, and not accessible from individual self-report. The main trial outcome was presented at AACR 2020; here we report the case studies methods and findings. CS participants had consented to audio-recording their GC sessions; agreed to be contacted for further research during the final trial survey; and had been offered genetic testing but did not have results at the time of the in-depth CS interview. An iterative analytic process integrated and summarized qualitative and quantitative data from surveys, interviews, genetic counselor reflections and audio recordings for each case including: patient demographics, health literacy rating, GC mode; GC session duration, key points, and engagement; genetic counselor reflections; interview highlights; general conclusions about that case; conclusions based on mode; patient quotes; and an integrated conclusion from all the data elements. Results: Our randomized trial produced equivalent outcomes across 3 GC modes. But our case studies revealed critical differences including higher quality engagement and trust-building via in-person and video counseling compared with phone, where distractions and brevity were common. While more patients opted for the convenience of phone, and for many it was their only option due to work and other demands, those counseled by phone were least likely to complete genetic testing when it was offered. Patients in all modes struggled with information recall. Conclusions: GC by phone is an important source of access for low-income patients but research should strive for higher quality. GC by video holds promise but availability is a concern. For both remote modes, easy access to testing is required. Strategies to improve information recall are needed in all modes. Research using quantitative cognitive ascertainment should include mixed methods for a more multifaceted in-depth exploration that yields rich real-world insights.

PO-052 A multisystem approach doubles the number of patients referred for genetic testing and diagnosed with Lynch syndrome with equally success among ethnic/racial groups Vinit Singh[1], Amanda Ganzak[2], Peter Gershkovich[3], Joanna Gibson[3], Rosa M. Xicola[1], Xavier Llor[1]. [1]Yale University School of Medicine and Yale Cancer Center, New Haven, CT, [2]Yale New Haven Health and Yale Cancer Center, New Haven, CT, [3]Yale University School of Medicine, New Haven, CT.

Background: Lynch syndrome (LS) affects 1/279 individuals and accounts for 3-5% of all colorectal cancers (CRC). LS is due to germline mutations in mismatch repair (MMR) genes *MLH1, MSH2, MSH6,* or *PMS2*. Tumors exhibit MMR deficiency, expressed as loss of MMR protein expression on immunohistochemistry (IHC). A subset of sporadic tumors also has MMR deficiency due to inactivation of *MLH1* via promoter methylation and about 2/3 have *BRAF*V600E mutations. Increased surveillance and chemoprevention reduce cancer incidence and mortality in LS. LS is largely underdiagnosed, particularly among minorities. Universal screening of CRC tumors through IHC is recommended in order to help identify patients for LS genetic testing. Nevertheless, even in programs that have implemented this, minority patients with MMR deficient tumors were found to be consistently under-referred mostly due to referral bias. We set up a strategy to increase LS and tackle disparities in cancer genetics (CG). **Methods**: This study reports on the analysis of universal CRC IHC testing for MMR expression, initially followed by *BRAF* V600E and later by *MLH1* testing for loss of MLH1/PMS2 expression, from implementation (1/1012) until 1/1021. In 6/2015, a system was established where a designated Pathologist reviewed all results and a list of identified candidates for germline LS testing (abnormal MMR expression/wild type *BRAF* or methylation of *MLH1)* was sent to the CG program. After a two-week period, if no referral had been placed, a genetic counselor (GC) messaged the provider requesting a referral. The pathology side was fully automated in 9/2018 through the monitoring engine Repetitive Tasks Scheduling Engine (RTSE) that pulls data stored in the underlying relational database-Adaptive Server Enterprise, which is accessible to RTSE via a Java Database Connectivity API. This process automatically generates weekly emails that report all cases with suspicion criteria for LS to CG. Results: Since 1-2012, 1,433 patients with CRC underwent tumor testing and were included in this study: 78.5% non-Hispanic white (NHW); 12.2% African American (AA); 6.77% Hispanic (H). Prior to the interventions 25% of eligible patients were referred to CG and none among AA. Once the interventions were established, appropriate referrals prior to messaging the provider were 39.5% for NHW, 35.7% for AA, and 42.8% for H. As a result of the messages, referral rates increased to 80.5% (p=0.00) in NHW, 85.7% in AA (p=0.05), and 71.5% in H (ns). The total number of patients diagnosed with LS since universal testing started was 19: 2 prior to the interventions (0.8% of all CRC); 17 during the interventions (1.5% of all CRC). Conclusion: A systematic, automated, multi-system approach, that includes a targeted message to providers can double the number of appropriate referrals for genetic testing to rule out Lynch syndrome and resulted in almost twice the percentage of LS diagnosis with equal success among AA, H, and NHW

Behavioral and Social Science: Health Education

PO-053 South Carolina Cancer Disparities Research Center's (SC CADRE) culturally-sensitive, state-of-the-art treatment to eliminate cancer disparities conference Latecia M. Abraham-Hilaire[1], Gayenell Magwood[1], David P Turner[1], Andrea Abbott[1], Stephen J. Savage[1], Judith Salley[2], Marvella E. Ford[1]. [1]Medical University of South Carolina, Charleston, SC, [2]South Carolina State University, Orangeburg, SC.

BACKGROUND: The South Carolina Cancer Disparities Research Center (SC CADRE) U54 conducted the Culturally-Sensitive, State-of-the-Art Treatment to Eliminate Cancer Disparities Conference in February of 2021. This virtual live webinar was a cancer-disparities-focused Continuing Medical Education (CME) Conference, held for health professionals and community stakeholders to improve the quality of cancer care in South Carolina and to bridge the gap in health care. **PURPOSE**: The course objective included identifying and/or implementing new cancer treatments to decrease cancer disparities rates in South Carolina, pertaining to rural cancer screening, advanced glycation end products (AGES), breast cancer, and prostate cancer. This conference was designated as a virtual live webinar; therefore, the format included lectures and question-and-answer segments. This conference also served as an enduring activity; therefore, this program was recorded and made available on the South Carolina Area Health Education Center (AHEC) Learning Platform for additional health professionals to attain CME credits. The Medical University of South Carolina designated this live and enduring activity for a maximum of *3.00 AMA PRA Category 1 Credit(s)*™. **METHOD:** The CME co-course director moderated the virtual conference in WebEx. The first presentation addressed the rural cancer disparities in the United States and in South Carolina. The second presentation addressed AGES, lifestyle, and disease. The third presentation addressed breast cancer incidence in the United States and in South Carolina. The fourth presentation addressed prostate cancer screening and treatment considerations. Conference participants placed their questions in the chat box for presenters to address. Conference participants were sent a program evaluation electronically, and it resulted in a 72% response rate. **RESULTS**: Fifty-three health care professionals participated in the conference. Seventy-seven percent of the conference attendees were women. The course/conference participants consisted of the following: medical physicians (7.5%), health administrators (13%), registered nurses (16%), nurse practitioners (5%), social workers (16%), retiree (1%), other health care providers (13%), public health providers (11%), Ph.D. Researcher (3%), clinical lab scientists (1%), student (1%), pediatrician (1%), health education specialists (1%), and physician assistants (1%). **CONCLUSIONS**: At completion of this course, health care professionals and community stakeholders are able to increase the awareness of the social determinants of health in relation to rural cancer disparities, define AGES, learn how AGES can damage the body, what to do to combat AGES, and interventions. In addition, course/conference participants would learn about existing disparities in breast cancer screening, and treatment and how minorities are affected by breast cancer. In conclusion, conference participants would learn about prostate cancer screening, diagnosis and treatment.

PO-054 Evidence-based sexual health education program among at-risk youth baseline findings Ra'Ann Merceir[1], Aisha Bhimla[1], Adebola Duro-Aina[1], Yin Tan[1], Sabrina Liao[2], Min Qi Wang[2], Renee Jackson[3], Grace X. Ma[1]. [1]Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, [2]School of Public Health, University of Maryland, College Park, MD, [3]Barachah Church, Cheltenham, PA.

Background: Of the estimated 26 million new diagnosis of sexually transmitted infections (STIs) each year, youth aged 15 – 24yo constitute half of these. The most common STI, Human Papillomavirus (HPV), is the primary cause of cervical, anal, and oropharyngeal cancers. Racial and ethnic minority youth are at increased risk for STIs such as HPV. Lack of access to comprehensive sexual health education leave youth vulnerable to STI's which increase their risk of certain cancers. This study describes characteristics of participants regarding engagement in sexual behaviors and knowledge and attitudes towards STI protection. **Methods:** *Proud-Teens of Philly (PTOP),* an evidence-based program, was implemented in youth (n=212) aged 12-19 years in Philadelphia County recruited from a network of partner sites. Program implementation occurred over nine one-hour virtual sessions. The program aimed to reduce risky sexual behaviors by promoting healthy choices and increasing knowledge of sexual health. Participants completed a pre-survey administered online prior to starting the program. **Results:** Participants' average age was 14.2 years old, 49.2% of participants identified as Hispanic/Latino, and (21.2%) of participants were Non-Hispanic Black, followed by Non-Hispanic white (30.7%). At baseline, 12.8% of participants have been or are currently sexually active, and about half felt strongly about delaying sexual behavior (52.8%). Findings revealed gaps in communication about barrier protection with sexual partners. While 82.0% indicate they agree condoms are effective in preventing STI transmission, there was a low perceived susceptibility of contracting an STI. **Conclusion:** Findings suggest implementing Proud Teens of Philly may be beneficial in reducing STIs and HPV related cancers among at-risk youth by promoting healthy sexual behaviors.

PO-055 HPV knowledge, screening barriers and facilitators, and sources of health information among women living with HIV: Perspectives from the DC community Annie Coriolan Ciceron, Min (Jaime) Jeong Jeon, Michelle Elise Clausen, Anne Kress Monroe, Manya Magnus, Daisy Le. George Washington University, Washington, DC.

Background: High-risk human papillomavirus (HPV) causes 99% of cervical cancer cases. Despite available prevention methods through the HPV vaccine and two screening modalities, women continue to die from cervical cancer worldwide. Cervical cancer is preventable, yet affects a great number of women living with HIV (WLH). Low screening rates among WLH further exasperates their already high risk of developing cervical cancer due to immunosuppression. **Purpose:** This study explores WLH's current cervical cancer knowledge, screening barriers and facilitators, and sources of health information. **Methods:** Focus group discussions were conducted with 39 WLH aged 21 years old or older, who resided in the Washington-Baltimore Metropolitan Area. Emergent themes were classified and organized into overarching domains and assembled with representative quotations. **Results:** The women had limited knowledge of HPV and the cervical cancer screening guidelines for WLH. Screening barriers also included decreased accessibility to cervical cancer screenings, a novel issue caused by the Coronavirus 2019 (COVID-19) pandemic. Screening facilitators included knowing someone diagnosed with cervical cancer and provider recommendations. WLH indicated that they obtained health information through in-person education (providers, peer groups) and written literature. Due to the pandemic, they also had to increasingly rely on remote and technology-based communication channels such as the internet, social media, television, radio, email, and SMS text messaging. **Conclusions:** Future health interventions need to explore the possibility of sharing messages and increasing cervical cancer and HPV knowledge of WLH through the use of SMS and other technology-based channels.

PO-056 The ReTOOL training program for underrepresented minority students: Best practices for virtual training in midst of COVID-19 Parisa Fathi[1], Folakemi Odedina[1], John Allen[2], Debra Lyon[3], Diana Wilkie[3], Nissa Askins[4], Brian Seymour[5]. [1]Mayo Clinic, Jacksonville, FL, [2]University of Florida, Orlando, FL, [3]University of Florida, Gainesville, FL, [4]Florida University States, Orlando, FL, [5]Edward Waters University, Jacksonville, FL.

Background: The Research Training Opportunities for Outstanding Leaders (ReTOOL) Program is an NCI/NIH-funded program (R25CA214225) that focuses on increasing the representation of underserved minority (URM) scientists in biomedical research careers to diversify the cancer research workforce. In addition to didactic curriculum and mentoring, each trainee works with a research mentor who provides hands-on research training experiences during the summer. Responding to the COVID-19 pandemic, the ReTOOL Program was modified to be virtual for the 2020 program. **Methods:** In response to the COVID19 global pandemic, the ReTOOL program leadership and faculty mentors modified the program element: didactic classes, research training, mentorship, seminars and support networks. The introductory week's independent reading sessions and weekly research seminars remained unchanged, as they were already virtual. **Results:** 20 students participated in the ReTOOL 2020 program, which started on May 4 and ended on August 7. An online program agreement was created to set expectations about participation, weekly reporting form to ensure trainees met program requirements, and evaluations for continuous monitoring. Specific adjustments that were made included: (1) the one-week preparatory didactic classes were conducted online using Zoom; (2) all research training took place virtually. All wet-lab research-training activities were cancelled, with the 2020 faculty mentors primarily dry-lab scientists and scientists with expertise in secondary data analyses. All trainees worked remotely with dedicated computer/laptop with camera for Zoom video communications, internet and dedicated space for learning. There was access to online library resources through University of Florida (UF); (3) Mentorship was provided with increased frequency of meetings with faculty mentors, program staff and peers; (4) Weekly social event to foster relationships and peer networks. Trainees developed fun, lighthearted activities; and (5) Research showcase with oral presentations through Zoom and innovative use of Twitter for poster sessions. A critical missed opportunity for the trainees was visiting different graduate or professional programs at UF. To fill this gap, we provided funding for each trainee to visit UF later. An advantage of moving the program to a virtual platform was co-mentoring by international mentors in Africa, through the Prostate Cancer Transatlantic Consortium (CaPTC). Additionally, the Service Learning experiences took place virtually. **Conclusion:** The COVID19 pandemic created an unusual circumstance but we were able to overcome the challenges, which included Zoom fatigue, adjustment to different time zones, isolation and information fatigue. While the ReTOOL research-training program was different in 2020, we were still be able to provide a meaningful experience for the trainees. 2020 trainees submitted 7 conference abstracts and 6 publications. This includes a special series focused on the ReTOOL program projects soon to publish in ecancermedicalscience Journal.

PO-057 The National Conference on Health Disparities Student Research Forum

Marvella E. Ford[1], Angela M. Malek[1], Latecia Abraham-Hilaire[1], Oluwole Ariyo[2], Dana Burshell[3], Gloria Callwood[4], Laura Campbell[1], Kimberly Cannady[1], Courtney Chavis[1], Brittney Crawford[1], Andie Edwards[1], Victoria J. Findlay[1], Rita Finley[5], Chamiere Greenaway[6], Tonya R. Hazelton[1], Monique Hill[1], Marion Howard[4], Kendrea D. Knight[1], Vanessa Lopez-Littleton[7], Lloyd Moore[8], Diandra Randle[9], David E. Rivers[1], Judith D. Salley[9], Terry Seabrook[11], Sabra Slaughter[1], James B. Stukes[9], Roland J. Thorpe[12], LaVerne Ragster[4]. [1]Medical University of South Carolina, Charleston, SC, [2]Allen University, Charleston, SC, [3]University of North Carolina Chapel Hill, Chapel Hill, NC, [4]University of the Virgin Islands, St. Thomas, VIC, Virgin Islands, [5]Morehouse School of Medicine, Atlanta, GA, [6]AmeriHealth Caritas, Philadelphia, PA, [7]California State University Monterey Bay, Monterey Bay, CA, [8]Moore Companies, Washington, DC, [9]South Carolina State University, Orangeburg, SC, [11]The Space Company, Charleston, SC, [12]Johns Hopkins University, Baltimore, MD.

BACKGROUND: The annual National Conference on Health Disparities (NCHD) was launched in 2000. It unites health professionals, researchers, community leaders, and government officials, and is a catalyzing force in developing policies, research interventions, and programs that address prevention, social determinants, health disparities, and health equity. The NCHD Student Research Forum (SRF) was established in 2011 at the Medical University of South Carolina to build high-quality biomedical research presentation capacity in primarily underrepresented undergraduate and graduate/professional students. **PURPOSE:** This paper describes the unique research training and professional development aspects of the NCHD SRF. These include guidance in abstract development, a webinar on presentation techniques and methods, a vibrant student-centric conference, and professional development workshops on finding a mentor and locating scholarship/fellowship funding, networking, and strategies for handling ethical issues in research with mentors. Results**:** Between 2011 and 2018, 400 undergraduate and graduate/professional students participated in the SRF. The students represented 84 different academic institutions and 27 US states/commonwealths, as well as Germany and the UK. Most students were women (80.5%). Approximately half were African American or Black (52.3%), 18.0% were white, and 21.3% were of Hispanic/Latinx ethnicity. Conclusion**S:** The NCHD SRF is unique in several ways. First, it provides detailed instructions on developing a scientific abstract, including content area examples. Second, it establishes a mandatory pre-conference training webinar demonstrating how to prepare a scientific poster. Third, it works with the research mentors, faculty advisors, department chairs, and deans to help identify potential sources of travel funding for students with accepted abstracts. These features make the NCHD SRF different from many other conferences focused on students' scientific presentations.

PO-058 Increasing liver cancer prevention knowledge through a community-based education initiative to improve liver cancer prevention for underserved African, Asian, and Hispanic communities Wenyue Lu[1], Lin Zhu[1], Safa Ibrahim[2], Kerry Traub[1], Ellen Kim[1], Ada Wong[3], Nathaly Rubio-Torio[4], Evelyn Gonzalez[5], Marilyn A. Fraser[6], Ming-Chin Yeh[2], Grace X. Ma[1], Olorunseun O. Ogunwobi[2], Yin Tan[1]. [1]Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, [2]Hunter College, City University of New York, New York, NY, [3]NY-Presbyterian-Lower Manhattan Hospital, New York, NY, [4]Voces Latinas Inc, New York, NY, [5]Fox Chase Cancer Center, Philadelphia, PA, [6]Arthur Ashe Institute for Urban Health, Brooklyn, NY, [7]Hunter College, City University of New York, New York, NY, [8]Hunter College of The City University of New York, New York, NY.

Background: Though a largely preventable disease, liver cancer is now the fastest-increasing cause of cancer death in the US, and it is highly fatal. Hepatocellular carcinoma (HCC) is the most common type of liver cancer, and it disproportionally affect racial/ethnic minorities, especially the medically underserved. Most HCC cases are associated with hepatitis B virus (HBV) and hepatitis C virus (HCV). Methods**:** To increase awareness of liver cancer prevention and screening, we partnered with community-based organizations through NCI funded U54 TUFCCC/HC Cancer Partnership Community Outreach Core, in the greater Philadelphia metropolitan and New York City to design and conduct a liver cancer prevention project. Pre- and post- survey data was collected from underserved Asian, African, and Hispanic American community members who participated in educational workshops. This abstract will report the 473 eligible participants' knowledge on HBV, HCV, and liver cancer both before and after the education. We conducted wilcoxon Signed-rank, Kruskal-Wallis, and Wilcoxon sum-rank tests. Results**:** Knowledge of risk factors increased significantly in all three communities from the pre-survey to the post-intervention survey (2.15 vs. 3.69, $p<0.0001$). Knowledge of risk factors also significantly increased within the African (1.11, $p<0.0001$), Asian (1.88, $p<0.0001$) and Hispanic (3.21, $p<0.0001$) American Communities. There were no significant differences in increased knowledge by gender (male= 2.18 vs female=2.25, $p=0.72$). Conclusion**s:** The findings of our study show the importance and effectiveness educational interventions have on promoting liver cancer prevention knowledge among the minority groups who are most affected in the U.S. by liver cancer disparity.

PO-059 Multifaceted approaches to engaging Black and Latinx populations: From bed to bedside Jessica Otero[1], Fern Webb[2], Folakemi Odedina[1], Nissa Askins[3], Linda Behar-Horenstein[4], Lourdes Baez-Conde[5], Mariana Stern[5], Sandra Suther[6], Renee Reams[6]. [1]Mayo Clinic, Jacksonville, FL, [2]University of Florida, Jacksonville, FL, [3]University of Florida, Orlando, FL, [4]University of Florida, Gainesville, FL, [5]University of Southern California, Los Angeles, CA, [6]Florida A&M University, Tallahassee, FL.

INTRODUCTION The Cancer Research Education and Engagement (CaRE^2) Health Equity Center seeks to eliminate cancer disparities within Black and Latinx communities through research, training, education, and community engagement. The goal of this presentation is to share the unique model of community engagement that was implemented by the CaRE^2 Center's Community Outreach Core (COC) during the COVID-19 pandemic. METHODS During the COVID-19 pandemic, the COC hosted community outreach events to address prostate and pancreatic cancer disparities. We overcame the challenges of COVID-19 by hosting these programs over Zoom, Facebook, and Twitter and allowing participants to interact and ask questions. The use of these platforms allowed us to develop and implement the innovative "bed to bedside" model, which allowed participants to gain a well-rounded understanding of the cancer process from cancer survivors, physicians, and researchers of color. The goal of these events were to 1) increase awareness of the importance of prostate and pancreatic cancer screening, 2) educate patients and community members about potential prostate and pancreatic cancer treatments, 3) raise awareness on prostate and pancreatic cancer research, and 4) address the causes and solutions to prostate and pancreatic cancer disparities in the Black and Latinx community. RESULT A total of 4 events were conducted between September and November of 2021, reaching a total of 30 persons directly and about 30 more through social media. At each event, evidence-based prostate cancer and pancreatic cancer education was disseminated. Of the attendees, 48% identified as Black or African American and 14% as Latino(x). Attendees were given the option to provide feedback and 90% of attendees agreed or strongly agreed that the presentations met their expectations. One benefit of conducting outreach activities via these platforms was the ability for more individuals to attend and the elimination of transportation barriers. Participants reported that attending virtually was easy to navigate and provided a suitable environment given the ongoing pandemic. Participants also reported that they enjoyed the "bed to bedside" model and shared that hearing from a survivor of color led to them feeling more comfortable in considering cancer screening. CONCLUSION The Care^2 COC, in partnership with the community, is addressing disparities in the Black and Latinx population. One of the barriers that we had to overcome was continuing community outreach during the COVID-19 pandemic. The decision to provide health education outreach over social platforms, was essential to maintain our reach and impact. This allowed for the implementation of the "bed to bedside" model that included the different perspectives of care. We concluded that this model was effective and helped normalize the treatment process. We also concluded that outreach to the community should continue to provide cancer information via virtual formats especially as the COVID-19 related incidence and mortality begins to increase.

PO-060 The *Conexiones* Program: A pilot feasibility study of a cancer parenting program for Latina mothers living with cancer in the U.S.-Mexico border region Rebecca Palacios[1], Clara Reyes[1], Kristin Griffith[2]. [1]New Mexico State University, Las Cruces, NM, [2]University of Washington, Seattle, WA.

Background: Mothers diagnosed with cancer and their children experience significant distress. Enhancing Connections (EC) is a cancer parenting program that improves outcomes in mother and child by adding to the mother's self-care and parenting skills. Validated with non-Hispanic White mothers of upper socioeconomic status (SES), EC was culturally adapted to serve low SES Latina mothers diagnosed with cancer and their children and renamed *Conexiones*. **Purpose**: This study tested the short-term impact of the *Conexiones* program on depressed mood, anxiety, and parenting competencies among diagnosed Latina mothers, and their children's behavioral-emotional adjustment to her cancer. It also examined the feasibility of delivering the telephone-based *Conexiones* program. Methods: Eligibility criteria included being a Latina woman diagnosed with early-stage cancer of any type (stages 0-III; excluded some skin cancers) in the last two years with a dependent child 5-17-years-old. Mothers received 5 Conexiones sessions at two-week intervals in her preferred language. Outcome measures assessed the mother's anxiety/depression and parenting skills, self-efficacy, and quality. Anxiety/depression and behavioral problems for her child were also measured. Participants completed all self-reported assessments at baseline and three months post-baseline. The paired within-group comparison of change from baseline to three-month-post-baseline used the Wilcoxon non-parametric p-value. Results: Fifteen mothers completed all five education sessions and the 3-month follow-up survey. Mothers were diagnosed with breast, thyroid, and gynecologic cancers. Analysis revealed statistically significant increases in parenting self-efficacy and parenting quality (all p values < 0.05). Marginally significant improvements in maternal mood were also found ($p = 0.09$). Changes in maternal anxiety and the child's behavioral and psychosocial adjustment also appeared to improve, although they did not approximate statistical significance, possibly due to an underpowered analysis. Regarding feasibility, a review of audio-recorded intervention sessions revealed high dosage and fidelity. Participants were able to complete the telephone sessions and homework in between sessions and reported liking and benefiting from the program in an exit interview. A participant reported multifaceted burdens (e.g., homelessness; domestic abuse; loss of health coverage) in addition to her cancer requiring the development of new study protocols. Conclusion**s**: In addition to demonstrating positive preliminary psychosocial outcomes for diagnosed Latina mothers, the pilot study was instrumental in directing further refinement of the Conexiones program, expanding the program's cancer resource booklet with social services needed by low SES Latina survivors, and helping NMSU establish the research infrastructure needed to complete a more rigorous clinical trial.

PO-061 'Tu historia cuenta' online version: Promotores' experience and perspectives on the virtual adaption of a hereditary breast cancer education and risk identification program Fabian Perez[1], Laura Fejerman[1], Eric Robles-Garibay[1], Angelica Perez[1], Elizabeth Quino[1], Maria Gonzalez[2], Miriam Hernandez[2], Alejandra Martinez[3], Patricia Castaneda[2], Raquel Ponce[2], Cindia Martinez[2], Ysabel Duron[4]. [1]University of California Davis, Davis, CA, [2]Vision y Compromiso, Los Angeles, CA, [3]Promoters for Better Health, Los Angeles, CA, [4]The Latino Cancer Institute, San Jose, CA.

Background: Breast cancer is the most common cancer in women in the U.S. and the leading cause of cancer related death among U.S. Latinas. Despite having lower breast cancer incidence, U.S. Latinas are more likely to be diagnosed with advanced stage disease compared to non-Hispanic White (NHW) women. This can be attributed to lower rates of screening and longer time to follow up after an abnormal mammogram in the former group. We developed a comprehensive promotores-led education and risk stratification program for Spanish-speaking Latinas to increase mammography screening, genetic testing, and the understanding of the impact of family history on cancer risk. Due to COVID-19 we adapted the program to a virtual platform. This study aimed to record and share the experience from the promotores' perspective as they educated the Latino(x) community through virtual sessions. Methods**:** We used a stakeholder continuous engagement approach and the construct of relational culture to build the program materials. The promotores were part of two organizations in California: Vision y Compromiso (Sacramento region, and San Francisco) and Promoters for Better Health (Los Angeles). Their experience was captured using semi-structured interviews guided by a set of questions and a request for additional thoughts. Demographic information was captured using a questionnaire. The promotores' voices were incorporated into this program through multiple interactions including the revision of the interviews. Results**:** All promotores (N=14) in the program were fluent in Spanish and self-identified as Hispanics/Latinos(x). Ages ranged between 34 and 62, most being first generation immigrants. Educational achievement varied from high school to college degree. Through the interviews and informal interaction, promotores shared that virtual platforms helped alleviate numerous obstacles for attendance like transportation, scheduling conflicts, and childcare costs. However, the online approach removed the personal connection that promotores usually have with participants. The most important challenge described was the lack of privacy and a safe space for participants to share, since many took the class in the middle of their homes near family members. The promotores agreed delivering the program gave them a greater sense of self-worth and confidence. They never thought that they could learn, and teach, community members about genetics and cancer risk. Conclusion**s:** Despite the challenges brought about by COVID-19, the experience of transforming the 'tu historia cuenta' program to a virtual platform provided unique opportunities for bi-directional collaboration between the academic and community partners and with the participants. Overall, we learned that the virtual program had both positive and negative aspects regarding community engagement. It also consistently empowered promotores as well as allowed them to continue their paid work during lock-down, which was equally appreciated during challenging economic times.

PO-062 Flipping the switch to virtual community engagement: Strategies and future directions for online cancer education Alia Poulos, Gina Curry. University of Chicago Comprehensive Cancer Center, Chicago, IL.

History The University of Chicago Comprehensive Cancer Center's *HealthyU* program started as a health education initiative to reach University of Chicago Medicine employees from across a variety of sections and departments. *HealthyU* consisted of weekly workshops, called *Workshop Wednesdays* and pledge cards for cancer screenings. *HealthyU* programming was only done during awareness months for the "screenable" cancers: breast, cervix, colon, and lung. Attendance at our workshops was sporadic and completed pledge cards usually did not meet programmatic goals. **Making the Switch to Virtual Programming** Beginning in October 2020, in the wake of the COVID-19 pandemic, we took the *HealthyU* program online for Breast Cancer Awareness Month. Our breast cancer programming consisted of four educational webinars to encourage breast cancer screening, a digital screening pledge card, and a mammogram toolkit with printable resources to promote mammography. We had 50% more webinar participants and 23% more pledge cards signed virtually than we did in October of 2019 during our in-person programming. The success of our virtual Breast Cancer Awareness Month programming prompted us to expand *HealthyU* dramatically. Cutting out the logistics of on-campus programming has allowed us to broaden the scope of the *HealthyU* program in the following ways: 1. The target audience has grown beyond UChicago Medicine employees to include a variety of community partners across greater geographic areas both within and outside of our catchment area. 2. We host webinars on a weekly basis and for a wide range of cancer-related topics. 3. Our physical pledge cards are virtual and have grown to include pledge cards for other cancer screenings and risk-associated behaviors. 4. We created online toolkits to share with our community and UCM partners with information and shareable resources that can be used online or printed and distributed. 5. We have incorporated virtual contests to encourage cancer screening advocacy and awareness. 6. We designed self-guided cancer education modules and an online video library to supplement our programming. 7. We leveraged our social media presence to engage in real-time cancer-focused conversations online. 8. We developed other online webinar series, including documentary short screenings, survivorship storytelling, researcher/survivor summits, and singular webinars on public health topics. **Outcomes & Future Directions** Through the *HealthyU* program, we've connected over 100 UCM employees and community partners with 64 different University of Chicago faculty experts and 26 community experts. We plan to use the techniques and outreach strategies learned to expand our reach in other areas, including an online training course for cancer investigators and community members on the principles of community-based participatory research, and a community-scientist virtual summit on Cancer and the Microbiome. We have leveraged the success of this program to secure device donations to expand our outreach to communities with inadequate technology access.

PO-063 Medical students' knowledge and comfort in participating in cancer prevention for LGBTQ+ patients Gwendolyn P. Quinn[1], Christina Tamargo[2], Devin Murphy[3], Megan Sutter[1], Lydia Fein[4], Fabio Ferrari[1], Amani Sampson[1], Mia Charifosn[1], Matthew B. Schabath[5]. [1]NYU, New York, NY, [2]Johns Hopkins, Baltimore, MD, [3]University of Texas San Antonio, San Antoni0, TX, [4]University of Miami, Miami, FL, [5]Moffitt Cancer Center, Tampa, FL.

Background: The majority of US medical schools have a required curriculum related to the care of LGBTQ+ people, which varies in length and content across schools. All medical specialties and sub-specialties have a component of need for cancer care; either in prevention, treatment, or care planning. As such, it is imperative that medical trainees receive relevant training in the care of LGBTQ+ populations, a community experiencing significant cancer health disparities. Assessing trainees' knowledge and confidence in providing care is an important aspect of preparing the next generation of physicians. Methods**:** This abstract reports on survey results from 3 US medical schools (New York University, University of Miami, University of Texas San Antonio) assessing the knowledge, attitudes and comfort in providing care for LGBTQ+ people. The survey was comprised of 54 Likert response (1=strongly disagree; 7=strongly agree) choice questions on: attitudes (30), knowledge (10), student demographics (13) and desire for additional LGBTQ+ education (1). Results were analyzed using descriptive and quantitative analyses. Results: A total of 360 medical students completed the survey and analyses revealed the majority of students had positive attitudes towards caring for LGBTQ+ patients, but lacked comfort in providing care for transgender/non binary patients (TNB) in general ($p=0.05$); specific cancer prevention care for TNB ($p< 0.01$); reproductive care for TNB ($p< 0.01$) and sexual heath ($p=0.01$). There was a significant correlation between high knowledge scores and comfort in asking a patient's pronouns ($p<0.01$). More than 80% felt comfortable discussing cancer prevention care with LGB patients and 75% believed it was important to know the sexual orientation of patient to provide the best care. Eighty percent agreed there should be mandatory LGBTQ+ education in medical school. As in our prior studies, total knowledge scores did not correlate with attitudes. Conclusion**s:** Medical students feel comfortable and willing to provide cancer prevention care for LGB patients but may need more education and training in the unique needs of TNB patients. Medical schools should consider specific education in cancer prevention and treatment for TNB populations.

PO-064 Health literacy as a tool to drive equitable action for lung cancer screening in high-risk communities Jeanne M. Regnante[1], Upal Basu Roy[1], Catina O'Leary[2], Linda M. Fleisher[3], Diane W. Webb[2], Linda Wenger[1], Andrea Ferris[1], Robert Winn[4]. [1]Lungevity Foundation, Bethesda, MD, [2]Health Literacy Media, St. Louis, MO, [3]Fox Chase Cancer Center, Philadelphia, PA, [4]Virginia Commonwealth University Massey Cancer Center, Richmond, VA.

In the United States, communities at risk of developing lung cancer include rural populations, low socioeconomic status (SES) and the under-insured, immigrants, aged populations, racial and ethnic minority groups, and LGBTQIA communities. Many of these high-risk communities are diagnosed at much later stages than high SES whites. When lung cancer is detected early, survival rates are higher due to the possibility of curative surgery. Lung cancer screening (LCS) using low-density computed tomography (LDCT) has been recommended by the USPSTF since 2013. Guidelines for those who meet the USPSTF LCS criteria were expanded in 2021. A major barrier to accessing screening by vulnerable populations is the lack of health literate LCS education materials that can be used to engage and empower these groups and motivate them to seek screening. **Research Question**: How do we develop health literate (HL), culturally sensitive, and linguistically appropriate health information about LCS to high-risk communities and make them available through trusted community partners? **Methods:** A multi-phased approach that included material creation, testing, and dissemination was conceptualized by LUNGevity Foundation in partnership with Health Literacy Media (HLM) and a leading expert in accessible patient education. Using an IRB-approved protocol, the study team identified a representative population of persons (N=40 in 15 states) with online recruitment facilitated by NCI community cancer center outreach leaders in high-risk geographies. The participants gave extensive quantitative and qualitative feedback via virtual focus groups or in-depth interviews to obtain opinions and insights into how easily LUNGevity Foundation's Screening and Early Detection Booklet was understood. Revised materials were created using HL best practices, and re-tested with new community members to ensure acceptability, accessibility, and HL. Then, additional materials with relevant health topics were developed consistent with HL principles for extensive testing with communities. An additional 24 people in 11 states took part in 1 of 4, 1 ½ hour focus groups for final review. New HL lung cancer screening materials were made available to NCI community outreach leaders via LUNGevity Foundation's trusted national community engagement network. **Results:** The participants raised important insights about eligibility for and accessibility to screening. Based on their insights and recommendations, HLM transformed one large booklet into 4 fact sheets and 6 mini booklets. Final materials were disseminated to vulnerable populations via LUNGevity Foundation's trusted community engagement network. **Conclusions:** The feasibility of creating patient-centered health literate materials that also incorporate community engagement is established. Using LCS as an example, we were able to successfully create materials that were acceptable to high-risk communities. We recommend offering understandable and accessible information to all communities regardless of their literacy or education levels.

PO-065 Increasing breast and cervical cancer knowledge during COVID-19 pandemic in collaboration with Cooperative Extension Program Omayra Salgado[1], Ircha Martinez[2], Nelybeth Santiago[3], Mirza Rivera[3], Taina De La Torre[4], Guillermo Tortolero[4]. [1]UPR-Comprehensive Cancer Center, San Juan, [2]UPR-Mayaguez Campus, San Juan, Puerto Rico, [3]UPR-Medical Science Campus, San Juan, Puerto Rico, [4]UPR-Comprehensive Cancer Center, San Juan, Puerto Rico.

Introduction: The National Breast and Cervical Cancer Early Detection Program (NBCCEDP) of the Centers for Disease Control and Prevention (CDC) reported that in April 2020, screening tests for breast cancer decreased by 87% and 84% for cervical cancer, compared to the averages of the previous 5-year for the same month. In response to this finding, the Puerto Rico Breast and Cervical Cancer Prevention and Early Detection Program (PR-BCCPEDP), in collaboration with the Cooperative Extension Program (CEP), implemented an educational intervention of breast and cervical cancer in the northeast region of the island. The intervention aimed to reinforce knowledge in the early detection of breast and cervical cancer, increase screening tests, and reach out to women without health insurance who may qualify for the Program. Methodology: Since 2017, the PR-BCCPEDP agreed with the CEP to implement educational interventions for breast and cervical cancer in 4 of CEP's regions throughout the island. From February to May 2021, seven CEP Family and Consumer Educators (EFC) carried out 8 educational activities with 182 participants in the island's northeast region. We collected age, town of residence, level of education, health insurance, breast and cervical cancer screening history, and the reasons for not having performed screening tests according to the recommended guidelines. The educational activities were performed virtually through an educational PowerPoint and face-to-face using flip charts. The topics included breast and cervical cancer statistics, risk factors, symptoms, early detection guidelines, myths and facts, and barriers to not having screening tests. Participants that didn't have the screening tests according to the recommended guidelines had follow-up calls. Results: A total of 182 women participated in the intervention, with an average age of 47 years; most participants had a high school degree (42%), and 59% had the government's health plan. Regarding screening tests, 35.1% reported that they had not had a mammogram in the last two years, 73.4% authorized to be contacted after the intervention. Similarly, Pap tests, 30.7% reported that they had not had a Pap test in the last three years, of which 87.5% authorized to be contacted. Of the participants who had not had a mammogram (35.1%) or Pap test (30.7%), the main reason was the COVID-19 Pandemic (22.9% and 21.8%, respectively). Regarding the participants referred to the PR-BCCPEDP, 3.6% of the women without health insurance were referred to the Program and of these, 50% were recruited. Conclusion: Despite security, restrictions from the Pandemic, collaborations with community-based programs helped to reach a greater number of women to provide education and awareness about breast and cervical cancer. In terms of breast and cervical cancer screening, more than a third of the participants had not had their mammogram or Pap done due to the Pandemic. Women were recruited for the Program; however, additional efforts are necessary in order to reach a higher number of uninsured women.

PO-067 Developing provider education to address barriers and reduce disparities in lung cancer screening and smoking cessation treatment among underserved patients Laney Smith[1], Daisy Dunlap[2], Randi Williams[1], Andrea Shepherd[3], Allison Windels[4], Maria Geronimo[5], Vicky Parikh[6], Chavalia J. Breece[4], Namita Puran[7], Eric Anderson[4], Lucile Adams-Campbell[1], Kathryn Taylor[1]. [1]Georgetown University Medical Center, Washington, DC, [2]Georgetown University, Washington, DC, [3]Baylor University, Waco, TX, [4]MedStar Georgetown University Hospital, Washington, DC, [5]Anne Arundel Medical Center, Annapolis, MD, [6]MedStar Shah Medical Group, Hollywood, MD, [7]MedStar Washington Hospital Center, Washington, DC.

Introduction: Lung cancer is a major public health problem in the US and disparities exist in lung cancer burden and lung cancer screening (LCS) utilization. African Americans (AA) have the highest lung cancer incidence and mortality compared to other racial and ethnic groups; however, LCS rates were lower among AAs compared to Whites under the 2013 United States Preventive Services Task Force (USPSTF) guidelines. While the expanded 2021 USPSTF criteria will significantly raise the number of AAs eligible for LCS, methods to increase rates of LCS among AA patients will still be needed. We describe the development of the first provider educational tool that focuses on barriers to reduce disparities in LCS. Methods: We completed qualitative interviews with primary care providers (N=9) and AA patients eligible for LCS (N=8; 4 screened, 4 unscreened) to assess barriers to LCS and tobacco cessation. Interviews were recorded and analyzed for common themes, which led to the development of the provider intervention. Results: Among patients, common barriers to LCS were a lack of information on the LCS procedure and associated costs, fear of the results, and transportation issues. Patient barriers to utilization of evidence-based cessation treatments included tobacco use stigma, cost of cessation aids, and inconsistent provider communication. Providers acknowledged time constraints during patient visits, lack of standardized training on documenting tobacco use, and the required LCS shared-decision making conversation as barriers to providing LCS referrals and cessation treatment. Both providers and patients noted that LCS rates may be increased by providing patient-facing information on the screening process and by facilitating provider referrals, which are essential for LCS. Based on these findings, we developed a self-directed 30-minute e-learning Health Disparities module that addresses: 1) disparities in the burden of lung cancer; 2) disparities in smoking patterns and utilization of evidence-based smoking cessation treatments; 3) patient barriers to LCS; and 4) resources for providers to address common LCS barriers (e.g., patient reminders to support scheduling the scan, offering transportation options). Experts in health disparities (N=6) and LCS (N=9) provided detailed critiques of the module content and presentation. Conclusions: We identified barriers to LCS and tobacco cessation from the perspectives of providers and AA patients. These findings informed the development of a brief web-based provider educational module to raise awareness about lung cancer and tobacco-related disparities and to provide resources to reduce barriers in diverse patient populations. We have begun a RCT to compare the Health Disparities module to an existing provider module on LCS to evaluate the impact on primary care providers' knowledge, attitudes, and LCS referrals of AA and White patients. These findings will provide preliminary evidence on provider education that can be easily disseminated to address health disparities in LCS and smoking cessation treatments.

PO-068 Cervical cancer and HPV knowledge and awareness: An educational intervention among college students in Guam Lilnabeth P. Somera, Tressa P. Diaz, Angelina Mummert, Jaeyung Choi, Kristian Ayson, Grazyna Badowski. University of Guam, Mangilao, Guam.

The incidence of cervical cancer (CCA) in Guam, a U.S. territory in the Western Pacific, is six times higher among Micronesians and over three times higher for CHamorus (Guam's indigenous people) and Caucasians living in Guam than the U.S. population. Educational interventions among college students who can still get the HPV vaccine, particularly among women below and about the age for initial CCA screening, is crucial. Our team designed and delivered a 20-30 minute presentation to college students in a classroom setting. Pre- and post-tests measured changes in knowledge and attitudes about CCA. Summary variables were computed for CCA and HPV Knowledge and Awareness. McNemar's test was used to compare knowledge and attitudes before and after the presentation. A total of 108 students completed the survey. Most participants were female (63.0%), juniors (44.4%), and identified as either CHamoru (36.1%) or Filipino (26.9%). A majority had a regular source of healthcare (77.8%), a primary physician (56.5%), and private health insurance (52.8%). Results show male and female students had similar pre- and posttest scores. Among ethnic groups, Caucasians had the highest pretest scores and non-CHamoru Pacific Islanders had the lowest. All ethnic groups had statistically significant increases in CCA Knowledge and Awareness scores after the presentation. Three individual one-way ANOVAs with gender, ethnicity and class level as the factors were performed using the different total scores of the CCA and HPV Knowledge and Awareness as the dependent variables. There was no significant difference interaction between gender ($F=0.498$, $p=0.482$), class level ($F=0.371$, $p=0.774$), or ethnicity ($F=0.398$, $p=0.810$). However, the results showed a significant main effect of Time on CCA Knowledge and Awareness ($p<0.001$). There was a significant increase for all independent variables in CCA and HPV Knowledge and Awareness from pre- to post-test. The McNemar test shows that there are significant positive differences in the proportion of correct responses to most of the questions between the pre- and posttest. The percentage of correct answers to questions related to symptoms and causes of CCA, the increased risk caused by HPV, and the prevention of CCA through routine screening was already high at pretest so the difference was not significant. Overall, study participants perceived the presentation an effective tool to educate individuals about CCA. Before the presentation, 63.9% rated their general knowledge about CC as neutral or unknowledgeable. After the presentation, this decreased to 11.1%. This type of educational intervention for CCA is critical for this age group, since most can still get the HPV vaccine and women are at the age of initial CCA screening. This study shows that the college setting is an appropriate venue to increase CCA and HPV awareness and potentially impact HPV vaccination for females. Future studies should test presentation paired with opportunities for HPV vaccination via college or public health services.

Behavioral And Social Science: Other

PO-069 Engaging the American Indian community in North Carolina to assess cancer research and training opportunities Ronny Bell[1], Carla Strom[1], Kelsey Shore[1], Charlene Hunt[1], Karen Winkfield[2]. [1]Wake Forest Baptist Comprehensive Cancer Center, Winston-Salem, NC, [2]Meharry Vanderbilt Alliance, Nashville, TN.

Background: American Indians have significant barriers to cancer prevention and control due to a number of social structural factors. North Carolina has the largest American Indian population east of the Mississippi River with eight tribes and four urban Indian centers, yet there have been few coordinated strategies to address cancer disparities in this population. Engagement with tribal communities is vital in successful implementation of research and outreach activities. Methods: The Wake Forest Baptist Comprehensive Cancer Center (WFBCCC) received a supplement to their P30 Cancer Center Support Grant to inform Community Outreach and Engagement initiatives through The Healing Walk project which was designed to determine the most pressing cancer concerns for American Indian communities in North Carolina and identify needs for research training for American Indian students. Feedback was obtained from tribal leaders, educators, and college students through one large and three mini-round table discussions and solicited by email throughout late 2018 and 2019. The final round table occurred two days before the 2020 COVID 19 mitigation mandates. Results: Community interviews produced a wealth of information on the self-reported issues within American Indian populations in North Carolina. Tribal community leaders identified systemic and demographic issues that contribute to health disparities among their people. These issues include: lack of trust in the medical community, structural barriers to care leading to late-stage diagnosis, perceptions related to cancer, high rates of cancer risk factors, including obesity and tobacco use, and historical trauma. Students identified factors which contribute to barriers in pursuing careers in cancer research, including a lack of American Indian mentors, financial barriers, mental health challenges that arise in attending majority institutions, and a lack of culturally competent research training. Conclusions: By relying on the viewpoints of tribal leaders, the WFBCCC can accurately address the needs of the communities and develop cancer prevention and control initiatives that are culturally responsible, such as Tribal Health Ambassadors. In accordance with the majority of the requests both students and educators made, the WFBCCC is creating an undergraduate research program for engaging AI students. Focusing on community identified areas of need, students will develop a research question relative to the health concerns of their tribe. The goal of this research program is two fold. First, to enable tribal communities to accurately assess cancer risk, incidence, and mortality, and with that knowledge reduce the current health disparities in AI populations. Second, to provide American Indian students with the opportunity to not only serve their community, but to give them the tools and experience to help understand and eliminate cancer disparities in their tribal communities.

PO-070 Psychometric properties and analysis of the masculinity barriers to medical care scale among African American, Indigenous, and White men Ellen Brooks[1], Roger Figueroa[2], Ethan Petersen[1], Pamela Campanelli[3], Carson Kennedy[1], Roland J. Thorpe, Jr.[4], Ronald F. Levant[5], Charles R. Rogers[1]. [1]University of Utah School of Medicine, Salt Lake City, UT, [2]Cornell University, Ithaca, NY, [3]UK Survey Methods Consultant, Chartered Statistician, Colchester, United Kingdom, [4]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, [5]The University of Akron, Akron, OH.

Background: The Masculinity Barriers to Medical Care (MBMC) scale was developed to assess masculinity barriers to medical care relative to colorectal cancer (CRC) screening uptake among non-Hispanic (NH) African-American/Black men. **Objective:** This study aimed to assess the psychometric properties of the MBMC Scale while applying it to different racial groups. Methods**:** Participants self-identifying as non-Hispanic (NH) Black, American Indian/Alaska Native (Indigenous), or NH White completed the web-based Masculinity Barriers to Medical Care, Psychosocial Factors, and CRC Screening Uptake & Intention Survey. We conducted exploratory factor analysis on a sample of 254 men and multivariate analysis of variance (MANOVA) on a separate sample of 637 men nationally representative by age and state of residence. Results**:** After assessment of psychometric properties, the MBMC scale was reduced from 24 to 18 items and from six to four subscales. Black men's mean scores were lowest on three of four subscales (Being Strong, Negative and Positive Attitudes) and highest on the Acknowledging Emotions subscale. Compared with both Indigenous and White men, Black men had significantly lower Negative Attitudes subscale scores and significantly higher scores on the Acknowledging Emotions subscale. Compared with both Indigenous and Black men, White men had significantly higher Being Strong and Positive Attitudes subscales scores. Conclusion**s:** This study expands on previous research indicating that, among racialized populations of men, endorsement of traditional masculine ideologies influences engagement in preventive health behaviors. Our scale can be tailored to assess attitudes to screening for other cancers and diseases that disproportionately burden medically underserved populations.

PO-071 A curriculum to bridge the divide between basic science researchers and community members to address cancer disparities Tobi A, Cawthra[1], Laura Pinsoneault[2], Jessica Olson[1], Deborah Thomas[3], Carol Williams[1], Melinda Stolley[1]. [1]Medical College of Wisconsin, Milwaukee, WI, [2]Evaluation Plus, Waukesha, WI, [3]House of Grace Kingdom Ministry, Jackson, WI.

Medical mistrust and misunderstanding remain significant challenges that impede collaboration between community members and researchers. In African American, Hispanic, and Native American communities, medical mistrust limits participation in biomedical studies which constrains the development of new and relevant research questions minimizing our understanding of biomedical and social factors affecting certain groups. Mistrust, misunderstanding and a lack of connection between researchers and community members contribute to the persistence of disparities, including cancer. To bridge this divide, we partnered with a senior basic scientist and a community leader with significant adult education experience to co-lead and create a pilot "Research and Community Scholars" curriculum for community members and researchers to develop a shared understanding and vocabulary regarding research, address health issues and concerns, and build positive collaboration experiences. Through a year-long process, the team met regularly to intentionally explore the role of equity around potential topics and approaches, develop a shared lexicon, survey researchers and community members on concepts and curriculum design, foster a collaborative relationship and nourish equitable co-leadership. The co-leaders concluded that s participants in the curriculum need focused time, effort, and guidance to learn about and from each other, grow their capacity to collaborate, and build trust through collaboration. The pilot curriculum will invite early-career biomedical researchers ("Research Scholars") from the Medical College of Wisconsin (MCW) and Milwaukee community members affiliated with local community based organizations ("Community Scholars"). Scholars will meet together bi-weekly for 9-months. Course lectures and exercises, facilitated by community and academic leaders, will cover cancer, disparities, implicit bias, institutional racism, research violations and protections, and communication across audiences. A Community Scholar and a Research Scholar will be paired at the beginning of the course to develop a project. This approach mirrors the equitable and trusting partnership the co-leaders they developed while creating the curriculum. Dyad projects could include a presentation on how laboratory science is enhanced by a community-based orientation, or development of a podcast on ways community and researchers can bridge communication differences. The projects will be presented at the end of the course to other program scholars, leaders in the community and MCW. To sustain the relationships built during the course, scholars will be invited to become part of an alumni network. The design of this curriculum will result in new research mechanisms and ways to center community in the development of biomedical research. Positioning community as an equitable partner in scientific discovery addresses issues of mistrust and misunderstanding and contributes to the reduction of cancer disparities.

PO-072 Care coordination for older cancer patients with multi-morbidities: Implications for addressing cancer health disparities Michelle Doose, Dana Verhoeven, Janeth I. Sanchez, Veronica Chollette, Sallie J. Weaver. National Cancer Institute, Rockville, MD.

Purpose: Newly diagnosed cancer patients with multi-morbidities require a clinical care team of higher complexity due to greater care coordination demands to simultaneously coordinate cancer care and chronic disease management. Whereas teams of lower complexity may streamline care needs by using one clinician or discipline type to manage all care needs. However, this requires clinicians to understand that they are assuming other clinical roles and responsibilities or else care needs go unmanaged leading to poor health outcomes. Given that chronic disease management drops off following the cancer diagnosis, we examined whether cancer patients identifying as non-Hispanic Black, with dual Medicaid coverage, more chronic diseases, and later cancer stage were more likely to have a clinical care team of higher complexity in the 4-months post cancer diagnosis. Methods**:** Surveillance, Epidemiology and End Results (SEER)-Medicare data were used to identify patients with invasive breast, colorectal, or non-small cell lung cancer with a co-diagnosis of cardiopulmonary disease or diabetes (n=85,876). The data were linked with American Medical Association files to identify clinician's discipline (e.g., oncology, primary care, cardiology) from encounter claims. Using Zaccaro's classification of multi-team systems, we categorized the degree of complexity of the clinical care team: lower (1-2 disciplines and 1-3 clinicians) versus higher (2+ disciplines and 4+ clinicians). We used multivariable logistic regression to examine patient factors associated with having a clinical care team of higher complexity (compared with lower). Results**:** Among older cancer patients with multi-morbidities, the most common clinical care team composition was oncology with primary care (37%) followed by oncology, primary care, and medical subspecialty (34%). In the adjusted model, cancer patients were *less* likely to have a clinical care team of higher complexity if they were non-Hispanic Black compared to non-Hispanic White (OR: 0.88; 95% CI: 0.83, 0.93), dual Medicaid-Medicare covered compared with Medicare only (OR: 0.63; 95% CI: 0.61, 0.65), and diagnosed with stage III cancer compared to stage I (OR: 0.87; 95% CI: 0.84, 0.90). Cancer patients were *more* likely to have a clinical care team of higher complexity if they had cardiopulmonary disease (OR: 1.74; 95% CI: 1.68, 1.81) or diabetes (OR: 1.69; 95% CI: 1.63,1.75) compared with hypertension only. Conclusion**:** Clinical care teams of lower complexity were associated with identifying as Black, Medicaid coverage, and later stage, which are known factors associated with poorer care outcomes. This warrants further investigation to examine whether clinicians are assuming other clinicians' roles and responsibilities for patient care or if cancer care is taking precedence over other chronic diseases. Future research to address cancer care disparities need to focus on clinical care teams and the healthcare organizational context that provide and optimize care coordination for newly diagnosed cancer patients with multi-morbidities.

PO-073 Using spatial analysis to identify environmental stressors that affected women with gynecological cancer in Puerto Rico during and after Hurricane María Camila V. Elías[1], Pablo A Méndez[1], Liz M. Martínez[1], Ana P. Ortiz[2]. [1]University of Puerto Rico Medical Sciences Campus, San Juan, Puerto Rico, [2]University of Puerto Rico Comprehensive Cancer Center, San Juan, Puerto Rico.

Socially vulnerable communities, such as women, cancer patients, and minorities, are at a high risk of poor health outcomes after a disaster. This ongoing study analyzes specific environmental stressors that affected women with gynecological (gyn) cancer during and after Hurricane María (HM) in Puerto Rico (PR) in September 2017. To do this, we recruited and interviewed 271 women aged ≥ 21 years diagnosed with gyn cancer between Sept 2016 and Sept 2018, from which only 195 met all the selection criteria. Some sections in the interview were divided into two different time periods: 3 months before and 3 months after HM. To carry-out a geospatial analysis, physical addresses 3 months before and after HM were geocoded using ArcGIS World Geocoding Service, in ArcMap 10.8.1. The software provided "automatically matched addresses" and "matched addresses with tied candidates". The addresses identified as "matched addresses with tied candidates" were verified during the rematch process while also confirmed with Google Earth. Environmental hazards information and risk exposure were based on existing Earth Observation Data and Geodatabases from multiple agencies: flood from the Federal Emergency Management Agency (FEMA), HM's eye track from the National Oceanic and Atmospheric Administration (NOAA), social vulnerability index from the Centers for Disease Control and Prevention (CDC), and landslides from United States Geological Survey (USGS). 100 (51.3%) women were diagnosed with gyn cancer before HM, and 95 (48.7%) were diagnosed with gyn cancer after HM. Hazards such as floods and landslides were some of the primary environmental stressors experienced by the participants during and after HM. Geocoding process provided 247 (91%) automatically matched addresses and 24 (9%) tied addresses. Spatial analysis suggests that 12.3% of the participants were living in areas with the highest indices of social vulnerability. Some differences were identified for flood exposure. Geospatial analysis using FEMA-Flood Maps, suggests 18.5% of women were living in flood prone areas. Interview results suggested 54.4% gyn cancer patients suffered floods. Consistent with the characteristic of the storm, most of the participants (62.6%) were inside HM's eye track. 12.8% of the participants were living in areas that suffered landslides. Gyn cancer patients in this study suffered severe environmental stressors as a result of HM. Diminishing environmental health issues to cancer patients is key to support their access to care and quality of life. Oncology care approaches should be included on emergency plans for disasters, to guarantee access to care and health equity of cancer patients. Our preliminary findings and results are suggesting that FEMA-Flood Maps were underestimating flood risk in PR. Providing the most accurate geospatial information is essential for Risk Management. This information is crucial since it will allow citizens and communities to be better prepared and to take adaptation measures before the event.
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PO-074 The impact of perceived racial discrimination and racial residential segregation on cancer screening among African American women: A multilevel, longitudinal analysis of 2-1-1 Texas callers Lynn N. Ibekwe[1], Maria Eugenia Fernández-Esquer[1], Sandi L. Pruitt[2], Nalini Ranjit[3], Maria E. Fernández[1]. [1]The University of Texas Health Science Center at Houston School of Public Health, Houston, TX, [2]The University of Texas Southwestern Medical Center, Dallas, TX, [3]The University of Texas Health Science Center at Houston School of Public Health – Austin Regional Campus, Austin, TX.

Although racism is increasingly being studied as an important contributor to racial health disparities, its relation to cancer-related outcomes among African Americans remains unclear. The purpose of this study was to help clarify the relation between two indicators of racism—perceived racial discrimination and racial residential segregation—and cancer screening. We conducted a multilevel, longitudinal study among a medically underserved population of African Americans in Texas. We assessed discrimination using the Experiences of Discrimination Scale and segregation using the Location Quotient for Racial Residential Segregation. The outcome examined was "any cancer screening completion" (Pap test, mammography, and/or colorectal cancer screening) at follow-up (3–10 months post-baseline). We tested hypothesized relations using multilevel logistic regression. We also conducted interaction and stratified analyses to explore whether discrimination modified the relation between segregation and screening completion. We found a significant positive relation between discrimination and screening and a non-significant negative relation between segregation and screening. Preliminary evidence suggests that discrimination modifies the relation between segregation and screening in that segregation is positively related to screening when no discrimination is reported but negatively related to screening when discrimination is reported. Conclusion: Racism has a nuanced association with cancer screening among African Americans. Perceived racial discrimination and racial residential segregation should be considered jointly, rather than independently, to better understand their influence on cancer screening behavior.

PO-075 COVID-19 and social determinants of health (SDOH): Impact on cancer prevention in GENZ population (Ages 18-25) Beth A. Jones, Sakinah C. Suttiratana, Shua Kim, William Eger. Yale School of Public Health, New Haven, CT.

Purpose: Employing a social determinants of health (SDOH) framework including race/ethnicity, socioeconomic status (SES) (education, income) and other barriers we: 1) Describe the impact of COVID-19 on young adults (GENZ) who live in CT; 2) Determine if COVID-19 vaccine hesitancy is related to other vaccine utilization (HPV and Flu) and other cancer prevention behaviors **Background:** As is well recognized from previous pandemics and epidemics, the burden of disease falls disproportionately on those individuals with fewest resources. It is now clear that the COVID-19 associated death and disease burden in minority and low socioeconomic communities is disproportionate to their numbers in the general population. In addition to the disproportionate acute impact of the COVID-19 on vulnerable communities, the long-term impact may be lost ground with respect to cancer prevention due to disruption, distrust and misinformation. Little is known about how the pandemic has impacted young adults and whether this has influenced behaviors that are key to cancer prevention. **Methods:** In May, 2021, we conducted a Qualtrics survey assessing all aspects of COVID-19 impact, with extensive SDOH measures, including everyday racism and medical mistrust, cancer prevention and screening, access to health care, and intentions regarding future vaccination uptake, adherence to COVID-19 preventive practices, lifestyle behaviors associated with cancer prevention, and cancer screening. Participants (n=232) are 18-25 year olds with a permanent address in Connecticut. We used social networks and social media to recruit participants. Analysis includes descriptive and multivariate adjusted logistic regression findings predicting maintenance of healthy lifestyle (primary cancer prevention) and cancer screening and associations with COVID-19 vaccine hesitancy. **Results:** In this sample of young adults, the average age was 21.2 (range 18-25), with 52% reporting their race/ethnicity as Hispanic/Latinx (33%) or African American/Black (19%); 53.3% were female, 46.2% were male, and .4% reported other. Descriptive data demonstrate high levels of SDOH and the impact of COVID-19 on many aspects of life for this study population. COVID-19 vaccine hesitancy was relatively low at 12.2%, with 57% of GENZ participants reporting that they had already vaccinated. We present predictors of healthy lifestyle behaviors and intention to adhere to cancer screening guidelines going forward and the relationship to history of and intent to vaccinate against COVID-19. **Conclusion:** The unique challenges of young adults during COVID-19 are not well documented. Findings will inform community level interventions in the event of continued COVID-19 (or similar) public health challenges, while identifying opportunities to advance cancer prevention long-term for these young adults.

PO-076 Social support, diet, and physical activity among Latina breast cancer survivors

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Background: The American Institute for Cancer Research and the American Cancer Society recommendations for diet and physical activity are less likely to be followed by minority cancer populations, such as Latina breast cancer survivors, compared to non-Hispanic White women. Moreover, Latinas are also more likely to suffer from other comorbidities, such as diabetes, which could be alleviated by improved diet and physical activity (PA). Social support is one potential mechanism that can encourage a healthy lifestyle. Studies to date have been inconsistent in showing that higher levels of social support among cancer survivors is associated with higher levels of PA and healthy eating and most of these studies were conducted in majority White populations. **Purpose:** This study examines the associations between social support from different social support sources with PA and diet behaviors in Latina breast cancer survivors. We hypothesized that higher levels of social support would be associated with higher levels of PA and healthier eating. **Method:** Latina breast cancer survivors (n=85; M age = 55.47, SD =9.63) of mostly Dominican heritage with a history of breast cancer (stages 0-III) completed the Multidimensional Scale of Perceived Social Support scale, which measures social support from friends, family, and a significant other. Physical activity was assessed via a 7-day physical activity recall and dietary intake was measured via three 24-hour dietary recalls. In this cross-sectional analysis, associations between social support, dietary intake (calories, fruit/vegetable intake, fat, and energy density), and PA (moderate, hard, very hard, and moderate-to-vigorous PA activity levels) were examined using bivariate correlations. Linear Regression Models tested whether statistically significant correlations ($p<.05$) held with covariates of age, income, education, and acculturation. **Results:** There were no significant associations between social support and PA. More social support from all three types of networks were each associated with a low energy density diet controlling for covariates: (family $\beta = -.02$, $p=.003$), friends ($\beta = -.01$, $p=.01$), significant other ($\beta = -.014$, $p=.012$). Further, a low-energy density diet was associated with a higher Healthy Eating Index score in post-hoc analyses ($r=-.27$, $p=.01$). Higher caloric intake was only associated with more social support from a significant other ($r=.36$, $p<.001$) and remained controlling for covariates ($\beta=21.53$, $p=.03$). Total fruit and vegetable (F/V) and fat intake were not associated with any of the social support variables controlling for covariates. **Conclusions**: Findings suggest that having social support from family, friends, or a significant person may contribute to a low-energy density diet, which was associated with a higher quality diet.

PO-077 Access to care as a contributing factor to underlying disparities in Hispanic women with ovarian cancer in the United States Claudia B. Schiavo, Guillermo Armaiz.
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In the United States, ovarian cancer accounts for only 3% of all cancers in U.S. women. Ovarian cancer trends in the United States report the highest incidence in non-Hispanic white women with Hispanic women having the second highest incidence. Ovarian cancer disparities are present within the Hispanic population because Hispanic women are more likely to be diagnosed with ovarian cancer, not only at an earlier age than non-Hispanic groups, but also at an earlier stage (I-II). Ovarian cancer has the highest mortality among gynecological malignancies in Hispanics, resulting from various factors including unequal access to screening and treatment disparities, such as adherence to treatment and volume-outcome paradigm. Outcomes are paradoxical among Hispanic women, because while a high proportion are diagnosed younger and at early stages, typically associated with improved survival outcomes, they are more likely to not receive the standard of care, which involves more than providing insurance, access, and the services patients need. Inequitable access to care can lead to noticeable differences in health, especially within the Hispanic community in the United States. Our objective is to define access within a conceptual framework of five dimensions—1) approachability; 2) acceptability; 3) availability and accommodation; 4) affordability; and 5) appropriateness—specifically in relation to ovarian cancer disparities in Hispanic women in the US. Utilizing these dimensions, we summarize available knowledge about how inequitable access to care contributes to the underlying disparities that Hispanic women in the US experience, focusing particularly on social determinants of health, as well as adherence to care and the volume-outcome relationship. The health care system needs to develop innovative strategies to educate and inform the surrounding Hispanic communities Despite the limited data available, we summarize the available literature and propose the application of different strategies to help address the potential—systemic, logistic, and geographic—barriers that affect how Hispanic women with ovarian cancer access health care, in order to implement a health care delivery system that is equitable.

PO-078 Introduction of implicit bias training to oncology faculty as a quality improvement initiative Renee C. Taylor, Andrea Silber. Yale School of Medicine, New Haven, CT.

Background: In a review, Hall (2015) found that implicit bias was significantly related to patient-provider interactions and health outcomes. Implicit Bias Training is a tool to help individuals understand and take corrective action for unfair behaviors. ***Purpose***: Our goal was to assess physician attitudes towards Implicit Bias Training and to measure physician participation in the training when implemented as an NCCN quality measure. ***Methodology***: Implicit Bias Training was offered by the DEI Office at Yale-New Haven Health. This incentivized quality initiative was required for all practicing oncologists. Of 109 physicians, 45 (41.3%) completed this training. The anonymous survey, which included a link to the Harvard Implicit Project's Implicit Association Test (IAT), was emailed to the 45 oncologists prior to participation in the session. There were 21 respondents (46.7% response rate). ***Results:*** The self-reported results of the IAT are as follows: 9.5% (n=2) report a strong automatic preference for European Americans (EA) vs. African Americans (AA). 23.8% (n=5) report a moderate automatic preference for EAs vs. AAs 42.9% (n=9) reported little to no automatic preference between AAs vs. EAs. 4.8% (n=1) report a slight automatic preference for AAs vs. EAs. 19% (n=4) did not participate in the IAT. 33.3% (n=7) of physicians report being either extremely or moderately surprised by the result of their IAT, while 33.3% (n=7) report being neither surprised nor unsurprised. 14.3% (n=3) report being moderately unsurprised, and the remainder did not respond. Physicians were asked to report their enthusiasm about Implicit Bias Training on a scale of 0 to 10. The Mean was 6. While physician enthusiasm reports show polarization not apparent by the mean, 57.1% (n=12) of physicians report being hopeful or very hopeful that training would help to improve both collegial and patient-physician relationships. Conclusion***:*** Though this was a mandatory quality initiative that was incentivized, participation was less than 50%. Explanations for the observed participation rate are multifactorial and nuanced. Of the 17 respondents who completed the IAT, nearly one-half (n=7) reported strong or moderate bias for one racial group, and 41% report being surprised by their result. Our findings suggest that unconscious bias was demonstrated in a significant percentage of participants, many of whom were surprised by their results. The results support the need for Implicit Bias Training as part of ongoing oncology quality improvement. 57% of participating physicians were optimistic that the initiative would lead to positive changes. ***Future Work***: We postulate that bias training could increase awareness and result in improved communication with minority patients. Our next project will evaluate the effect of Implicit Bias Training on minority participation in clinical trials. Inclusivity and representation in clinical trials is paramount in efforts to democratize cancer care and our study suggests that bias training could be a valuable tool to achieve this goal.

Behavioral and Social Science: Psychoneuroimmunology and Related Factors

PO-079 Interactions with neighbors and depressive symptom severity influence associations between exercise and inflammation in African Americans Olga M. Herren[1], Keri Kirk[2], Tanya Agurs-Collins[3]. [1]National Cancer Institute, Rockville, MD, [2]Georgetown University, Washington, DC, [3]National Cancer Institute, Bethesda, MD.

Background: African Americans (AAs) are disproportionately affected by chronic disease and some cancers. Adequate amounts of moderate and vigorous exercise are essential to maintaining good health. The impacts of exercise on health occur through inflammatory mechanisms, which are implicated in most chronic diseases. More exercise is each related to lower levels of pro-inflammatory biomarkers, C-reactive protein (CRP) and interleukin-6 (IL-6). Recent research has identified that perceptions of neighborhood quality, such as frequency of social interactions with neighbors impact health behavior and cardiometabolic health among AAs. This may occur through stress and allostatic load, as higher levels of CRP and IL-6 are indicative of chronic stress. We seek to extend this research by investigating whether social aspects of neighborhood quality moderate associations between exercise and inflammation. Furthermore, depression has been shown to increase inflammation, worsen health outcomes, and may further moderate these associations. **Methods:** Data from the Midlife in the United States survey collected during the Refresher phase (2011-2016) were used. 155 AA adults, aged between 25 and 73 (mean age= 47), completed psychosocial surveys, daily diaries of exercise, measures of neighborhood quality, and objectively measured WC, CRP and IL-6. **Results**: The sample had a mean WC of 102.35 cm, was highly educated (68.4% at least some college), and 69% female. There was an interactive association between frequency of social interaction with neighbors and exercise and IL-6 (B=.23, p=.04) and CRP (B=.35, p=.045). Having social interactions with neighbors several times a week and more exercise was associated with higher levels of IL-6 and CRP. Those with little social interactions with neighbors showed typical negative associations between exercise and inflammation. Depression symptom severity moderated the interaction between exercise and frequency of social interactions on CRP (B=.046, p=.04), such that those with clinical severity may benefit differently from some regular interaction with neighbors. **Conclusion:** Frequent social interactions with neighbors may not always be positive, even in the presence of high levels of exercise. Conversations about illness, loss, crime, insufficient resources, or discrimination are factors that can affect inflammation over time. However, this is likely to differ by neighborhood and mental health status of the participant. Further analyses in larger and more diverse AA samples may show a complexity of the stress response in AAs that must be further explored.

Behavioral and Social Science: Recruitment/Retention/Adherence Research

PO-080 Reaching the "hard to reach" sexual and gender diverse communities for population-based research in cancer prevention Prajakta Adsul[1], Karen Quezada[1], Katie Myers[1], Talya Jaffe[1], Bernard Tawfik[1], Emily Wu[1], Molly McClain[1], Shiraz Mishra[1], Miria Kano[1]. [1]University of New Mexico, Albuquerque, NM.

Purpose Despite about 5% of the US population identifying as Sexual and Gender Diverse (SGD), there is limited research on cancer prevention and control disparities in this population. In New Mexico (NM), population-level data from the Department of Health show differences in cervical and breast cancer screening uptake based on sexual orientation, but these data do not document disparities based on gender identity and for other types of cancer, prompting us to assess cancer prevention practices among NM SGD communities. SGD communities have consistently been considered "hard to reach" and much of the extant SGD studies have been conducted in large urban cities. We present findings on how to implement innovative, multi-pronged, and systematic recruitment strategies to engage SGD communities in NM, a state that is both largely rural and racially classified as "majority-minority" state. **Methods** Our recruitment efforts focused on four strategies: (1) Every Door Direct Mail program (by the United States Postal Services) was used to mail flyers across targeted (based on residential areas, income below $30,000, and between ages 30-71) mailing routes across NM. (2) These routes were also targeted for study-related ads via Google, Twitter, and Facebook. (3) Email outreach was conducted with SGD-friendly businesses, state cancer coalitions, and the University of New Mexico Comprehensive Cancer Center's Office of Community Outreach and Engagement. (4) Flyers were displayed at clinical and community settings across NM. All flyers, ads, and emails contained QR codes for a pre-survey that determined eligibility for participation in the main survey (i.e. 21-80 years old, NM resident, member of SGD community). Questions on the online survey, provided in both English and Spanish, inquired about the participant's demographics, body organs, physical health, vaccination history, healthcare access, and cancer screening practices. **Results** A total of 27,369 flyers were distributed and 436,177 impressions were made on social media, resulting in 5,080 surveys from eligible participants. Approximately 68% heard about the study from social media, 17% from email, 16% through friends or family, and 12% from flyers. All eligible participants were then emailed three times and, in a few cases, mailed a survey. This resulted in 3,115 completed surveys. Half of respondents were between 31-40 years, 38% were Black, Hispanic, or American Indian/Alaskan Native, and 48% had an annual household income below $50,000. Eighteen percent identified as lesbian, 30% gay, 28% bisexual, and 18% queer, while 48% were cisgender men, 32% cisgender women, and 13% transgender. Approximately 44% reported residing in rural areas and responses were received from 172 unique NM zip codes. **Conclusion** To reach state-wide SGD communities and engage them in population-based research, innovative and systematic efforts are needed. Social media and postal flyers may provide successful recruitment opportunities with potential to use these methods for future public health interventions for these populations.

PO-081 Cancer clinical trial access during the COVID-19 pandemic Ashithkumar Beloor Suresh, Subecha Dahal, Christopher Gantz, AnaMaria Lopez. Thomas Jefferson University, Philadelphia, PA.

Introduction: Cancer clinical trial conduction during the COVID-19 pandemic required a rapid move to virtual engagement to support participant and research team safety. We were faced with the challenge of translating our approach from in-person to virtual engagement for recruitment, enrollment, and delivery of the study intervention. We present our strategies to conduct cancer clinical trials focused on cancer risk reduction during the COVID-19 pandemic. ***Subject Recruitment:*** Our multimodal approach utilized online platforms and established approaches like posters, flyers, and collaborating with community health workers to recruit participants. Our virtual engagement strategies include direct outreach to potential participants via email, the electronic medical record (EMR), and social media. Contact via email and the EMR was guided by study-defined eligibility criteria. Social media outreach was through institutional Twitter, Facebook, and video channel accounts. Twitter posts and chats were employed. ***Enrollment:*** e-consenting and remote consenting processes were instituted via REDCAP. ***Delivery of the Educational Risk Reduction Intervention*****:** We also conducted the intervention using the Zoom platform and through a recorded video of the educational risk reduction intervention, which is shared with the participant via REDCAP.***Challenges*****:** As documented by others, the greatest challenge to virtual engagement is lack of internet access and lack of digital literacy. These factors have a greater impact on underserved populations, including the elderly, those with low socioeconomic status, those located farther from the cancer center, and racially/ethnically diverse populations. ***Conclusion:*** By translating study outreach and processes to virtual engagement, we were able to facilitate clinical trial access across diverse community subgroups and support subject participation in clinical trials during the COVID-19 pandemic.

PO-082 Improving adherence to hormone therapy among breast cancer patients through a mobile app and patient navigation: Preliminary results Patricia Chalela[1], Edgar Muñoz[1], Vivian Cortez[1], Armida Flores[1], Pramod Sukumaran[1], Cliff Despres[1], Devasena Inupakutika[2], David Akopian[2], Amelie G. Ramirez[1]. [1]UT Health San Antonio, Institute for Health Promotion Research, San Antonio, TX, [2]The University of Texas at San Antonio, San Antonio, TX.

Background: The successful use of hormone therapy (HT) has contributed to improved 5-year cause-specific breast cancer survival rates, and evidence shows that long-term use produces a larger reduction in recurrence and mortality, with nearly 50% reduction in breast cancer mortality during the second decade after diagnosis. Despite the proven benefits, hormone therapy adherence is suboptimal (less than 80% of daily doses taken), and about 33% of women who are prescribed HT do not take their medication as prescribed and are at increased risk of disease recurrence and increased mortality. Smartphone ownership has increased substantially over the past decade, providing an extraordinary opportunity for innovation in the delivery of tailored interventions to improve patients' adherence to hormonal therapy. Purpose: We present preliminary results of a pilot study that involves a theory-based, culturally tailored, interactive mobile app + patient navigation to improve adherence to HT among breast cancer patients attending the breast clinic at the Mays Cancer Center (MCC). Methods: This is a 2-group parallel, randomized control trial that is currently recruiting 120 breast cancer patients and randomly assigning them to the intervention (60) or the control (60) group. The intervention group receives two components: 1) the HT Helper phone app; and 2) assistance from a patient navigator who will provide educational, psychosocial support and reinforcement, address common barriers, and facilitate the interaction with the medical team as needed. The control group receives the usual care and information provided by the MCC's breast clinic to patients undergoing HT. The app and navigation support are based in Social Cognitive Theory and principles of motivational interviewing. Results: Due to the COVID-19 pandemic, we were forced to suspend the start of the intervention until May 2021. We have recruited 27 patients and will present a general description of participants and preliminary results of the 3-month follow-up. This theory-based intervention will empower patients' self-monitoring and management. It will facilitate patient education, identification/reporting of side effects, delivery of self-care advice, and simplify communication between the patient and the oncology team. Conclusions: The anticipated outcome is a scalable, evidence-based, and easily disseminated intervention with potentially broad use to patients using HT and other oral anticancer agents. The ultimate goal of this innovative multi-communication intervention is to improve overall survival and life expectancy, enhance quality of life, reduce recurrence, and decrease healthcare costs.

PO-083 Descriptive pilot study results of belief in research, religious coping, and willingness to participate in clinical trials among African Americans with hematologic malignancies Marjorie Petty. Spectrum Pharmaceuticals, Irvine, CA.

African Americans (AAs) are disproportionately affected by certain types of hematologic malignancies. AAs have a 45% higher probability of dying from acute lymphoblastic leukemia and a 12% higher risk of death from acute myeloid leukemia than Hispanics (6%) and non-Hispanic Whites. AAs also present with chronic lymphocytic leukemia at a younger age, have a more advanced stage disease, and lower survival rates in diffuse large B-cell lymphoma and Hodgkin lymphoma compared to non-Hispanic Whites. Despite the efforts of investigators, AAs with hematologic malignancies remain grossly underrepresented in cancer clinical trials. Underrepresentation of this subset of AAs leads to the non-generalizability of clinical trial findings, disparities in cancer treatment outcomes, and survival compared to other minority populations. Even so, few studies have evaluated the underrepresentation of this subgroup of patients in the context of their beliefs and willingness to participate in clinical trials. Yet, the willingness to participate in cancer clinical trials among AAs with solid tumors is well documented. There is also little evidence relating to the moderating effect of religious coping on the association of belief in research and willingness to participate in clinical trials among this subset of patients. Knowing, as well as believing, are essential elements to participating in any clinical trial. Thus, the aims of the descriptive pilot study were to determine if a relationship exists between belief in research and willingness to participate in clinical trials and determine if religious coping moderates the relationship between belief in research and willingness to participate in clinical trials. To address the aims, data on religious coping were captured at one time-point from 31 AAs with leukemia, lymphoma, and multiple myeloma using the validated Brief RCOPE scale and questions that addressed beliefs associated with research and willingness to participate in cancer clinical trials. The results show that there was no statistical difference between belief in research and willingness to participate in clinical trials, and religious coping did not moderate the effect of belief in research on willingness to participate in clinical trials. Statistically significant differences were found between education and belief in research. Participants with less than a high school education had lower belief in research scores than those with some college education, who showed higher belief in research scores. These findings provide preliminary results that suggest future studies are warranted in the study of AAs' beliefs in research. Such studies may contribute to the development of educational interventions to improve the recruitment of AAs with hematologic malignancies into the therapeutic clinical trials for these diseases, with a particular emphasis on educational interventions for those AAs with less than high school education.

PO-084 The pharmaceutical industry in action: 2021 clinical research diversity and inclusion survey Jeanne M. Regnante[1], Lola Fashoyin-Aje[2], Ellen Miller Sonet[3], Quita Highsmith, MBA[4], Melissa Gonzales, PhD[5], Sandra Amaro, MBA[6], Amy Davis[7], Mary Stober Murray[8], Maimah Karmo[9], Barbara Bierer[10]. [1]LUNGevity Foundation, Philadelphia, PA, [2]FDA, Oncology Center of Excellence, Silver Spring, MA, [3]CancerCare, New York City, NY, [4]Genentech, A member of the Roche Group, San Francisco, CA, [5]Genentech, a member of the Roche Group, San Francisco, CA, [6]Pfizer, Groton, CT, [7]Eli Lilly and Company, Indianapolis, IN, [8]National Minority Quality Forum, Washington, DC, [9]Tigerlily Foundation, Reston, VA, [10]MRCT Center, Brigham and Women's Hospital and Harvard, Boston, MA.

Development of medicines and vaccines for COVID-19 amplified the need for all US communities to participate in research. This recognition spurred interest in adopting inclusive and equitable research practices across industry and the clinical research ecosystem in general. Between 2018-2021, regulatory bodies, professional organizations, and working groups issued policy and/or recommendations outlining measures that support the conduct of inclusive and equitable clinical trials. We applied previously published multi-themed strategies, multi-stakeholder recommendations, and calls to action by surveying industry to document baseline practices towards equitable clinical trial representation in the US. **Research Question:** ***What strategies are industry leaders deploying to increase diversity in clinical trials?*** **Methods:** Using a 4-staged approach, we ***first*** identified 48 success factors sourced from 12 documents. This analysis included previously documented measures that are both inclusive of diverse populations as well as practices that facilitate insights from diverse communities. ***Second***, a survey tool was developed that organized the individual success factors into 6 categories with one open-ended question on ecosystem changes; survey measures and 4 choices for each factor were "Actively implementing," "Recommended to be implemented," "No plans to implement," and "No answer." ***Third***, the survey was administered between April 10-30, 2021, to 12 pharmaceutical companies all having a proven external commitment to health equity in oncology and all are represented on the 2021 1Q Biopharma top 25 by Market Cap report. **Fourth**, responses were anonymized and aggregated; results were provided to respondents. **Results:** The response rate was 67% (8/12). Responders indicated success factors across two major implementation categories as follows: "actively implemented" (51%); "recommended/planned for implementation" (44%). No responders added any additional success factors via free text. Being "actively implemented" was highest for the 3 categories "site selection" (78%), "general capabilities" (72%), "leadership" (53%). "Recommended/planned for implementation" was highest for the 3 categories "participant focused" (50%), "other factors" (50%), "racial and ethnic minority group data (REMG)" (48%). Conclusion**s:** Pharmaceutical companies reported active implementation of success factors sourced from public documents across all categories. As an example, stakeholders have generally considered thoughtful site selection an important measure to enroll diverse representation in clinical trials as it may mitigate access barriers to participation. In the site selection category, the survey reported 7/8 companies were actively implementing three measures and 5/8 were actively implementing two measures. An approach and analysis should be considered for expansion to more biotech companies and include a process devised for annual fielding and transparently reporting results.

PO-085 A mixed-methods study of minority recruitment for cancer genomics research at a large urban safety net hospital Tina Zhang, Nina Modanlo, David Li, Kiana Mahdaviani, Naomi Ko. Boston Medical Center, Boston, MA.

Background: Racial and ethnic minorities are underrepresented in cancer genomics research, and advancements in personalized medicine without inclusion of minority groups is likely to further exacerbate disparities in care and treatment outcomes. Prior research has demonstrated successful recruitment of minority populations for biospecimen donation through community-based approaches, physician engagement, culturally appropriate education, and on-site services. However, there is a significant gap in the literature regarding practical, low-cost interventions to maximize enrollment in biospecimen research studies at hospitals serving a diverse patient population. **Objective**: This study surveys eligible participants for cancer biospecimen research and aims to intervene on barriers to enrollment. Methods: Between January 2021 and June 2021, participants eligible for four different genomics studies were surveyed regarding reasons for consenting to biospecimen donation as well as barriers to participating among those who declined. The survey consists of six multi-part questions for a total of thirteen questions and requires an average of five minutes to complete. Results: Preliminary results include survey responses from 30 participants. Fourteen participants self-identified as Black or African American, twelve as White, two as Asian, and two as other. One participant self-identified as Hispanic. The majority of participants (73%) consented to biobank specimen collection including 50% of Black participants, 92% of White participants, and 100% of Asian and other participants. Of the eight participants who did not consent to donation, seven were Black. Among nine participants who reported that the study was recommended by their provider, all but one consented to donation. The majority of participants who consented to biospecimen collection reported contributing important information to medical science (73%) and potentially helping others with similar conditions in the future (68%) as reasons for donation. One participant who declined biospecimen donation reported that he would have felt less anxious if clinical staff had been present to explain the study. Two participants recommended including family members and other caregivers in the consent process, especially for older adults. One participant indicated difficulty reading through the consent form while another reported desire for more information "on the type of research" that would be conducted on the biospecimens. Conclusion: Our findings suggest that a majority of patients will consent to biospecimen collection, however Black patients are more likely to decline, and provider engagement is helpful. We found that our consent process can be improved with greater physician engagement, inclusion of family members and caregivers, and concise, patient-oriented presentation of information. Future work will involve implementation of interventions based on these findings.

Behavioral and Social Science: Socioeconomic Influences

PO-086 Social vulnerability related to rural disparities in colorectal cancer mortality in Florida Alejandro Arroyo Rodriguez, Cassie Lewis Odahowski. University of Central Florida, Orlando, FL.

Introduction: The multiple rural and urban counties in the state of Florida exhibit different socioeconomic characteristics and access to healthcare. These differences in living conditions potentially impact incidence and mortality rates of diseases, particularly cancer. We examined rural differences in county-level colorectal cancer incidence and mortality and county social vulnerability characteristics related to rural disparities in colorectal mortality for all 67 counties in Florida. Methods**:** We examined colorectal cancer incidence and mortality data provided by the National Cancer Institute (NCI) State Cancer Profiles in conjunction with the United States Census Bureau definition for rurality: counties that have more than 50% of their population within a rural area would be classified as rural. We used a t-test for unequal variances to examine the difference in the mean colorectal incidence and mortality for rural counties compared to urban counties. We then used a linear regression to examine county social vulnerability (SoVI) metrics, poverty, and Medically Underserved Areas (MUA) related to colorectal cancer mortality. **Preliminary Results:** Of the 67 counties in Florida, 25 were designated as rural and 42 were designated as urban. The mean rural age-adjusted incidence of colorectal cancer was 40.93 per 100,000 compared to 36.82 per 100,000 for urban incidence (p=0.16). The rural mortality per 100,000 for colorectal cancer was significantly higher than urban colorectal morality per 100,000 (18.22 vs 13.12, p=<0.01). Our pending regression analysis will pinpoint county SoVI factors (such as poverty and MUA) specifically related to the observed disparity in rural colorectal cancer mortality. **Conclusion:** While risk of colorectal cancer was not significantly higher for rural counties in Florida, the rural colorectal death rate was significantly higher in rural than urban counties. These results add to the understanding of socioeconomic characteristics related to rural disparities in cancer mortality. Further work is needed to address strategies for eliminating rural disparities so that there is a greater chance of surviving diseases such as colorectal cancer.

PO-087 Diagnosis in young adulthood as a risk factor for unmet social needs among African American cancer survivors Theresa A. Hastert[1], Julie J Ruterbusch[1], Jean A. McDougall[2], Jamaica R.M. Robinson[3], Shaila M. Strayhorn[4], Andrew Abdallah[5], Gowri Chandrashekar[5], Ann G. Schwartz[1]. [1]Wayne State University School of Medicine/Karmanos Cancer Institute, Detroit, MI, [2]University of New Mexico Comprehensive Cancer Center, Albuquerque, NM, [3]Columbia University Mailman School of Public Health, New York, NY, [4]The University of Illinois at Chicago, Chicago, IL, [5]Wayne State University School of Medicine, Detroit, MI.

Background: Increasing attention is being paid to understanding and addressing the financial consequences of cancer and cancer treatment; however, in addition to the direct and indirect costs of cancer care, survivors with few financial resources also face social needs such as food insecurity and housing instability. On average, young adults have fewer financial resources than older adults, placing them at risk for adverse financial outcomes due to cancer, including unmet social needs. The purpose of this study is to estimate associations between young adult age at diagnosis and prevalence of social needs among African American cancer survivors. **Methods:** We utilized data from 3,241 participants in the Detroit Research on Cancer Survivors (ROCS) cohort. African American adults were invited to participate if they were between the ages of 20-79 at diagnosis with breast, colorectal, lung, or prostate cancer since January 1, 2013; or diagnosed with endometrial cancer (ages 20-79) or any other cancer (ages 20-49) since January 1, 2016. Cases were identified through the Metropolitan Detroit Cancer Surveillance System, a population-based cancer registry. Participants self-reported several forms of unmet social needs, including food insecurity, recent utility shut-offs, housing instability, inability to get medical care due to lack of transportation, and whether they generally felt safe in their neighborhood. Modified Poisson models estimated prevalence ratios (PR) and 95% confidence intervals (CI) for social needs by age at diagnosis (20-39 vs. 65+) and tests for trend by 4-level age (20-39, 40-54, 55-64, 65+), controlling for demographic, socioeconomic, and cancer-related factors. **Results:** Overall, 32% of ROCS participants reported experiencing social needs, and prevalence was inversely associated with age at diagnosis such that 48% of survivors diagnosed as young adults reported any social needs compared with 22% of those diagnosed as older adults ($PR_{adjusted}$: 2.3, 95% CI: 1.8-2.9; $p_{trend}<0.001$). Associations between young adult age at diagnosis and social needs were particularly high for utility shutoffs ($PR_{adjusted}$: 4.7, 95% CI: 2.8-7.8) and food insecurity ($PR_{adjusted}$: 3.4, 95% CI: 2.3-4.9) compared with those diagnosed as older adults. Young adults also reported substantially higher prevalence of not feeling safe in their neighborhood ($PR_{adjusted}$: 2.8, 95% CI: 1.7, 4.6), housing instability ($PR_{adjusted}$: 2.7, 95% CI: 1.7-4.5), and going without medical care due to lack of transportation ($PR_{adjusted}$: 2.0, 95% CI: 1.2-3.3). There was an inverse association with age and all social needs examined (all $p_{trend}<0.001$). **Conclusions:** Each unmet social need considered was at least twice as common among African American cancer survivors diagnosed as young adults compared with those diagnosed when they were 65 or older. Young adults often have fewer financial resources compared older adults and should be prioritized in the development of interventions aimed at improving financial outcomes among cancer survivors.

PO-089 Racial/ethnic disparities in oral cancer screening between low-income Asian Americans aged 18-50 and their White counterparts Wenyue Lu[1], Lin Zhu[1], Bohui Wang[2], Di Zhu[1], Ming-chin Yeh[3], Grace X. Ma[1]. [1]Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, [2]College of Liberal Arts, Temple University, Philadelphia, PA, [3]Nutrition Program, Hunter College, The City University of New York (CUNY), New York, NY.

Background. Asian Americans (AAs) aged 18-50 have higher incidence and mortality rates of oral cancer. However, scant attention has been focusing on oral cancer disparities among this population. Although oral cancer screening is not recommended for asymptomatic adults, it's effective in oral cancer early detection among high-risk populations. The study aimed at assessing the racial/ethnic disparities in oral cancer screening experienced by Asian Americans aged 18-50 living federal poverty level, comparing with their White counterparts. **Method.** The sample consists of 1540 low-income adults (478 AAs and 1062 Whites) aged 18-50 from the 2011-2018 National Health and Nutrition Examination Survey (NHANES) combined datasets. Weighting was applied since NHANES oversampled Asian Americans. We conducted bivariate analysis such as t-test and chi-square test to examine the association between demographic and behavioral factors =and oral cancer screening among high-risk populations. Multiple logistic regressions were used to identify the risk factors of oral cancer screening disparities. All data analyses were conducted in Stata 16. A p value smaller than 0.05 was considered statistically significant, while a p value between 0.05-0.1 was taken as marginally significant criteria. Results**.** AAs are predominately foreign-born (79.13%), about half of them only spoke their native languages at home (47.69%), and 27.31% of them did not have health insurance. Overall, AAs had significantly lower oral cancer screening rate than Whites (7.33% vs. 16.69%, p=0.006). Specifically, within those who were not covered with health insurance, AAs were less likely to receive oral cancer screening than Whites (3.5% vs.13.73%, p=0.060); among those who did not receive any HPV vaccine shots, Asians had lower oral cancer screening rate than Whites (7.64% vs.14.72%, p=0.058); among those who were not self-motivated to visit their dentists, Asians reported extremely low oral cancer screening rate (2.24%), which was significantly (p=0.016) lower than that of Whites (10.27%). Although Asians had higher self-motivation to do dental visit than Whites (62.96% vs. 52.72%, p=0.009), among self-motivated patients, AAs were less likely to be told the importance of checking for oral cancer by their dentists (12.94% vs. 23.54%, p=0.063), compared with Whites. Logistic regressions also showed that the negative impacts of less-frequent dental visits on oral cancer screening was stronger among AAs (OR=0.45, p=0.042) than in Whites (OR=0.75, p=0.005), controlling for other variables. Conclusion**.** AAs experience oral cancer screening disparities among multiple high-risk/vulnerable populations. There is an urgent need of educational intervention to promote oral cancer screening for AAs, especially among high-risk subpopulations, and to improve dentists' awareness of AAs' oral cancer screening needs.

PO-090 The impacts of depression and socioeconomic factors on cognitive function among low-income Asian and African American elderly aged 65 and above Wenyue Lu, Lin Zhu, Michael Coronado, Guercie E. Guerrier, Yin Tan, Grace X. Ma. Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA.

Background: Alzheimer's disease (AD) and Alzheimer's disease and related dementias (ADRD) have been a public health problem in the United States for a long time, and its adverse impact on the health of minority elderly population has been increasing since 2000. Nearly 40% of ADRD patients suffer from depression. However, the burden of ADRD and depression comorbidity among Asian and African Americans elderly was understudied. **Methods:** Participants aged 65 and older were recruited from Chinese, Vietnamese, and African American community-based organizations in the Greater Philadelphia Region and New York City. We conducted a cross sectional survey to assess their ADRD-related knowledge, depression symptoms, sociodemographic and health related factors. Cognitive function was assessed with the Montreal Cognitive Assessment (MoCA), depression severity was tested with Patient Health Questionnaire (PHQ-9), and stressful life events (SLE) impact score was measured with a 6-item scale with excellent internal consistency (Cronbach's alpha=0.94). A p value that is smaller than 0.05 is considered statistically significant, while a p value that is smaller than 0.1 indicates marginally significant level. **Results:** Overall, the participants (n=306, 12.21% African Americans, 54.79% Chinese Americans, and 33% Vietnamese Americans) had an average age of 73.57; 89.56% of them had < $20k annual household income, and 62.13% did not have a college degree. The average MoCA score was 21.24, which was significantly lower than the normal criteria 26, indicating mild cognitive impairment. Bivariate analysis showed that depression (r=-0.51, $p<0.001$) and SLE impact (r=-0.33, $p<0.001$) were significantly negatively correlated to MoCA scores. After controlling for demographics, depression severity (Coef. =-0.42, $p<0.001$) remained a significant predictor of cognitive function. Multivariate analysis also found that age (Coef. =-0.15, $p=0.016$) and education levels (Coef. =2.11, $p<0.001$) were significant predictors of MoCA score. Compared with those who did not speak English at all, participants who speak some English (Coef. =3.10, $p<0.001$) and good at English speaking (Coef. =4.54, $p=0.034$) were more likely to have higher cognitive scores. Moreover, being retired (Coef. =-3.23, $p=0.054$) and having >$40k annual household income (Coef. =-3.73, $p=0.091$) showed marginally negative associations with cognitive function level. **Conclusion:** The preliminary findings demonstrate an association between depression and mild cognitive impairment among Asian and African American elderly. With the remaining experimental work, targeted interventions will be identified in improving ADRD knowledge, cognitive performance, and mental health among understudied older Asian and African Americans.

PO-091 Access to healthcare and preventive services use by limited English proficiency (LEP) adults: Trends from the US Medical Expenditure Panel Survey, 2014–2018 Natalia Ramirez[1], Leticia Nogueira[2], Robin Yabroff[2], Xuesong Han[2], Stacey Fedewa[2]. [1]Emory University and American Cancer Society, Atlanta, GA, [2]American Cancer Society, Atlanta, GA.

Background: The number of Limited English proficiency (LEP) adults has been increasing in the United States and LEP is adversely associated with measures of access to care. This study will further examine the association between LEP and access to healthcare and preventive services use by providing more up to date information from a United States representative sample. Methods: Adults with and without LEP aged ≥18 years were identified from the 2014–2018 Medical Expenditure Panel Survey. The association between LEP and access to healthcare and preventive services was evaluated with multivariate logistic regression models, stratified by age group (18–64 years and ≥65 years), controlling for age, gender, education, marital status, geographic region, and survey year. Data were analyzed in 2021. **Results**: Adults with LEP were more likely to not have a usual source of care in both age groups [18–64 years = (adjusted Odds Ratios [aOR]=2.86; 95% Confidence Interval =2.57-3.18); ≥65 years = (aOR=1.67; 95% CI=1.31-2.12)] and be uninsured [18-64 years = (aOR=7.25; 95% CI=6.43-8.16); ≥65 years (aOR=22.22; 95% CI=11.38-43.41)] compared to adults without LEP. Adults aged 18-64 years with LEP we also significantly less likely to utilize preventive services including blood pressure check (aOR=2.20; CI=1.94-2.49), cholesterol check (aOR=1.31; CI=1.10-1.56), any colorectal screening (aOR=1.71; 95% CI=1.44-2.03) and receipt of the flu vaccine (aOR=1.28; 95% CI=1.16-1.42) than adults without LEP. Elderly adults with LEP were also less likely to use preventive services, with a similar magnitude of association. Conclusion: Adults of all ages with LEP continue to have lower access to care and preventive services that similar adults without LEP. Healthcare systems could adopt interventions such as providing language assistance services to patients and the training of providers in cultural competence to eliminate barriers to care and improve access to preventive services.

PO-092 Racial survivial disparities in triple negative metastatic breast cancer (MBC) Margaret Q. Rosenzweig, Bethany Nugent, Meaghan McQuire, Jian Q. Xhao. University of Pittsburgh, Pittsburgh, PA.

Breast cancer racial survival disparity is often explained through late-stage presentation and the high prevalence of triple-negative breast cancer (TNMBC) and poor dose intensity of treatment among Black women. This study attempted to equalize disease factors through analysis of only women with triple-negative breast cancer and evaluating the course of care only through the TNMBC course. The racial differences of neighborhood deprivation index (NDI) and baseline depression, and anxiety symptoms at the diagnosis of TNMBC were examined. The **aims of the study** were to 1. Compare the time to first TNMBC disease progression and overall survival of women with TNMBC and compare by race. 2. Document NDI, baseline anxiety and depression at the diagnosis of TNMBC and compare by race. **Methods:** Retrospective review of patients deceased from TNMBC between November 1, 2016, through December 2019 at a National Cancer Institute-designated medical oncology breast cancer clinic. Overall survival (OS) and time to first disease progression (TTFP) calculated in days from metastatic diagnosis, anxiety and depression scores obtained through the Generalized Anxiety and Depression scores (GAD-7) and the Patient Health Questionnaire (PHQ-9) measuring depression. Both from self-report at the first TNMBC visit, higher scores indicating higher symptoms. NDI obtained from zip code (higher scores = more deprivation). Dose intensity of first treatment (DIFT) - percentage drugs received/prescribed. Analysis of variance, descriptive statistics, and independent t-tests used for comparative analysis; Hedge's g was calculated for effect sizes due to uneven sample sizes. **Results:** There were n=54 total patients, n=45- White, n=9 Black. Age - Black, 55.3 (SD 13.0), White 56.3(SD 12.9). **NDI** -Black 74.9 (SD 19.3), White 55.6 (SD 19.5), p=.009, Hedge's g =0.99. **DIFT -** Black .88%, White, .84% (p=.523)**. PFS first treat-** Black, 13.8(SD 8), White 20.8 (SD29.6), p= .183, Hedge's g =0.26**. Overall TNMBC survival** -Black 26.1 months (SD 13.5), White 46.7 months (SD 53.6),p=.032, Hedge's g = 0.414.**GAD** - Black,9.3 (SD-9.5), White -6.14 (5.8), p=.307, Hedge's g - .48. **PHQ** - Black 5.7 (SD 7.0), White 4.2 (SD 5.1), and p=.59, Hedge's g= 0.25. **Discussion:** Despite equalizing the stage and subtype of MBC, there is a wide racial survival disparity that is not explained by the dose intensity of the first treatment. A possible explanatory pathway is that neighborhood deprivation, more severe among Black patients, may be causing high anxiety and mild depression, leading to worse overall TNMBC survival. These data provide the impetus to pursue stress from neighborhood deprivation as an etiology for TNMBC racial survival disparity. Obtaining measurement and markers of stress and depression over the TNMBC illness trajectory, better characterizing neighborhoods for multiple aspects of deprivation and seeking strategies to improve the support that neighborhoods can offer women with TNMBC may help to identify targets for mitigation of factors leading to poor TNMBC survival outcomes.

PO-093 The impact of the COVID-19 pandemic on care delivery and quality of life in lung cancer surgery Dede K. Teteh[1], Betty Ferrell[2], Xiaoke Zou[2], Loretta Erhunmwunsee[2], Dan Raz[2], Jae Kim[2], Virginia Sun[2]. [1]Chapman University, Orange, CA, [2]City of Hope Comprehensive Cancer Center, Duarte, CA.

The novel coronavirus disease of 2019 (COVID-19) disrupted the healthcare delivery landscape with dramatic impacts on cancer patients and family caregivers (FCGs). Many safety measures were implemented to provide services to patients during the pandemic. However, the impact of these measures on the experiences of lung cancer surgery patients, FCGs, and their healthcare team is not well known. Therefore, the purpose of this study was to describe the changes and experiences with surgical care delivery from the patient, FCG, and surgical team perspectives. Methods: This mixed methods study included healthcare professionals, lung cancer surgery patients, and their FCGs from an NCI-designated Comprehensive Cancer Center. Data was collected between September 2020 through February 2021 using the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences survey (patients and FCGs only). Key informant interviews with patients, FCGs, and surgical team were also conducted. Patients/FCGs were recruited from a randomized efficacy trial of a multimedia self-management intervention in lung cancer surgery. Qualitative data was analyzed using the conventional content analysis approach and demographic descriptive statistics for patients/FCGs were determined through baseline surveys from the randomized trial. Results: Our study participants (n=56) were predominantly English speaking (91%), non-Hispanic White (68%), Asian (14%), and Black (7%) lung cancer surgery patients/FCGs. Most participants achieved more than a high school diploma (77%), 33% were employed full-time, and 50% used Medicare. Providers (n=4) included a nurse practitioner and thoracic surgeons. We identified 5 constructs that were associated with cancer care delivery from perioperative to discharge: 1) increased diagnostic testing—COVID-19 test; 2) visitor restrictions increased patients/FCGs mental health distress and decreased provider-FCG shared-decision making; 3) communication barriers decreased for patients/FCGs due to use of telehealth resources (i.e., Hope Virtual, WhatsApp, FaceTime) which increased frequency of provider engagement throughout care continuum; 4) patients/FCGs concerns and lack of education of COVID-19 risk factors impacted postoperative recovery; and 5) COVD-19 "elevated" the use and need for including telemedicine in standard of care practices. Moreover, patients experienced delays in treatment, isolation, lack of social support, financial hardship, and fear of death from COVID-19. FCGs also experienced psychological distress, financial hardship, fear of contracting COVID-19, and a heightened awareness of public health safety measures. **Discussion**: The COVID-19 pandemic created challenges to the cancer care delivery landscape for the surgical team and impacted the psychological and financial well-being of lung cancer surgery patients and their FCGs. While the long-term effects of the pandemic is unknown, opportunities to improve patient/FCG quality of life outcomes through targeted mental health/financial toxicity interventions is warranted.

PO-094 Financial hardship associations with presenteeism and absenteeism among survivors and informal caregivers during cancer treatment Echo L. Warner[1], Jessica G. Rainbow[2], Alla Sikorski[3], Chris Segrin[2], Terry Badger[2]. [1]University of Utah, Salt Lake City, UT, [2]University of Arizona, Tucson, AZ, [3]Michigan State University, East Lansing, MI.

Purpose: People with low perceived work performance and those who are absent from work may be at increased risk for negative employment and financial outcomes during cancer treatment. Thus, we evaluated associations between reports of financial hardship and cancer survivors' and caregivers' perceived work performance and absenteeism. Methods: Participants were surveyed during a larger study on symptom management in survivor-caregiver dyads. We limited to respondents who were employed (N=165). Survey variables included employment status, work performance, sociodemographics, perceived work performance in the prior week, performance in the prior year, and absences from work in the prior week using items from the World Health Organization Health and Work Questionnaire, and financial hardship. Financial hardship included four questions asking whether participants' income met their financial needs, adequacy of financial resources to pay for needs, and for caregivers, whether caregiving had caused financial strain. We summarized sociodemographics and conducted regression analyses to evaluate associations between presenteeism and absenteeism and financial hardship, controlling for sociodemographic factors. Results: On average, caregivers were 50.0 years (Standard Deviation (SD): 13.4) and survivors were 53.9 years (SD: 10.4). The most common relationship between survivors and caregivers was caregivers being spouses (41.7%) and children (22.9%). Caregivers reported working at higher rates (53.9% vs 22.1%, $p<0.001$) and more hours than survivors (Mean=34.8 vs 33.6 hours, $p=0.77$). Survivors reported their job performance as 79.5% while caregivers reported theirs as 83.1% on a 0-100% scale. In the week prior, survivors reported absence from work for 0.95 hours while caregivers reported 0.84 hours. In the year prior to diagnosis, survivors and caregivers reported higher than current performance (84.4% and 85.2%, respectively). Caregivers whose finances were adequate to pay for the things they needed for caregiving reported 5.8% higher job performance in the prior year compared to those whose finances did not cover their caregiving expenses (95% Confidence Interval: 0.17-11.5, $p=0.04$), when controlling for sex, ethnicity, race, income, and education. Conclusions: Cancer patients and caregivers suffer work performance problems during cancer treatment, and this may influence their quality of life. Spouses and children of cancer survivors missed work and reported not working up to their prior performance level. Interventions to address symptom management and psychological distress may decrease absenteeism, promote higher perceived job performance, and allow more survivors and their caregivers to maintain or return to stable employment. Young adult cancer survivors and caregivers, who are still establishing themselves in careers and financially, may especially benefit from these interventions and flexible workplace policies.

Behavioral and Social Science: Stress

PO-095 Improving informal caregivers and cancer survivors' psychological distress, symptom management and health care use follow-up interviews Jennifer Traslavina Jimenez[1], Ashley Green[2], Keely Smith[1], Echo L Warner[3], Terry Badger[1], Alla Sikorskii[1], Chris Segrin[1]. [1]University of Arizona College of Nursing, Tucson, AZ, [2]University of Arizona Cancer Center, Tucson, AZ, [3]University of Arizona College of Nursing, University of Arizona Cancer Center, Tucson, AZ.

Purpose: Adolescents and young adults (AYAs) experience disparately higher burden of negative psychological outcomes (e.g., depression, anxiety, stress) during the first six months of cancer compared to older patients and caregivers (i.e., dyads). This is due to their unfamiliarity with severe illness, multiple caregiving responsibilities, and developmental transitions of young adulthood. We aimed to receive feedback about adaptation of a telephone-based interpersonal psychotherapy intervention for AYA cancer dyads. Methods: We conducted semi-structured telephone interviews to elicit feedback about the intervention. Participants ages 18-39 years were eligible if they completed the 12-week intervention study (N=7). Participants were asked to share 1) their overall experience with the intervention content and delivery methods, 2) suggestions on how the intervention content and delivery could be improved, and 3) topics they found especially helpful or 4) they felt should have been included. The interviews were recorded, transcribed, and quality checked. We categorized qualitative feedback through interpretive description. Results: We interviewed 7 participants: 5 women and 2 men; 3 of whom were cancer survivors and 4 were caregivers. The interviews lasted between 5-20 minutes (average=10.5 minutes). Most participants enjoyed the content and found the information provided extremely helpful. Some participants continue to use the information provided after their participation. They explained that although some content was not relevant to them during their participation, it has since become relevant and has helped them navigate later stages of their cancer care. Participants felt that the study team was courteous and would have liked to speak to them more often, if given the opportunity. Suggestions for improving the intervention content delivery were providing a digital version of the handbook that they could access on a kindle or other eBook device, and a website or app with more information related to the intervention. Another suggestion was to provide the option to have video calls, instead of only phone calls, with the counselors, as face-to-face interactions would have helped them feel more connected during their sessions. Stand out topics included a sleep topic which included tips on how to fall asleep faster and stay asleep longer, and family topics which included family bonding tips. A topic that should have been included was how to improve self-confidence with intimate relationships. Conclusions: During their cancer experience, AYA cancer dyads are at a unique stage of life and are undergoing developmental transitions of young adulthood (e.g., completing higher education, establishing a career, developing intimate relationships) which results in disparities in their cancer survival and care. These disparities may be addressed through the adaptation of targeted interventions, specifically those that incorporate technology into the delivery of psychotherapy for addressing psychological sequela of cancer.

Biomarkers: Biomarkers in Intervention Studies

PO-096 Caloric restriction may decrease health disparity in AA breast cancer patients due to significant downregulation of the IGF-1R pathway in a window-of-opportunity clinical trial Samantha Okere, Anuradha A. Shastri, Kamryn Hines, Pramila Anne, Rita Murphy, Tiziana DeAngelis, Adam Berger, Alliric Willis, Melissa Lazar, Edith Mitchell, Nicole Simone. Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA.

Introduction: Health disparities in breast cancer outcomes exist for African American (AA) women who are noted to present with more aggressive cancer with worse survival. Although the underlying reason for this disparity is not apparent, it is likely multifactorial. Interestingly, type 1 insulin-like growth factor receptor (IGF-1R) expression, which plays a critical role in cell growth, survival, and migration, is higher in normal breast tissue in AA women as compared to Caucasian women. Although this has been well established, interventional studies to modulate this pathway have not been performed. We sought to determine if a dietary intervention of caloric restriction could play a role in modulating the IGF-1R pathway to help address the disparities seen in AA breast cancer patients. **Methods:** On an IRB approved clinical trial, patients were enrolled in a window-of-opportunity clinical trial to assess the effect of caloric restriction, or a 25% reduction of calories from the patients' baseline, on biomarkers in the tumor and blood. Patients recorded their baseline caloric intake for 3-5 days and were then instructed on a target calorie intake for the remainder of the diet. The patients remained on the dietary intervention for 2-12 weeks. Participants had anthropometric evaluation, blood draws to evaluate serum cytokines, tissue collection, and quality of life surveys collected at baseline and completion of diet which was the morning of surgery. **Results:** We enrolled 19 breast cancer patients between the years 2016 and 2018. The average age of the patients at the time of enrollment was 58 years old with 47% AA and 53% Caucasian. The patients were on the trial for an average of 19 days. Patients lost an average of 4.91 lbs during the trial, with AA patients losing an average of 5.18 lbs and Caucasians losing an average of 4.68 lbs. To determine the importance of IGF-1R in the disparities seen in AA women, we looked at two hundred cytokines from serum samples in patients who underwent caloric restriction. Analysis of the cytokine array data showed that nine cytokines involved in regulating or modulation by the IGF-1R pathway were significantly ($p<0.05$) downregulated in AA women post-diet. Compared to Caucasian women, AA women showed a significant decrease in IL-12p40 (~51%), VCAM1 (16.8%), IL-2 (28.72%), IL-2Rb (40.81%), CCL28 (36%), ERBB3 (26.6%), PAI-1 (9.4%), Axl (36%) and PDGF-AB (12%). **Conclusion**: These results demonstrate that caloric restriction significantly downregulated members of the IGF-1R pathway in the AA community. Since this pathway is notably dysregulated in AA patients, an integrated approach, one incorporating dietary changes to alter key pro-survival pathways, should be further investigated to narrow the disparity in breast cancer outcomes in AA patients.

Biomarkers: Biomarkers of Risk and Surrogate Endpoints

PO-097 Racial/ethnic disparities in the survival of HR+/HER2- early breast cancer using the CPS+EG scoring system Kent A. Hanson[1], Kent F. Hoskins[1], Naomi Y. Ko[2], Gregory S. Calip[1]. [1]University of Illinois at Chicago, Chicago, IL, [2]Boston University, Boston Medical Center, Boston, MA.

Background: The CPS+EG system, based on pretreatment clinical and post-treatment pathologic stage (CPS), estrogen receptor status (E), and tumor grade (G), has been used to refine estimations of prognosis in patients with hormone receptor-positive (HR+), HER2 negative (HER2-) early breast cancer who receive neoadjuvant chemotherapy. However, it is unclear if this tool effectively characterizes risk in all patient subgroups. Racial disparities exist in treatment and survival among women with early breast cancer, particularly among non-Hispanic Black women compared with non-Hispanic White women. Our objective was to describe racial disparities in the overall survival of women with HR+/HER2- early breast cancer across risk groups characterized by CPS+EG scores. **Methods:** We utilized the National Cancer Database to perform a hospital-based, retrospective cohort study of breast cancer patients ages 18 years and older. Women diagnosed with first primary stages I-III HR+/HER2- breast cancer between 2010 and 2017 with complete clinical information to calculate a CPS+EG score were included. We grouped patients into four categories based on their CPS+EG score (0-1, 2, 3, and 4+). Multivariable Cox proportional hazards models were used to estimate adjusted hazard ratios and 95% CI for associations between the CPS+EG and overall survival. **Results:** A cohort of 758,424 women (mean [SD] age, 62.2 [12.5] years; median [interquartile range] follow-up of 50.7 [33.2-72.0] months) were included in the analysis. Our analysis included 614,210 (81.0%) non-Hispanic White, 67,794 (8.9%) non-Hispanic Black, 38,229 (5.0%) Hispanic, 26,956 (3.6%) Asian/Pacific Islander, and 11,235 (1.5%) women of other racial/ethnic groups. Within the total cohort, 412,734 (54.4%) patients had CPS+EG scores of 0-1, 216,726 (28.6%) had a score of 2, 91,656 (12.1%) had a score of 3, and 37,308 (4.92%) had a score of 4 or greater. A one-unit increase in CPS+EG score was associated with 1.45-times greater mortality risk (95% CI, 1.43-1.47; $p<0.001$) in multivariate-adjusted models, which was consistent across racial/ethnic groups. Non-Hispanic Black women had a significantly increased hazard of death relative to non-Hispanic White women across all CPS+EG risk categories, with the greatest disparity observed among high (4 or greater) CPS+EG scores (adjusted HR 1.23, 95% CI, 1.15-1.31). Conversely, Asian and Hispanic patients had a significantly lower hazard of death relative to non-Hispanic White patients across all groups; however, the difference attenuated as CPS+EG scores increased. **Conclusions:** In women with HR+/HER2- early breast cancer, the CPS+EG score is predictive of overall survival, regardless of race; however, a significant racial disparity between non-Hispanic Black and non-Hispanic White women persists in survival across CPS+EG scores, particularly in those with advanced disease. The broader use of CPS+EG to characterize mortality risk among racial/ethnic minority patients with HR+/HER2- early breast cancer requires further investigation.

Biomarkers: Molecular Diagnostics

PO-098 Racial and gender disparities in next-generation sequencing for pancreatic adenocarcinoma Fawzi Abu Rous, Sunny RK Singh, Chun-Hui Lin, Laila Poisson, Gazala Khan. Henry Ford Hospital, Detroit, MI.

Introduction: Racial and gender disparities have been described in many aspects of cancer care including genome sequencing. Next-generation sequencing (NGS) has become a widely available tool for genome sequencing and led to advances in the treatment of many malignancies such as lung cancer. However, its role in pancreatic adenocarcinoma is limited partly due to the lack of complete understanding of the genomic landscape of the disease. The goal of our study is to evaluate racial and gender disparities in NGS of primary (PPDA) and metastatic (MPDA) pancreatic adenocarcinoma and its effect on patient outcomes. Methods: Clinical and genomic data were received for 150 patients, 75 PPDA and 75 MPDA, from Tempus. The 50 patients with no race information were excluded from this study. DNA sequencing of 648 genes was performed using the Tempus xT and xO assays. Patients were divided based on gender (male and female), race (white and non-white including African American and Asian), and disease status (PPDA and MPDA). The racial and gender representation as well as the frequency of somatic mutations were compared between groups. Kaplan Meier curves were created for the progression free survival (PFS; time from first diagnosis to first progression event or death) of each group. Results: A sample of 100 unique patients was analyzed. Almost half of them were males (49%) and around 90% were white. In the PPDA cohort (N=55), 56.4% were males and 83.6% were white. On the other hand, 60% of MPDA patients (N=45) were females and 95.6% were white. The most frequently mutated genes were KRAS (91.9%), TP53 (73.7%), CDKN2A (48.5%), SMAD4 (33.3%), ATM (14.1%). Comparing the rates of these mutations between groups, females had a higher mutation rate in the 5 top mutated genes. White patients had a higher mutation rate in KRAS, TP53 (77.3% [n=68] vs 45.5% [n=7], p 0.034) and SMAD4; whereas non-white patients had a higher mutation rate in CDKN2A and ATM. Of the 100 patients, 80 patients progressed, and 44 patients died. The death rate was 44.9% (22/49) for males and 43.1% (22/51) for females. The death rate for white and non-white patients was 41.6% (37/89) and 63.6% (7/11), respectively. The median PFS (mPFS) was 17.3 months for males and 21.3 months for females. The mPFS for white and non-white was 18.7 and 18 months, respectively. In the PPDA cohort, the mPFS was 16.1 months for males and 14.6 months for females. The mPFS for white and non-white patients was 14.9 and 16.1 months, respectively. In the MPDA cohort, the mPFS was 25.4 months for males and 21.1 months for females. The mPFS for white and non-white patients was 22.7 and 26.1 months, respectively. Conclusion: Racial disparity was detected in NGS for PDA with 90% of the population studied being of white ethnicity indicating an over-representation of white patients among the cases profiled by Tempus. TP53 was more frequently detected in white patients as compared to non-white. Progression survival difference was detected among groups but was not statistically significant.

PO-099 African American women with breast cancer have unique molecular features and reduced clinical trial enrollment Genevra Magliocco[1], Roy Khalife[2], Anthony Magliocco[3]. [1]Boston University School of Medicine, Boston, MA, [2]University of South Florida, Tampa, FL, [3]Protean BioDiagnostics Inc, Orlando, FL.

Introduction: African American (AA) women have a lower incidence of breast cancer (BC), however experience higher rates of more aggressive subtypes, mortality, and worse outcomes compared to Caucasian (C) women. Data also points to disparities among treatment access and response in AA women. Most existing genetic research and clinical trials have been conducted with majority C women, thus our existing knowledge about molecular profiles and effective treatments may not be accurate for AA women. The aim of this study is to uncover the biological and social factors related to treatment that may be causing this disparity in BC outcomes between AA and C women. **Materials and Methods:** Data from Surveillance, Epidemiology, and End Results (SEER) and The Cancer Genome Atlas Program (TCGA) was analyzed for differences in etiology, incidence, and prevalence of BC between AA and C. Prevalence of molecular aberrations and subtypes of BC were assessed to gain insight into potential causes of this disparity. FDA's Drug Trials Snapshots data was assessed for clinical trial enrollment by race. **Results:** SEER data from 2000-2018 reveals AA patients have higher incidences of TNBC and HER2 enriched BC compared to C, with luminal A incidence being higher in C patients. Within all subtypes of BC, 5-year survival rates were significantly lower for AA compared to C. TCGA data found 2282 genes that were significantly differentially altered in C vs. AA subgroups. Among the most commonly altered and significantly different genes, CSMD1 and TP53 were more prevalent among AA (19.78% AA vs. 10.79% in C for CSMD1, and 40.09% AA vs. 28.58% C for TP53), and PIK3CA among C (36.28% (C) vs. 22.47% (AA)). Survival analysis revealed AA women with PIK3CA alterations had lower rates of disease-free survival compared to C women. Clinical trials for oncology drugs approved in 2020 enrolled 5% AAs, with AAs also being underrepresented for BC specific drugs. The recent NCT02492711 trial of MARGENZA, for metastatic HER2 positive BC, had 5% AA compared to 80% C, the NCT01631552 trial of TRODELVY, for metastatic triple negative BC (TNBC), had 7% AA vs. 76% C, and the NCT02614794 trial of TUKYSA, for advanced HER2+ BC, had 9% AA vs. 73% C. **Conclusion:** Most existing treatments are for luminal A BC; with fewer approved drugs for subtypes more common among AA women, including the more aggressive TNBC. Recent data indicates that AA women continue to be underrepresented in clinical trials, despite having higher incidence of both HER2 and TNBC, resulting in a poor understanding of effective treatment for this subgroup. These factors may perpetuate disparities in outcomes for AA women with BC. Additionally, TCGA data uncovered underlying molecular differences in BC between AA and C women, some that are actionable. Disparities are multifactorial and can include both biological and socioeconomic factors. Thus, as we move towards more personalized medicine, it is increasingly important to improve representation of AA women in precision oncology trials.

PO-100 Association of B7-H3 expression with racial ancestry, immune cell density and AR activation in prostate cancer Adrianna A. Mendes[1], Jiayun Lu[2], Harsimar B Kaur[1], Siqun Zheng[3], Jianfeng Xu[3], Edward M. Schaeffer[1], Karen S. Sfanos[1], Janielle Maynard[1], Ashley E. Ross[1], Steven P. Balk[4], Mary-Ellen Taplin[5], Emmanuel S. Antonarakis[1], Corinne E. Joshu[2], Eugene Shenderov[1], Tamara L. Lotan[1]. [1]Johns Hopkins University School of Medicine, Baltimore, MD, [2]Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD, [3]Program for Personalized Cancer Care, NorthShore University Health System, Evanston, IL, [4]Harvard Medical School, Boston, MA, [5]Dana-Farber Cancer Institute, Boston, MA.

Background: B7-H3 (CD276, PD-L3) is an immunomodulatory molecule highly expressed in prostate cancer and belonging to the B7 superfamily that also includes PD-L1 (B7-H1). Immunotherapies (antibodies, antibody-drug conjugates, and CAR-T cells) targeting B7-H3 are currently in clinical trials; thus elucidating the clinical, molecular and tumor immune microenvironment correlates of B7-H3 expression may help to guide trial design and interpretation. Methods**:** We developed an automated, clinical-grade immunohistochemistry assay to digitally quantify B7-H3 protein expression across two racially diverse cohorts of primary prostate cancer (including one with previously reported transcriptomic data), a set of prostatic neuroendocrine small cell carcinoma, and pre- and post-treatment tumor tissues from a trial of intensive neoadjuvant hormonal therapy. Results**:** B7-H3 protein expression is significantly lower in self-identified Black patients and inversely correlates with percent African ancestry by ancestry-informative markers. This association with race is independent of the significant association of B7-H3 expression with ERG/ETS and PTEN status. CD276 mRNA level, but not B7-H3 protein expression, is significantly correlated with regulatory (FOXP3+) T-cell density. Finally, androgen receptor activity (AR-A) scores are significantly correlated with CD276 mRNA expression, and neoadjuvant intensive hormonal therapy is associated with a significant decrease in B7-H3 protein expression. Conclusion**:** These data underscore the importance of studying racially and molecularly diverse prostate cancer cohorts in the era of immunotherapy. Our study is among the first to use genetic ancestry markers to add to emerging evidence that prostate tumors from men of African ancestry may have a distinct immune milieu associated with B7-H3 expression.

Biomarkers: Novel Technologies

PO-101 CmP signaling network unveils novel biomarkers for triple negative breast cancer in African American women Johnathan Abou-Fadel, Jun Zhang. Texas Tech University Health Science Center El Paso, El Paso, TX.

Breast cancer is the most commonly diagnosed cancer worldwide and remains the second leading cause of cancer death. While breast cancer mortality has steadily declined over the past decades through medical advances, an alarming disparity in breast cancer mortality has emerged between African American women (AAW) and Caucasian American women (CAW); and new evidence suggests more aggressive behavior of triple-negative breast cancer (TNBC) in AAW may contribute to racial differences in tumor biology and mortality. Progesterone (PRG) is capable of exerting its cellular effects through either its classic, non-classic or combined responses through binding to either classic nuclear PRG receptors (nPRs) or non-classic membrane PRG receptors (mPRs), warranting both pathways an equally important status in PRG-mediated signaling. In our previous report, we demonstrated that the CCM signaling complex (CSC) consisting of CCM1, CCM2, and CCM3 proteins can couple both nPRs and mPRs signaling cascades to form a CSC-mPRs-PRG-nPRs (CmPn) signaling network in nPR positive(+) breast cancer cells. In this report, we furthered our research by establishing the CSC-mPRs-PRG (CmP) signaling network in nPR(-) breast cancer cells, demonstrating that a common core mechanism exists, regardless of nPR(+/-) cell type. This is the first report stating that inducible expression patterns exist between CCMs and major mPRs in TNBC cells. Furthermore, we firstly show mPRs in TNBC cells are localized in the nucleus and participate in nucleocytoplasmic shuttling in a coordinately synchronized fashion with CCM proteins under steroid actions, following the same cellular distribution as other well-defined steroid hormone receptors. Finally, for the first time, we deconvoluted the CmP signalosome by using multi-omics approaches, which helped us understand key factors within the CmP network, and identify 21 specific biomarkers with potential clinical applications associated with AAW-TNBC tumorigenesis. These novel biomarkers could have immediate clinical implications to dramatically improve health disparities among AAW-TNBCs.

Biomarkers: Other

PO-102 Multifocal analysis of the ETS (-) subtypes, mutated SPOP and overexpression of SPINK-1, in prostate cancer from Colombian patients as a process of understanding the carcinogenesis model of the disease Yenifer Y. Segura Moreno, María C. Sanabria Salas, Jorge A. Mesa López De Mesa, Rodolfo Varela Ramirez, Natalia L. Acosta Vega, Martha L. Serrano López. Instituto Nacional de Cancerología, Bogotá, Colombia.

The Cancer Genome Atlas (TCGA) Research Network defined the SPOP-mutant subset of prostate cancers (PCa) had frequent overexpression of SPINK1 mRNA, which suggests a relationship in these subtypes that had not been evaluated simultaneously in other studies on ETS(-) subtypes as a key feature in the molecular taxonomy of prostate cancer. However, this analysis was performed on the index tumors and it is suggested that a better knowledge of the different molecular profiles of different neoplastic foci, in the same prostate, could be affecting the relationship of the molecular subtypes and prognosis of the disease. With an approximate 50% prevalence of ETS family gene fusions, attempts to molecularly characterize PCa often begin with the division into ETS(-) and ETS (+). To represent the molecular heterogeneity of PCa, which could improve medical decision-making, we aim to study it through the expression of SPINK-1 and mutations in SPOP; as well as the TMPRSS2-ERG fusion status, in order to assess the clonality of the foci in each patient and also the possible association of this alteration with different degrees of differentiation and lymph node metastasis. FFPE samples of different foci with different lesion degrees: High-Grade Prostatic Intraepithelial Neoplasia (n=17), PCa foci with different Gleason scores (n= 53; GL3: (n=23); GL4: (n=23) and GL5: (n=7)), and positive lymph node (LN) (n=13) from radical prostatectomy from twenty patients were used to analyse the presence of TMPRSS2-ERG fusion and expression levels of ERG and SPINK-1 using RT-PCR. Sanger sequencing was used in exon 6 and 7 to analyze mutations in SPOP. The molecular concordance between the different prostatic foci of the same patient was determined, taking into account subclonal events. The LN were compared with prostatic foci to try to establish its clonal origin. The results indicate that multifocal PCa may have monoclonal or multiclonal origin. SPINK-1 overexpression was the predominant pattern in the LN, while the opposite was the most frequent in the HGPIN samples. None of the thirteen analyzed LN showed the same pattern of other PCa foci from each patient. Metastasis have less molecular heterogeneity than pre-neoplastic lesions. The ERG(+) subtype was found in 54.7% of the foci and 70% of the patients. No mutations were found in SPOP. The frequency of overexpressed SPINK-1 in the 20 patients was 60%. In this study, the frequency of SPINK-1 cases overexpressed in ERG(-) taking into account all the samples analyzed as independent, even if they were from the same patient, due to the high heterogeneity in PCa, coincides with that expected (11%), but it should be taken into account that the foci that tested positive did not show total exclusivity with ERG(+), and in fact, there were more associated with it (74%), which does not agree with what was found in other studies that had not taken into account samples of patients from our country, which highlights the importance of personalized medicine and of not extrapolating results from other populations in our population.

Cancer Treatment and Outcomes: Drug Design, Discovery, and Delivery

PO-103 Design and synthesis of tetrahydropyridine analogs as selective COX-2 inhibitors and anti-breast cancer agents Shasline Gedeon, Madhavi Gangapuram, Suresh Eyunni, Bereket Mochona, Tiffany Ardley, Kinfe Ken Redda. Florida A&M University, Tallahassee, FL.

According to the World Health Organization, breast cancer has become the most common cancer globally as of 2021, accounting for 12% of all new annual cancer cases worldwide. In the US, it is estimated that there will be women with an estimated 281,550 new cases of invasive breast cancer and 49,290 non-invasive (in situ) breast cancer in 2021. Female breast cancer has also been rated as the second-highest mortality rate following lung cancer. Hence, there is a dire need for discovering more effective treatment agents. Drug discovery, by way of rational design, has paved the way for the development of novel small molecules as effective anticancer agents. It is known that chronic inflammation has a direct correlation to cancer. Cyclooxygenase-2 (COX-2) has been reported that it is present and overexpressed in many cancers. Thus, it is of great interest to study COX-2 inhibition and its relationship to cancer therapy. Tetrahydropyridines (THPs) are structures that are found in numerous natural products and possess anti-inflammatory, chemotherapeutic, and antioxidant properties. Thus, substituted phenycarbonylamino-5-ethyl-1,2,3,6-tetrahydropyridine analogs have been designed as COX-2 inhibitors in our laboratory. The objective of this project is to utilize computer-aided drug design, including molecular modeling and drug-likeness studies for the basis of drug targeting studies. Molinspiration online software was used for *in silico* screening of molecular properties and bioactivity prediction scores. For the molecular docking studies, Schrodinger suite software was used to examine the interactions of the THP ligands with the COX-2 enzyme. More than a dozen THP analogs that were synthesized in the lab showed favorable properties aligning well with Lipinski's rule. Most of the analogs reported average to moderate bioactivity scores as enzyme inhibitors. Lastly, the docking studies predicted several interactions with residues within the COX-2 active site, although none of the compounds scored better than the reference drug, Celecoxib. *N*-(5-ethyl-3,6-dihydropyridin-1(2H)-yl)-2-(trifluoromethyl)benzamide has the best docking score in comparison to Celecoxib. The preliminary data obtained through computer-based investigation showed that appropriate substitutions on the THP molecule would likely produce more effective COX-2 inhibitors. The THP preparation involves a 4-step synthesis. N-amination of 3-Ethylpyridine by the aminating agent, O-mesytelenesulfonylhydroxylamine, and treated with substituted acyl chlorides gives stable pyridinium ylides. These products are purified and reducing them using sodium borohydride gives the target THP compounds. The novel THP analogs will undergo testing as COX-2 inhibitors (arachidonic acid inhibition assay) as well as determining their anti-breast cancer activities using *MCF-7* and *Ishikawa* cell lines assessing their anti-proliferative effects.

PO-104 Disparity in race and age reporting in landmark cancer clinical trials: Underrepresentation of the traditionally underserved U.S. population Thejus Jayakrishnan[1], Sonikpreet Aulakh[2], Mizba Baksh[3], Kianna Nguyen[4], Meghna Ailawadhi[3], Ayesha Samreen[3], Ricardo Parrondo[3], Taimur Sher[3], Vivek Roy[3], Rami Manochakian[3], Aneel Paulus[3], Asher Chanan-Khan[3], Sikander Ailawadhi[3]. [1]Cleveland Clinic, Cleveland, OH, [2]West Virginia University, Morgantown, WV, [3]Mayo Clinic, Jacksonville, FL, [4]Mayo Clinic, Rochester, MN.

Background: Concern exists that the clinical trial populations differ from respective cancer populations in terms of their age distribution affecting the generalizability of the results, especially the underrepresented minorities. We hypothesized that the clinical trials that do not report race are likely to suffer from a higher degree of age disparity as well and the issue should be addressed in conjunction with each other. Methods: Food and Drug Administration (FDA) drug approvals from 7/2007-6/2019 were reviewed to identify oncology approvals, and trials with age details were selected. The primary outcome was the weighted mean difference in age between the clinical trial population and realworld population for various cancers. The secondary outcomes were the prevalence of race reporting and association of age and race reporting with each other. Group comparisons for proportions were performed using the $\chi 2$ test while continuous variables were compared using multiple analysis of variance (MANOVA) test or students t-test as appropriate. P values < .05 were considered significant. Results: Of the 261 trials, the race was reported in 223 (85.4%) of the trials while 38 trials (14.6%) had no mention of race. Race reporting improved minimally over time – 29 (85.3%) in 2007-2010 vs. 49 (80.3%) in 2011-2014 vs. 145 (85.4%) during 2015-2019 (p-value=0.41). No significant association between type of cancer and race reporting was noted – 147 (86.5%) of solid cancer trials vs. 76 (83.5%) of hematological cancer trials reported race (p-value=0.52). Age discrepancy between the clinical trial population and the real-world population was present for several cancer types. The discrepancy was higher for studies that did not report race, mean difference - 8.8 years 4 (95% CI -12.6 to -5.0 years) vs. studies that did report the race, mean difference -5.1 years, (95% CI -6.4 to -3.7 years), p-value=0.04. Conclusion: The study demonstrates that a significant number of clinical trials leading to cancer drug approvals suffer from racial and age disparity when compared to real-world populations and that the two factors may be interrelated. We recommend continued efforts to recruit diverse populations. In the meantime, reporting these characteristics for these crucial trials should be mandated.

PO-105 Improving cancer care through inclusive clinical trials: An online collaborative community to improve representation in cancer clinical trials Erin Fenske Williams[1], Mary Stober Murray[2], Victoria Rollins[3], Anupama Santhosh[3], Jeanne Regnante[4]. [1]Harold C. Simmons Comprehensive Cancer Center, University of Texas Southwestern, Dallas, TX, [2]National Minority Quality Forum, Washington, DC, [3]Medidata Solutions, New York, NY, [4]LUNGevity Foundation, Bethesda, MD.

Background: Diverse enrollment in clinical trials is a challenge for study sponsors, sites and patients. Non-Caucasians are underrepresented in cancer clinical trials relative to the burden of cancer they experience (1). Clinical trial participation disparities indicate inequities in current treatment options, impede advancements in medical research and drug development and perpetuate inequities in care to tomorrow's patients. Patients, providers, community leaders and researchers must work together to ensure all populations are included in clinical trials in order to produce comprehensive safety and efficacy profiles for potentially life-saving treatments. In a survey by LUNGevity, industry sposors reported having metrics for diversity and inclusion as well as a commitment to expanding site selection to include more minority-servicing sites with trusted community insights and engagement practices (2). A variety of independent resources exists to guide stakeholders and increase the representation in clincal trials; however, there is no common repository for accessing resources, reviewing opportunities for improvment and learning how to implement best practices. A dedicated platform helps researchers and patients answer common questions, such as: 1. Where are clinical trial sites with diverse patient populations? 2. How can community influence research? 3. How can sites, sponsors, CROs and patient advocates address barriers to participation? Methods: The National Minority Quality Forum (NMQF), through its Diverse Cancer Communities Working group, partnered with Medidata's Social Innovation Lab to build a virtual "Collaborative Community" - a moderated, web-based platform to share resources, best practices, and to crowd source solutions for inclusive clinical trial development. The pilot (July 2021) links to NMQF's Lung Cancer Index (3) to help stakeholders visualize lung cancer Medicare claims and other data in the United States by patient demographics and geography, with an overlay of clinical trial sites to help stakeholders find the best collaborators. Results: 20 stakeholders participating in the platform each with roles in clinical trial operations representative of sponsors, CROs, sites and patient advocacy. The pilot is evaluating engagement engagement metrics, including actie views, content sharing, discussion frequency and user-reported impact. Conclusions: Participating stakeholders from multiple areas of clinical development contribute to building capacity and experience within and across organizations that deliver representative clinical trials.

Cancer Treatment and Outcomes: Late Effects/Survivorship

PO-106 Colon cancer death and associations with clinical and non-clinical support among non-Hispanic Black and White urban colon cancer patients Leslie R. Carnahan[1], Yamilé Molina[1], Karriem S. Watson[1], Susan Altfeld[2], Carol E. Ferrans[2], Garth E. Rauscher[2]. [1]University of Illinois Cancer Center, Chicago, IL, [2]University of Illinois at Chicago, Chicago, IL.

Background: Non-Hispanic Black (NHB) patients are more likely to present with a later stage colon cancer and to die from the disease compared to their non-Hispanic White (NHW) counterparts. Despite a plethora of research regarding their effects on intermediate outcomes (e.g., patient satisfaction, behavioral outcomes), little is known about the role of clinical (i.e., patient-provider communication [PPC]) and non-clinical social support in survival. **Objective:** To describe clinical (PPC) and non-clinical social support among NHB and NHW urban colon cancer patients, and examine their associations with risk of colon cancer death. **Method:** Colon Cancer Patterns of Care in Chicago was a cross-sectional, multi-site study that examined disparities in colon cancer screening, diagnostic stage, and treatment. Patients were eligible if they were diagnosed with a first primary colon cancer, self-identified as NHB or NHW, and were between 30 and 79 years of age. Participants completed a 90-minute interview and consented to medical record abstraction. For these analyses we examined: 1) clinical support (PPC), treated as a categorical variable (low, moderate, or high), 2) non-clinical social support (no, yes), and 3) colon cancer death, ascertained via a National Death Index Plus search. We used multivariable Cox proportional hazard models to estimate hazard ratios (HRs) for associations of race, sex, PPC, and social support with colon cancer death. Adjusted models included the following covariates: age, marital status, education, income, insurance, comorbidities, body mass index, having a regular provider, healthcare utilization, and healthcare access. **Results:** The final sample of 407 colon cancer patients had (by design) a roughly equal distribution by race and gender. Overall, 26% of patients died due to colon cancer, and risk of death was highest for NHB males (33%) and lowest for NHW males (20%). NHB patients were more likely than NHW patients to report low PPC and no non-clinical social support. Low PPC was associated with a two-fold increased hazard of colon cancer death (HR=2.0, 95% CI: 1.06, 3.84), whereas non-clinical social support was not associated with risk of colon cancer death. The hazard of colon cancer death was two-fold (HR=2.05, 95% CI: 1.07, 3.71) greater for NHB males compared to NHW females. Conclusion**:** These findings suggest that clinical support – specifically PPC - can potentially decrease the risk of colon cancer death, especially among NHB male patients. Future research should determine optimal strategies for PPC improvement, including provider training in shared decision-making practices and high-quality informational support. Reducing survival disparities may thus require not only advances in diagnostics and treatment, but also in clinical support factors.

PO-107 Racial differences in survival among advanced-stage non-small cell lung cancer patients who received immunotherapy: An analysis of the U.S. National Cancer Database (NCDB) Anjali Gupta[1], Tomi Akinyemiju[2]. [1]Duke University, Durham, NC, [2]Duke University School of Medicine, Durham, NC.

Background: Lung cancer is the most common cause of cancer death among men and women in the United States, with 85% of all cases characterized as non-small cell lung cancer (NSCLC). These cancers are often diagnosed at advanced stage due to inapparent clinical symptoms. In 2015, the Food and Drug Administration approved the first use of immunotherapy for NSCLC, and it has since become a standard modality for treatment among advanced-stage NSCLC patients. Although significant racial disparities have been documented in overall NSCLC survival, it is unclear whether these disparities persist upon equal utilization of immunotherapy. The purpose of this study was to evaluate the association between race and all-cause mortality among advanced-stage non-small cell lung (NSCLC) cancer patients who received immunotherapy. Methods**:** We obtained data from the 2016 National Cancer Database on patients diagnosed with advanced-stage (III-IV) NSCLC from 2015-2016. The NCDB is a joint project of the American Cancer Society and the Commission on Cancer of the American College of Surgeons, and captures 70% of all patients with newly diagnosed cancer in the United States. Multivariable Cox proportional hazards models were used to calculate hazard ratios (HR) and 95% confidence intervals (95% CI) by race/ethnicity. Additionally, we evaluated the interaction of race/ethnicity with Charlson-Deyo comorbidity score and area-level median income using stratified models and formal tests of interaction. Results**:** A total of 3,068 patients were included. NH-Black patients had a lower risk of death relative to NH-White patients (HR 0.85; 95% CI 0.74, 0.98) after adjusting for sociodemographic, clinical, and treatment factors. Formal tests of interaction evaluating race with Charlson-Deyo comorbidity score and race with area-level median income were nonsignificant. However, in stratified analyses, NH-Black vs. NH-White patients had a lower risk of death in models adjusted for sociodemographic factors among those with at least one comorbidity (HR 0.76; 95% CI 0.59, 0.98), and those living in regions within the two lowest quartiles of median income (HR 0.82; 95% CI 0.69, 0.98). **Conclusions:** Among advanced-stage NSCLC patients who received immunotherapy, NH-Black patients experienced higher survival compared to NH-White patients. We urge the implementation of policies and interventions that seek to equalize access to care as a means of addressing differences in overall NSCLC survival by race.

PO-108 Predictors of retention rates in the Active Living After Cancer program at MD Anderson Cancer Center: A comparison of classes during and before COVID-19 Karen Basen-Engquist[1], Yue Liao[1], Stacy Mitchell[1], Kendahl Servino[2], Che Young Lee[1]. [1]The University of Texas MD Anderson Cancer Center, Houston, TX, [2]University of Nevada Reno, School of Medicine, Reno, NV.

Background: As an overlooked aspect of cancer, survivorship often begs the question of "what's next?" once treatment is complete. Physical activity following treatment has been shown to improve quality of life and decrease rates of recurrence. The MD Anderson Active Living After Cancer Program (ALAC) has recruited over 900 cancer survivors and caregivers since its establishment in 2013. This study seeks to examine how retention rates have changed since the transition to virtual classes due to the COVID-19 pandemic, and whether variables associated with retention differ between in person and virtual classes. Methods: A retrospective study of baseline surveys completed by participants (N=860) through Redcap was conducted, excluding those currently enrolled in ongoing ALAC classes. A chi-square test was performed to determine whether completion rates were significantly different between in person and virtual classes. A bivariate regression model was used to determine whether participant demographics varied between virtual and in person classes, based on insurance status and education level. A logistic regression was performed to investigate whether these factors were predictors of retention in either class. Results: Retention rates significantly differed between virtual (87.91%) and in person classes (77.20%); participants of virtual classes were two times as likely to complete the program compared to their in-person counterparts (P=0.00). Compared to in person classes, uninsured participants comprised a larger proportion of virtual classes, while privately and publicly insured participants comprised a smaller proportion (P=0.014). In both classes, participants who never received a high school diploma or GED constituted the most common education level. Having insurance and completion of some higher education were only weakly associated with retention. Conclusion: Given the success of ALAC since its creation, we are interested in expanding enrollment beyond MD Anderson Cancer Center. This study provides understanding of the benefits and limitations of virtual classes since the rise of COVID-19. Overall, greater retention rates demonstrate the utility of virtual classes. Maintaining a virtual aspect of future ALAC classes, such as a hybrid program, may help improve survivor outreach by identifying potentially overlooked groups.

PO-109 "At some point or another, it has affected all of my five senses.": A qualitative assessment of treatment-related side effects in Black and White breast cancer survivors

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Background: Racial disparities in breast cancer outcomes persist and are attributed to multiple factors; however, treatment-related side effects, one of the most frequently implicated reasons for poor quality of life and treatment disruptions have been underexplored as a contributor to the disparity. The purpose of this study was to explore similarities and differences in Black and White women's experiences with breast cancer treatments, with a particular focus on their experiences with side effects. Methods**:** This was a secondary analysis of qualitative data that were originally collected to understand breast cancer survivor's experiences taking adjuvant endocrine therapy (AET). This analysis focused on discussions about side effects related to multiple treatment modalities, including chemotherapy, radiation, and AET. Women were recruited from healthcare centers and via community organizations in an urban U.S. city. Women were eligible for the study if they identified as Black/African American or White and were taking AET. Participants attended one focus group with women who identified as the same race. Focus groups were conducted between August 2014-August 2015, lasted 90-120 minutes, and were transcribed verbatim. Using an iterative approach, initial open codes were identified by two individuals, compared within and between interviews, and refined to generate themes. Disagreements were resolved via a third reviewer. Results**:** A total of 21 women attended one of three focus groups (n=16 Black women; n=5 White women). Three overarching themes were identified: Side Effect Recognition, Communication about Side Effects, and Coping with Side Effects. Women's descriptions of their side effects closely mirrored domains of the Functional Assessment of Cancer Therapy Endocrine Therapy scale (e.g., vasomotor symptoms). Black and White women also reported weight changes as a result of adjuvant endocrine therapy (weight gain) and chemotherapy (weight loss). The majority of women in our sample reported at least one side effect; however, reporting 'no side effects' only occurred among White women. Ratings of provider communication about symptoms were mixed; some women found communication helpful while others reported feeling dismissed. While one woman expressed provider negligence concerning mitigating side effects, another remarked on the accessibility of her provider to answer all her questions. Women discussed various methods to cope with side effects, including exercise and medications to relieve joint and bone pain. Spirituality as a method to cope only emerged in the focus groups with Black women. Conclusion**:** Black and White women reported relatively similar experiences with treatment-related side effects. Future work is needed to understand why Black women may experience more side effects to treatment. Further, culturally-tailored approaches to address treatment side effects that incorporate spirituality are needed to mitigate side effects, which may ultimately improve treatment adherence, quality of life, and outcomes in Black women.

Cancer Treatment and Outcomes: Mechanisms of Drug Action

PO-110 Plant isolate dibenzyl trisulfide induces caspase-independent death in triple negative breast cancer cells derived from patients of West African descent Jonathan Wooten[1], Shaniece Wooten[2], Cristina Araújo[3], Joyce Aja[4], Nicole Mavingire[5], Rupika Delgoda[2], Eileen Brantley[1]. [1]Loma Linda University, Loma Linda, CA, [2]University of the West Indies, Kingston, Jamaica, [3]Antillean Adventist University, Mayaguez, Puerto Rico, [4]University of the Philippines, Quezon City, Philippines.

Patients with triple negative breast cancer (TNBC) possess tumors that lack estrogen receptor, progesterone receptor, and human epidermal growth receptor expression. While these patients traditionally receive chemotherapy to combat this aggressive breast cancer subtype, others use natural remedies. Dibenzyl trisulfide (DTS) is derived from *Petiveria alliacea*, a perennial shrub that grows in tropical regions of the world. Many TNBC patients residing in the tropics are of West African descent. Therefore, we evaluated the anticancer actions of DTS in TNBC cells, including those derived from patients of West African descent. We found that DTS inhibited TNBC cell viability, migration and proliferation in a dose-dependent manner. Interestingly, DTS blocked the propensity of pro-carcinogen benzo-A-pyrene to induce proliferation of immortalized breast epithelial cells. Moreover, we found that DTS induced early apoptosis in TNBC cells, which was only partially attenuated following pretreatment with pan-caspase inhibitor zVAD-fmk. Though DTS induced pro-apoptotic gene and protein expression along with PARP cleavage, it failed to produce appreciable caspase 3 cleavage and promote significant apoptotic body formation. This suggests that this plant isolate induces caspase-independent and non-apoptotic death of TNBC cells. Furthermore, DTS promoted lysosomal membrane destabilization and cathepsin B release in TNBC cells. Taken together, DTS exhibits promising chemotherapeutic and chemopreventive ability by inducing non-apoptotic TNBC cell death and thwarting TNBC progression, supporting its evaluation in clinical trials as an agent to combat TNBC among patients of West African descent.

Cancer Treatment and Outcomes: Other

PO-111 The impact of race, ethnicity and obesity on CAR T-cell outcomes Paul Borgman, John Ligon, Bonnie Yates, Haneen Shalabi, Toni Foley, Lauren Little, Jennifer Brudno, Lekha Mikkilineni, James Kochenderfer, Nirali N. Shah. National Cancer Institute, Bethesda, MD.

Introduction: Chimeric antigen receptor (CAR) T-cells have revolutionized therapies for B-cell malignancies. However, while ethnic and racial minorities or those with obesity represent medically underserved populations for whom cancer outcomes are worse, it is unknown whether these factors also negatively impact outcomes of CAR T-cells. Methods: We conducted a retrospective review of 5 unique phase I CAR T-cell trials for children and adults with B-cell malignancies (including CD19, CD22 and BCMA targeted CAR T-cells for B-cell acute lymphoblastic leukemia (B-ALL), B-cell non-Hodgkin lymphoma (NHL) and multiple myeloma (MM)). In addition to evaluating basic demographics, complete remission (CR) rates and cytokine release syndrome (CRS) severity, graded by ASTCT, were stratified by race (white vs non-white), ethnicity and obesity, defined as BMI > 30. All individual protocols were IRB approved, and the retrospective study for this analysis is registered at: Clinicaltrials.gov NCT03827343. Statistics were done in GraphPad Prism, using non-parametric tests with $p<0.05$ considered significant. Results: 185 patients were treated with 1 of 5 unique CAR T-cell constructs. The median age was 22.7 years (range, 4.2-69 years). 138 had B-ALL; 23 had NHL and 24 had MM. The racial distribution was 154 (83.2%) white patients, and 31 (16.8%) non-white patients. The ethnic distribution (Hispanic versus non-Hispanic) was: 45 (24.3%) Hispanic, 139 (75.1%) non-Hispanic, and 1 unknown. Twenty-eight patients (15.1%) were obese. CR rates in those with B-ALL was 68.1% (94/138), in MM was 8.3% (2/24), and in NHL was 43.5% (10/23). CR rates did not vary by race or ethnicity. White CR rate 88/154 (57.1%) vs non-white CR rate was 18/31 (58.1%); p=not-significant (NS)) Hispanic CR rate was 26/44 (59.1%) vs Non-Hispanic CR rate of 79/136 (58.1%); p=NS. The overall CR rate in obese patients was 50% (14/28) versus 58.6% (92/157) in non-obese patients, p=NS. Grade >/= 3 CRS occurred in 35/185 (18.9%) patients and did not vary by race. Grade >/= 3 CRS in white patients was 30/154 (19.5%) vs non-White patients was 5/31 (16.1%); p=NS. Rates of Grade >/= 3 CRS were higher in Hispanic patients, (13/45, 28.9%) versus non-Hispanic patients (21/139, 15.1%), p=0.05 and in obese patients, (9/28, 32.1%) vs non-obese 26/157 (16.6%); p=NS). Conclusion: While CR rates did not vary by race (white versus non-white), ethnicity or obesity, a closer analysis by racial sub-populations and at active dose levels is a critical next step to evaluate for subtle disparities. Hispanic patients and those with obesity had a trend towards higher rates of Grade >/= 3 CRS, which needs further study. Given the tremendous potential of CAR T-cells across diverse populations and ability to overcome chemotherapeutic resistance seen in minority populations, CAR T-cells may represent an opportunity to improve outcomes for underserved populations without substantially increasing toxicity.

PO-112 The contribution of co morbidities to health disparities of cancer patients in a vertically integrated healthcare system Robert M. Cooper[1], Reina Haque[2], Chun Chao[2]. [1]Southern California Permanente Medical Group, Los Angeles, CA, [2]Kaiser Permanente Southern California Research and Evaluation, Los Angeles, CA.

Background: There are noted health disparities related to socioeconomic status and race in cancer patients across many cancer sites. The causes of the health disparities are multi factorial. These factors include access to health insurance, limitations of the care delivery system, as well as co morbidities and social determinants of health (SDH). This study looks to define the influence of co morbidities and SDH by studying insured patients being cared for in the same vertically integrated health care system. Methods We linked internal cancer Kaiser Permanente Southern California registry data for 153,270 patients diagnosed with invasive cancer from 2010-2018 and followed through 2020. The dataset was geocoded and patients were divided into quintiles based on presumed income related to census track. Outcomes included all cause mortality at the 1,3,5 years from diagnosis the overall mortality rate. We defined the health disparities related to race/ethnicity and SES in our overall population and by ten specific common cancer sites. We evaluated the interaction of race and SES on outcomes. Each patient was evaluated for comorbidities present at diagnosis and co morbidity burden was defined by the Elixhauser index score. We separately looked at individual modifiable comorbidities including, hypertension, diabetes mellitus, depression, smoking and obesity. We defined the prevalence of comorbidities by race/ethnicity and SES. We defined the effect of the individual co morbidities and Elixhauser score on overall outcomes. Using Cox proportional hazards model analyses we defined the impact of co morbidity burden and modifiable co morbidities on overall outcomes for the entire data set to better determine the contribution of comorbidities to disparities related to SES and define the social determinants of heath by race/ethnicity and SES. Results: Overall, Hispanics and Asian/PI had lower mortality at all outcomes points including 22% lower overall mortality then Whites and Blacks which had similar. Pts in the lower SES quintiles had higher overall mortality at all time points including a 25% increased mortality risk for bottom 4 quinitiles compared to the top quintile. We examined the health disparities of SES and parsed out the contribution of co morbidities defined by Elixhauser score each socioeconomic quintile showed that approximately 40% of the health disparity in the lower 2 quintiles related to SES can be attributed to differences in co morbidities and 60% explained by SDH. Conclusion: For an insured patient population cared for within the same medical system we were able to better isolate the health disparities related toSES and Race/ethnicity. We were then able to qualify the contributions of co morbidities and SDH to these observed heath disparities. We hope that these evaluations will add to our understanding of health disparities related to race/ethnicity and SES.

PO-113 Overall survival in ovarian cancer patients seeking care at more than one treatment facility April Deveaux[1], Jessica Islam[2], Tomi Akinyemiju[1]. [1]Duke University, Durham, NC, [2]Moffitt Cancer Center, Tampa, FL.

Purpose: Ovarian cancer is the most lethal gynecological cancer and despite advances in treatment, most patients are diagnosed at an advanced stage with poor prognosis. Black women have a lower 5 year survival than White women when diagnosed at the same stage, and while there are a number of contributing factors, quality of treatment center may play a significant role. Choice in treatment facility may be limited by insurance coverage, availability of high-volume hospitals or specialists, or ability to access high-quality facilities, and it is unclear how a change in treatment facility may impact ovarian cancer survival. Methods: Participant usage files from the National Cancer Database were used to interrogate the characteristics of patients that seek treatment at more than one Commission on Cancer accredited facility in the United States to determine the effect on overall survival. Multivariable Cox regression analysis models were used to estimate hazard ratios (HRs) and 95% confidence intervals (95% CI) to determine risk of mortality for patients receiving all of their first course treatment at one facility vs those receiving first course treatment at more than one facility. The fully-adjusted model was then stratified by race/ethnicity (Non-Hispanic White, Non-Hispanic Black, Hispanic) and by facility type (Community, Comprehensive Community, Academic/Research, Integrative Network). Results: A total of 211,937 women were included in the analysis. Patients were more likely to receive all of their first course treatment at one facility (81%). Patents treated at more than one facility had a 26% increase in ovarian cancer mortality compared with those treated at a single facility (HR: 1.26, 95% CI: 1.24-1.28). When stratified by race, NH-Black patients had the lowest increase in overall survival (HR: 1.08, 95% CI: 1.03-1.14) when compared with NH-White (HR: 1.27, 95% CI: 1.25-1.29) and Hispanic (HR: 1.33, 95% CI: 1.28-1.39) patients. Stratification by facility type showed that among women receiving treatment at more than one facility, those switching to an academic research center had the highest mortality (HR: 1.31, 95% CI: 1.28-1.34). Conclusion**s**: Ovarian cancer patients that received treatment at more than one facility had a higher rate of mortality than those who were treated at a single center. Our findings suggest the need for further investigation into the effects of continuity of care, including how race, facility type, and other socioeconomic factors may modulate those effects.

PO-114 Disparities in care among patients undergoing treatment for Non-Small Cell Lung Cancer in a safety net hospital Manuel R. Espinoza Gutarra[1], Oindrila Bhattacharyya[2], David Haggstrom[3]. [1]Indiana University Simon Cancer Center, Indianapolis, IN, [2]Indiana University Purdue University, Regenstrief Institute, Indianapolis, IN, [3]Regenstrief Institute, Richard L. Roudebush VA Medical Center, Indianapolis, IN.

Background: Treatment of patients (pts) with Non-Small Cell Lung Cancer (NSCLC) has changed tremendously in the last few years, however, the impact of these new therapies has been uneven; with socioeconomic, ethnic and access differences impacting the quality and outcomes experienced across pts. Methods**:** We identified 5,722 pts at a Safety Net Hospital system in Indianapolis, Indiana who had been diagnosed with NSCLC using ICD 9 and ICD 10 codes from 2015 to 2019 and received surgery for it. We identified possible SCLC miscoded cases by identifying and removing a priori patients who received either etoposide or irinotecan. Data was collated and analyzed using descriptive statistics and Chi-square tests through STATA software. Results**:** Among the 5,722 patients who underwent surgery, 69.9% pts were female(F), 49.6% pts identified as Black (B), 50.0% identified as non-Hispanic white (NHW) and 0.4% as Hispanic (H). BF made up 63.7% of all B pts, and NHW F made up 76.9% of all NHW pts. Given the low rates of H pts, we did not include them in further analysis. B pts were more likely to be uninsured (66.6%). B pts were more likely to be referred to tumor board (86.4% vs 13.5%; p-value<0.01) and less likely to be referred to radiation oncology (42.5% vs 55.9%; p-value <0.01). Rates of Brain MRI were higher among NHW pts (81.3% vs 18.4%, p-value<0.01); inversely PET CT rates were lowest among NHW pts (47.1% vs 52.9%, p-value<0.01). Among patients who underwent surgery, NHW were more likely to have received cisplatin compared to Blacks (32.08% vs 1.2%; p-value<0.01) and among all patients who received surgery and received cisplatin, 98.3% received it in the neoadjuvant setting, 1.4% within 60 days post-op and 0.4% after 60 days post-op. NHW pts were more likely to receive neoadjuvant cisplatin compared to Blacks (97.2% vs 2.8%; p-value<0.01) and B pts were more likely to receive adjuvant cisplatin both within 60 days (30.4%) and more than 60 days after surgery (8.7%). Unfortunately given limitations in data extractions, we were not able to determine histology or stage at diagnosis in our cohort. Conclusion**s:** This large single-institution study in a safety-net hospital notes tendencies among NSCLC patients; higher rates of prevalence among F, as well as higher rates of uninsured status and less use of Brain MRI and Radiation Oncology Referrals among B pts. Among patients who underwent surgery NHW were more likely to receive cisplatin. These differences might be due to socioeconomic status, access to care or patient-dependent factors such as stage at diagnosis. Further investigation is needed to adequately identify and address these disparities.

PO-115 Defining radiation treatment quality disparities in the COVID-19 Era Elizabeth C. Gaudio[1], Nariman Ammar[2], Daniel V Wakefield[1], Maria Pisu[3], Arash Shaban-Nejad[2], David L Schwartz[1]. [1]UTHSC College of Medicine, Memphis, TN, [2]UTHSC-ORNL Center for Biomedical Informatics, Memphis, TN, [3]School of Medicine, University of Alabama at Birmingham, Birmingham, AL.

Background: Cancer outcomes in the U.S. Mid-South (West Tennessee, Mississippi Delta, Eastern Arkansas) are poor, and have potentially been exacerbated by the COVID-19 pandemic. Unplanned interruption of daily radiation therapy (RT) is associated with socially vulnerable populations and inferior survival outcomes. Radiation treatment interruption (RTI) rates during the pandemic remain unreported. The purpose of this work was to quantify our local RTI rates before and after the onset of the pandemic, and to characterize social risk factors predictive for interruption during COVID-19. Methods: Demographic, clinical and treatment information were retrospectively analyzed for patients receiving RT with curative or palliative intent at a single academic center between January 2015 and December 2020. Minor RTI was defined as a delay in 2 or more scheduled radiation treatments. Major RTI was defined as greater than or equal to 5 (i.e. one week or greater) unplanned RT appointment cancellations. Patient insurance status was considered "At-Risk" if they had Medicaid or no insurance. Patient predicted income (PPI) was categorized as low, middle or high using 2020 US Census data for patient's home address zip code. RTI was compared across insurance type, race, PPI and whether they started RT before or after the onset of COVID-19 (March 15, 2020). Results: 2176 out of a total 2731 patients treated at our academic center were analyzable; 1913 were treated before and 263 were treated after COVID-19 onset. On-treatment patient census fell by >50% following onset of COVID-19, with protracted, incomplete recovery through 2020. 829 (38.3%) patients experienced minor RTI, while 381 (17.5%) of patients experienced major RTI. All RTI rates increased following onset of COVID-19 relative to pre-pandemic (43.0% vs. 14.0%, $P < 0.001$ and 74.1% vs. 33.1%, $P < 0.001$, for major and minor RTI, respectively). Compared to baseline disparities, increased major, but not minor, RTI rates were seen in African American compared to White patients during the pandemic (48.4% vs. 38.4%, $P<0.05$). Additionally, patients with Medicaid or no insurance experienced increased rate in major RTI compared to patients with commercial insurance in contrast to pre-pandemic differences (56.1% vs. 32.0%, $P<0.05$) Conclusion: We have previously shown minority and low socioeconomic patient populations to be at risk for RT quality shortfalls. The COVID-19 pandemic exacerbated pre-existing RTI rates at our academic center, and disproportionately impacted socially vulnerable groups. Our findings are limited to a single institution which saw protracted reductions in patient referrals during the early pandemic. This may represent a consequence of upstream barriers to care, the most severe form of treatment "interruption". To improve generalizability and robustness of our findings, this study should be reproduced broadly at other centers. Future directions will focus on identification of candidate mechanisms responsible for elevated RTI observed in vulnerable populations during the pandemic and beyond.

PO-116 Identifying disparities across race, ethnicity, and gender in pediatric neuro-oncology clinical research - from patient to provider Emily Marshall[1], Tom Belle Davidson[2], Jeffrey Stevens[3], Kristina Cole[4], Fatema Malbari[5], Tabitha Cooney[6], Lance Ballaster[4], Kaitlin Lehmann[4], Shannon Robins[4], Miguel Brown[4], Christopher Blackden[4], Christopher Friedman[4], Ammar Naqvi[4], Jonathan Waller[4], Ximena Cueller[4], Jennifer Mason[4], Jena Lilly[4], Phillip Jay B Storm[4], Adam Resnick[4], Michael Prados[7], Sabine Mueller[7], Angela Waanders[8], Cassie Kline[4]. [1]Sidney Kimmel Medical College, Philadelphia, PA, [2]Children's Hospital Los Angeles, Los Angeles, CA, [3]Seattle Children's Hospital and Research Institute, Seattle, WA, [4]Children's Hospital of Philadelphia, Philadelphia, PA, [5]Texas Children's Hospital, Houston, TX, [6]Dana Farber Cancer Institute/Boston Children's Hospital, Boston, MA, [7]University of California, San Francisco, San Francisco, CA, [8]Ann & Robert H. Lurie Children's Hospital, Chicago, IL.

Background: Literature has shown that racial, ethnic, and gender disparities exist among clinical research participants and within the ranks of academic institutions. To assess this and develop solutions to potential disparities in pediatric neuro-oncology, the Pacific Pediatric Neuro-Oncology Consortium (PNOC) and Children's Brain Tumor Network (CBTN) Diversity, Equity, and Inclusion (DEI) working group distributed a survey to all members of the consortia regarding the state of DEI in our research environments. In parallel, the working group collated clinical data from a public CBTN dataset and a PNOC clinical trial patient cohort to assess racial, ethnic, and gender differences in clinical research participation and outcomes. Methods**:** This study consisted of two components: an electronically distributed REDCap survey of all PNOC and CBTN consortia members (distributed Fall 2020) and analysis of pediatric neuro-oncology patient cohorts from CBTN and PNOC. The survey collected demographic information of respondents and Likert opinions on DEI at the consortia- and institution level (e.g. "All team members are treated fairly"). Responses were then stratified based on self-identified race, ethnicity, and gender and by age and job title. Patient-level data from the CBTN and PNOC cohorts was collated to evaluate overall patient demographics and clinical outcomes stratified by race, ethnicity, and gender and including differences in survival and clinical research enrollment. **Outcomes:** Fifty-seven PNOC/CBTN members initiated survey responses, with 45 completing the entire survey (estimated 20-25% response rate). Responders were predominantly white, non-hispanic females with the most common age range of 35-44 years and with faculty or physician job titles, followed by clinical research staff. Statistically significant differences were identified in questions related to the DEI environment mainly at the institution-level. Regarding feelings of inclusion, acceptance, and fair treatment, distinctions were identified across self-reported race and gender with white race correlating with higher frequency of feeling included and respected and females most commonly reporting neutral or disagreement that all team members are treated fairly and that different cultures and backgrounds are valued and interact well. At the patient level, the CBTN and PNOC data pulls included 1711 and 463 patients, respectively, with analyses currently underway and to be aligned with data from the Central Brain Tumor Registry of the United States (CBTRUS) to assess for race, ethnicity, gender, and locoregional differences in our patient cohort and in the context of national registry data. Conclusion**s:** The experiences and feelings of inclusion and treatment of clinical research members within the clinical research environment of pediatric neuro-oncology differ based on self-identified race and gender. Investigation is in process to extrapolate patient-level differences across race, ethnicity, and gender and in the context of larger registry data for pediatric neuro-oncology.

PO-117 Differences in personal social networks among black and white women diagnosed with breast cancer, with and without delays in initiation of chemotherapy

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Background: Black women are less likely to be married and report greater support from extended relatives than White women in the general population. However, little information exists about women's personal networks and how differences may influence treatment management after a diagnosis of breast cancer. **Methods:** We included women from two studies—study 1: 191 Black and White women from the INSIGHT-BC study who were diagnosed with stages I-IV invasive breast cancer from 2017-2021; and study 2: 24 Black and White women diagnosed with stages I-III invasive breast cancer from 2017-2020 who received adjuvant chemotherapy and were recruited based on whether they had no or any (>45 days) delay in initiation of treatment. In each study, women responded to questions on personal networks in an online EgoWeb 2.0 survey on average 3.7 (study 1) and 7.8 (study 2) months after diagnosis. Specifically, women were asked to name 15 network members and answered questions about the characteristics of each of these people and the relationships among them. We used analysis of covariance to evaluate age-adjusted differences in the composition of women's personal social networks by race, or race and delays. **Results:** Mean age was 59.9 (median=61.0) years in the larger and 57.8 (median=58.5) years in the smaller group. In study 1 (N=191), white women reported a larger proportion of persons over age 55 (56.0% vs. 46.4%, p=0.01), with a college education or more (60.1% vs. 48.0%, p=0.04), who were rated as having a very healthy lifestyle (52.6 vs. 38.8%, p=0.03), with whom they had contact 2 times or less in the 30 days (35.6% vs. 19.2%, p=0.003), and of the same race as the respondent (89.7% vs. 73.2%, p<0.001) in their personal social networks. Black women reported a higher proportion of network contacts with whom they had contact >2 times per week in the last 30 days (57.9 vs. 41.6%, p=0.005) and who provided types of support other than those delineated in the Medical Outcomes Study model (62.4% vs. 45.6%, p=0.03). In study 2 (N=24), irrespective of chemotherapy delays, black women reported higher proportions of relatives (+33.6%, 95% CI: 17.0%, 50.2%) and lower proportions of friends in their network (-29.9%, 95% CI: -46.0%, -13.9%), and higher network density (0.27, 95% CI: 0.13, 0.41). However, Black women with chemotherapy delays reported a higher proportion of people in their social network with whom they did not feel close compared to White women without delays (10.6%, 95% CI: 0.6%, 20.5%) and compared to all other groups (+11.0%, 95% CI: 3.1%, 18.8%). Black women with chemotherapy delays also reported a lower proportion of females (-15.1% 95% CI: -28.4%, -1.7%) in their network compared with non-delayed White women. **Conclusions:** Differences in social networks were consistent with prior findings but pointed to characteristics that may signify challenges with obtaining support in women's personal networks during breast cancer treatment such as lower proportions of close relationships and female network ties, that may lead to treatment delays.

PO-118 Patient and county level determinants of surgical treatment for non-small cell lung cancer: A SEER-Medicare analysis Cassie Lewis Odahowski[1], Anthony J. Alberg[2], Mario Schootman[3], Jiajia Zhang[4], Jan M. Eberth[4]. [1]University of Central Florida, Orlando, FL, [2]University of South Carolina, Columbia, SA, [3]SSM Health, St Louis, MO, [4]University of South Carolina, Columbia, SC.

Introduction: Rural lung cancer patients experience worse survival than urban lung cancer patients. Worse survival in early-stage rural lung cancer patients may be due lower utilization of surgical treatment compared to their urban counterparts. We examined patient- and county-level determinants of surgical treatment for non-small cell lung cancer, focusing on rural vs. urban disparities. Methods: Our sample included 63,767 localized and regional NSCLC cases diagnosed between 2003-2011 using SEER-Medicare data. Predictors examined included demographics, clinical characteristics, and county factors (urban versus rural designation, percent of the population ≥65 years old below 100% Federal Poverty Limit, and designation as a Medically Underserved Area). Patient characteristics were nested within counties in multilevel logistic regression models stratified by stage at diagnosis, predicting receipt of surgical treatment. Results: Rural residents were less likely to receive surgical treatment than urban residents (42.0% vs. 46.8%, $p<0.01$), and black patients were less likely than white patients to receive surgery (32.9% vs. 47.1%, $p<0.01$). Rurality did not remain a significant factor in the final adjusted model. The final model showed an odds of surgical treatment decreased for every 5% increase in county-level poverty for both local stage (OR=0.83, 95% CI:0.77-0.91) and regional stage (OR=0.84, 95%CI: 0.79-0.90). Other patient factors associated with lower likelihood of surgical treatment included older age, male sex, non-married, dual Medicare/Medicaid enrollment, and more comorbidities. Conclusions: Rurality was not associated with receipt of surgery in the final multilevel model, but patient race and county-level poverty were significantly associated with a lower odds of surgery. Future research is needed to understand the causes of these disparities in surgical treatment of lung cancer to maximize survival for all populations.

PO-119 Association of body mass index with pathological complete response after neoadjuvant chemotherapy in a population-based cohort of Black breast cancer patients

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Purpose: Pathologic complete response (pCR) to neoadjuvant chemotherapy is associated with improved event-free and distant recurrence free survival in women with stage II or III breast cancer (BC). While there is strong evidence that obesity is associated with reduced BC survival, its role on pCR after neoadjuvant chemotherapy among BC patients is unclear. Moreover, data regarding the association of pre-treatment BMI with response to neoadjuvant chemotherapy in Black women – who have the highest obesity prevalence than any other racial/ethnic groups and 40% worse survival outcomes compared to White women – are lacking. The purpose of this study was to examine the association of pretreatment BMI and subsequent pCR after neoadjuvant chemotherapy in Black BC patients. Methods**:** Data were abstracted from medical records of 131 Black BC patients who received neoadjuvant chemotherapy in the Women's Circle of Health Follow-up Study, a population-based cohort study of Black BC survivors in New Jersey. pCR was defined as absence of detectable invasive cancer in the breast and lymph nodes (ypT0/Tisand ypN0) at the time of surgery (noninvasive residual BC, i.e. DCIS was allowed). Tumor subtypes were defined by hormone receptor (HR, i.e., ER, PR) and HER2 status. Multivariable logistic regression was used to estimate odds ratios (OR) and 95% confidence intervals (CIs) of the association between pretreatment obesity (BMI ≥30 kg/m^2)vs. non-obese (<30 kg/m^2), and pCR, after adjusting for covariates. The association with BMI in a continuous scale was also evaluated. **Results:** Mean age at BC diagnosis was 50±10.7 years, mean BMI was 31.4±7.1 kg/m^2, and 69 (52.7%) women were obese. In terms of tumor subtype, 53 (40.5%) were HR+/HER2-, 40 (30.5%) were HER2+, and 38 (29.0%) were triple negative. All patients received standard chemotherapy regimens and 8.4% of patients had dose reductions due to toxicity. Almost one-third achieved pCR (38 [29.0%]). Consistent with prior evidence, our findings were suggestive of decreased odds of pCR among obese (OR 0.88, 95% CI: 0.39-1.99) compared to non-obese women, although the risk estimate was not statistically significant. We observed similar findings with BMI modeled as a continuous variable (OR 0.85, 95% CI: 0.62-1.15 per 5-unit increase in BMI). No substantive differences were observed by tumor subtype (HR+/HER2: OR 0.80, 95% CI: 0.44-1.46; HER2+: OR 0.93, 95% CI: 0.58-1.47; and triple negative BC: OR 0.86, 95% CI: 0.47-1.57 per 5-unit increase in BMI). **Conclusion:** Our findings suggest that among Black women, higher BMI is inversely associated with achieving pCR. However, risk estimates did not reach statistical significance, possibly due to small sample size. Alternatively, as shown by our and others' prior work, BMI may be an inadequate measure of adiposity, particularly in this population. Future work should evaluate the impact of body fat distribution and body composition on pCR response to neoadjuvant chemotherapy among Black women after a breast cancer diagnosis.

PO-120 Need for more sociodemographic data in qualitative childhood cancer research: Findings from a scoping review Sarah Burack[1], Eric M. Wiedenman[1], Melanie Ward[2], Lindsay Kaufman[1], Thembekile Shato[3], Jean Hunleth[1]. [1]Washington University in St. Louis School of Medicine, St. Louis, MO, [2]American Medical Association, St. Louis, MO, [3]Washington University in St. Louis, St. Louis, MO.

Childhood cancer is increasingly recognized as a global health priority. In comparison with other childhood diseases, researchers have long- emphasized--the need to include children in empirical studies on cancer diagnosis, treatment, and recovery, particularly through the use of qualitative methods (Bluebond-Langner 1978). Children's inclusion originated from the theoretical perspective that adults may not understand the needs of children and that, to understand children's perspectives, we must engage and involve them in the research process. Given the new focus on global childhood cancer, we ask if and how sociodemographic factors, such as age, ethnicity, financial status and other categories, have been included in qualitative research with children who have cancer. Reporting ofn the inclusion and analysis of these factors is necessary to address disparities; research on adult cancer has shown that sociodemographic factors shape experiences with cancer diagnosis, treatment, and survival. The authors conducted a scoping review of qualitative studies involving children in cancer research between 2007-2019. Articles were retrieved from Ovid Medline, Embase, and CINAHL. Article titles and abstracts were screened and included in full text review if they were cancer related, used qualitative methods, and included participants aged 6 to 11. Additional articles that met the inclusion criteria but were found after the database search were considered and coded. A total of 88 articles were screened, with 76 articles met the inclusion criteria the full text retrieved for coding. Articles were coded for reported sociodemographic factors of children and their caretakers involved in the study. Further, each study's identified sociodemographic categories were analyzed for their significance/importance to the respective study. Results show gaps in sociodemographic reporting and analysis (e.g., factors such as race, education, financial status not reported or included in analysis), little research being conducted in under-resourced areas (e.g., studies outside of the US, Canada, Europe), and frameworks used in the reviewed articles exclude the social/environmental context as a contributing factor in medical care. With the popular frameworks in current childhood studies, including Humanistic Nursing Theory and phenomological theory, adding sociodemographic reporting and analysis can contribute to childhood cancer research by increasing the variety and number of children to whom the research findings will be contextually relevant. Reporting the inclusion of these factors in children's cancer research is needed to highlight populations who have been traditionally underrepresented, and to identify areas for future research examining how sociodemographic factors impact the cancer care experience. We hope in identifying these gaps and opportunities for future research, this work will invite childhood cancer research to expand its reach and combat disparities that exist within cancer diagnosis, care, and survival.

Cancer Treatment and Outcomes: Palliative Care and Pain Management

PO-122 Palliative care for 317 cancer patients with COVID-19 in a major public hospital in South America Tulio L. Correa[1], Joyce V.B. Sobreira[2], Áurea M.S. Simão[3], Fernanda B. Anbar[3], Flavia Yarshell[3], Ricardo T. de Carvalho[4]. [1]Federal University of Pelotas, Pelotas, Brazil, [2]Federal University of Maranhão, São Luís, Brazil, [3]Santa Casa de Misericórdia de Sao Paulo (FCMSCSP), São Paulo, Brazil, [4]Hospital das Clínicas of the University of São Paulo, São Paulo, Brazil.

Background: Cancer patients are at higher risk of developing severe COVID-19 and worse virus-related outcomes. In addition, low- and middle-income countries may be even more impacted by COVID-19, and not offer appropriate end-of-life support to many patients. The aim of this study was to evaluate the palliative care offered to cancer patients with COVID-19 in a major referral hospital in South America. Methods**:** Descriptive and retrospective study in Hospital das Clínicas, Faculty of Medicine of the University of São Paulo, Brazil. This hospital is considered one of the major referral and public hospitals in South America. Medical records of adult cancer patients admitted for COVID-19 were reviewed. Patients were screened for the need for palliative care through Supportive and Palliative Care Indicators Tool (SPICT). Data was analyzed using Stata 14. Results**:** The sample was composed of 317 Latino patients, of which 155 (48.9%) were male and 162 (51.1%) were female. Median [IQR] age was 68 [56-81] years old. In addition, 119 (37.5%) were admitted to the wards, 110 (34.7%) to the emergency room, and 88 (27.8%) to the intensive care unit. Patients admitted to the wards were more likely to receive palliative care (46.7% vs. 32.9%; p=0.016). A total of 107 (33.7%) patients had access to palliative care. Regarding SPICT criteria, 260 (82.0%) were at risk of deteriorating and dying. Of the patients who met SPICT criteria, 98 (37.7%) had access to palliative care during hospitalization. Regarding outcomes; 155 patients (48.9%) died, 128 (40.4%) were discharged, and 34 (10.7%) were transferred to another unit. Of the patients who died, 72 (46.5%) did not have access to palliative care. Conclusion**s:** In our study, there was a high mortality rate in Latino cancer patients with COVID-19, although a considerable percentage of them did not have access to palliative care before dying. It is important to give further attention to the end-of-life support offered to cancer patients with COVID-19, especially in underserved communities and among racial/ethnic minorities.

PO-123 Palliative care use among people living with HIV and cancer: An analysis of the National Cancer Database (2004-2018) Jessica Y. Islam[1], Leticia Nogueria[2], Gita Suneja[3], Anna Coghill[1], Tomi Akinyemiju[4]. [1]H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, [2]American Cancer Society, Atlanta, GA, [3]University of Utah, Salt Lake City, UT, [4]Duke University, Durham, NC.

Background: Prior studies demonstrate that people living with HIV (PLWH) are less likely to receive any curative cancer treatment compared to their HIV-negative counterparts. Data regarding trends of palliative treatment use among PLWH with cancer are lacking. Timely intervention with palliative care can increase survival and improve patient-reported quality of life among all cancer patients, particularly those with metastatic disease. Our objective was to compare the use of palliative care by HIV status among patients with cancer in the United States. **Methods:** We used data from more than 19 million patients 18-90 years of age in the National Cancer Database diagnosed between 2004 and 2018. The eleven most common cancers diagnosed among PLWH were selected, including Kaposi Sarcoma, cancers of the head and neck, upper gastrointestinal tract, colorectum, anus, lung, female breast, cervix, and prostate, Hodgkin lymphoma, and diffuse large B-cell lymphoma (DLBCL). HIV status was determined from reported comorbidities using the ICD-9-CM diagnosis codes 04200-044.90, 07593, V0800 and ICD-10-CM codes B20-B22, B24, Z21. Palliative care was defined as any surgery, radiation, systemic therapy, or pain management treatment with non-curative intent. Multivariate logistic regression was used to examine associations between HIV-status and palliative care use by cancer site and stage-at diagnosis and adjusted for age at diagnosis, race/ethnicity, gender, insurance, geographic region, comorbidity index, and cancer diagnosis year. Results**:** The study population included 52,306 HIV-positive (Avg. age: 56.5 years) and 19,115, 520 HIV-negative (Avg. age: 63.7 years) cancer cases. PLWH with cancer were more likely to be Non-Hispanic (NH)-Black (35.1% vs. 10.8%, $p<0.001$) and Hispanic (11.2% vs. 5.6%, $p<0.001$) compared to HIV-negative cancer patients. PLWH with stage 1-3 cancer at diagnosis were more likely to receive palliative care compared to their HIV negative counterparts (aOR:1.96, 95% CI:1.80-2.14). Conversely, PLWH with stage-4 cancer at diagnosis were less likely to receive palliative care (aOR:0.70, 95% CI:0.66-0.74). When evaluated by cancer site, stage-4 lung (aOR:0.80, 95% CI: 0.73-0.87) and colorectal (aOR: 0.72, 95% CI: 0.54-0.95) HIV-positive cancer patients were less likely to receive palliative care than HIV-negative cancer patients. PLWH diagnosed with stage I-III cancer who received palliative care were less likely to receive curative cancer treatment (aOR:0.48, 95% CI:0.40-0.59). **Conclusion:** Overall, utilization of palliative care is low among PLWH with cancer. PLWH diagnosed with stage-four cancer, particularly lung and colorectal cancer patients, are less likely to receive palliative care compared to their HIV-negative counterparts. PLWH with non-metastatic disease are more likely to receive palliative care, reinforcing prior data that curative treatment is not offered. Efforts to address the overall low utilization and better understand disparate utilization by cancer stage among PLWH should be prioritized.

PO-124 Should place of death be added to the index of disparities between Black and White breast cancer patients? Sarah Marion[1], Fumiko Chino[2]. [1]University of Virginia School of Medicine, Charlottesville, VA, [2]Memorial Sloan Kettering Cancer Center, New York City, NY.

Background: Compared to their white counterparts, Black women with breast cancer suffer from earlier onset of diagnosis, more aggressive histology, higher mortality rates, and are at risk of racial bias from healthcare providers and treatment plans that do not align with the standard of care. Place of death can be considered a metric for high quality end-of-life care as hospital death is associated with both physical and emotional distress. Given Black patients' particular vulnerability, the purpose of this study was to investigate place of death as a surrogate for end-of-life healthcare disparities. Methods: The National Center for Health Statistics database was used to determine the place of death for all US women with primary-breast cancer death from 1999-2019. Place of death (home, hospital, and hospice) and race (white and Black) were considered; the subset of women who died <40 were also analysed. Trends in place of death in the 20-year period were evaluated via linear regression with comparisons by Chi-square test. Results: From 1999 to 2019, there were 867, 213 women who died due to breast cancer; 718,437 (82.8%) were white and 125,040 (14.4%) were Black women. Home death increased an absolute 5.7% (38.4 to 44.1%) in white women and 6.2% (29.3 to 35.5%) in Black women, $p<0.0001$ trend for both. Hospital deaths decreased -11.4% (31.9 to 20.5%) in white women and -14.4 (48.2 to 33.8%) in Black women, $p<0.0001$ trend for both. Hospice death was introduced as a database category in 2003; from 2003-2019, hospice death increased similarly in both white (0.6 to 14.5%) and Black patient populations (0.5 to 14.2%), $p<0.0001$ trend for both. In 2019, white women with breast cancer are 1.24x more likely to die at home than Black women (44.1 vs 35.5%, $p<0.0001$) and Black women with breast cancer are 1.65x more likely to die in the hospital (33.8 vs 20.5%, $p<0.0001$). Hospice deaths are more closely proportional between racial groups with white women with breast cancer only 1.02x more likely to die in hospice than Black women (p=NS). For women <40 from 1999 to 2019, home deaths decreased 4.6% (40.0 to 35.4%, $p=0.016$) for white women without significant changes in home deaths (26.9 to 25.2%, p=NS) in Black women. In 2019, white women <40 were 1.40x more likely to die at home than Black women with breast cancer (35.4 vs 25.2%, $p = 0.0009$). Conclusions: Despite improvements in home deaths over time, racial place of death disparities persist with Black women facing disproportionately higher hospital deaths and lower home deaths than white women with breast cancer. These differences may be due to cultural preference, poor physician communication about end of life options, or even inaccurate prognosis resulting in limited integration of palliative care (particularly for young patients). As home death has been associated with more favorable outcomes for patients including symptom control and autonomy, further research is needed to develop targeted interventions to improve communication and culturally competent end-of-life care.

PO-125 Mental health symptoms during the COVID-19 pandemic among cancer survivors who endorse cannabis: Results from the COVID-19 cannabis health study Diane L. Rodriguez[1], Denise C. Vidot[2], Marlene Camacho-Rivera[3], Jessica Y. Islam[4]. [1]Morsani College of Medicine, University of South Florida, Tampa, FL, [2]School of Nursing and Health Studies, University of Miami, Miami, FL, [3]School of Public Health, SUNY Downstate Health Sciences University, Brooklyn, NY, [4]Cancer Epidemiology Program, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

Background: The use of medical cannabis represents an opportunity to improve access to equitable cancer treatment among minoritized populations who frequently face barriers to traditional palliative care options or mental health treatments. Poor mental health among cancer survivors is of concern as it reduces adherence to cancer survivorship treatment and can reduce overall survival. The COVID-19 pandemic has highlighted the importance of access to palliative care due to the increase of mental health symptoms among cancer survivors. Despite the potential benefits of medicinal cannabis, data describing the use of cannabis to manage mental health symptoms among cancer survivors is limited, particularly in the context of the COVID-19 pandemic. Objective: Our objective was to examine the prevalence of mental health symptoms and the behavioral impacts of the COVID-19 pandemic on cancer survivors who endorse cannabis use. Methods: Our participants included adults (≥18 years) who self-reported medicinal cannabis use and responded to our internet-based questionnaire (03/21/2020-03/24/2021). Overall, we received 3,594 responses. For this study, data included 158 participants including 79 cancer survivors (2.2%) along with age-matched medicinal cannabis users without a history of cancer (N = 79). Descriptive statistics were used to compare demographic characteristics, prevalence of generalized anxiety (GAD-7), and depression (CES-D-10), changes in behavior during the COVID-19 pandemic, and self-reported coping mechanisms by cancer survivorship status. Results: Overall, 61% and 48% of cancer survivors self-reported to use medicinal cannabis to manage their anxiety and depression, respectively. Additionally, 54% of cancer survivors reported cannabis use to manage their chronic pain. Probable clinical depression (CES-D-10 score ≥ 10) and anxiety (GAD-7 score ≥ 10) were identified in 50.7% and 38.9% of cancer survivors, respectively. Cancer survivors were more likely to report that their anxiety symptoms made it very or extremely difficult to work, take care of things at home, or get along with other people (23.0% vs. 11.8%, p = 0.015) than adults without a history of cancer. Pandemic-related coping mechanisms frequently reported by cancer survivors with anxiety or depression included more sleep (47.5%), practicing meditation/mindfulness (47.5%), physical activity (47.5%), talking to family and friends (42.5%), overeating or stress-eating (25.0%), and using more cannabis (25.0%). Cancer survivors with anxiety and depression reported to be more likely to fear giving COVID-19 to someone else (47.5% vs. 23.1%, p=0.023) and to fear being diagnosed with COVID-19 (77.5% vs. 38.5%, p<0.001) compared to cancer survivors without mental health conditions. Conclusion: Given the prevalence of anxiety and depression symptoms reported among cancer survivors and their use of cannabis, further research is recommended to evaluate its use as palliative care to improve mental health and quality of life among cancer survivors.

Cancer Treatment and Outcomes: Pharmacology, Pharmacogenetics, and Pharmacogenomics

PO-126 Identification of distinct mRNA & microRNA signatures and mRNA-miRNA pairs associated with inter-ethnic differences in prostate cancer aggressiveness Taraswi Mitra Ghosh[1], Jason White[2], Suman Mazumder[1], Joshua Davis[1], Grace Hurley[1], Brian Cummings[3], Gary Piazza[1], Amit K Mitra[1], Clayton Yates[2], Robert Arnold[1]. [1]Auburn University, Auburn, AL, [2]Tuskegee University, Tuskegee, AL, [3]University of Georgia, Athens, GA.

Introduction: The incidence of aggressive prostate cancer (PCa) and mortality is disproportionately higher in men of African-American (AA) ancestry. Treatment options for these patients are docetaxel or cabazitaxel alone or in combination with bevacizumab, thalidomide, and prednisone or immunotherapy. However, these chemotherapeutics typically only improve survival slightly (3-4 months). Further, majority of patients develop metastatic PCa over time, resistant to conventional chemotherapy (metastatic castration resistance PCa or mCRPC). *Therefore, an understanding of the molecular mechanisms underlying the ethnic differences in disease aggressiveness and progression in PCa is needed.* **Methods:** In this study, we performed mRNA and miRNA expression (RNAseq) analysis on PCa cell lines representing different tumor types (aggressive androgen receptor (AR) nonresponsive AR- vs. non-aggressive AR+) and derived from patients with European American/EA (PC3, PC3M, DU145, DUTXR, 22RV1, LNCaP, VCaP, LaPC4, C4, C4-2B) and AA (MDA-Pca-2b, RC77, RC165, RC43) ancestry to identify differentially expressed genes (DEG) associated with tumor aggressiveness and ethnicity. Next, we validated the top DEG signatures using an AA vs EA patient cohort dataset as well as *in silico* validation using The Cancer Genome Atlas (TCGA) database. For each miRNA, functional analysis was performed using miRBase datasets and mRNA-miRNA pairs and binding sites were predicted by TargetScan. Finally, IPA (Ingenuity Pathway Analysis) was performed to identify key regulators and downstream effects on biological and disease processes based on the expression patterns of DEGs. **Results:** We identified distinct mRNA and miRNA expression signatures associated with aggressive vs. non-aggressive PCa of EA vs. AA origin. The top DEGs that were associated with patient survival ($p< 0.0001$), stratified by Gleason scores, were PLAU, TGFB1, SERPINE1, MET, TIPM1, ITGA3, SERPINB5, PLAUR, MMPs, CDKN1A, and IGF1. The transporter genes SLC25A, SLC16A, and ABCB6 were also identified as important markers of aggressiveness. Notably, PLAU, MCAM, MET, TIMP1 were top DEGs in AA vs EA cell lines while SERPINE1 and MCAM were DEGs in AA vs EA patient cohort. IPA identified the activation of the angiogenesis pathway as a crucial factor for cancer aggressiveness. Top predicted miRNA-mRNA pairs included SERPINE1-let7, PLAU- mir181 which potentially influence differential gene expression in late-stage cancers. Finally, our immunoblotting results confirmed the protein expression changes of top DEGs. Next, we plan to perform CRISPR-based gene editing to functionally validate the molecular (mRNA/miRNA) signatures. **Conclusion:** An -omics-based approach was used to identify genetic signatures that provide insights into the molecular basis of PCa aggressiveness between men of EA vs AA ancestry. We believe this strategy will aid in developing effective targeted ethnicity-specific personalized treatment schedules for aggressive forms of PCa. This promises to address the known health disparity that is observed in AA men.

Cancer Treatment and Outcomes: Proteomics, Chemogenomics, and Chemoinformatics

PO-127 Proteome profiling of pancreatic Ductal Adenocarcinoma (PDAC) primary tumors in Caucasian, African Americans and Latinx patients. Henry C.-H. Law[1], Andrea N. Riner[2], Jose G. Trevino[3], Nicholas T. Woods[1]. [1]University of Nebraska Medical Center, Omaha, NE, [2]University of Florida, Gainesville, FL, [3]Virginia Commonwealth University, Richmond, VA.

The clinical management of pancreatic ductal adenocarcinoma (PDAC) faces difficult challenges due to its aggressive metastatic potential, complex microenvironment, and lack of targeted therapies. Health disparities also exacerbate these challenges. For instance, Black and African American (AA) patients have higher incidence rates and worse clinical outcomes than White patients even when socioeconomic and tumor stages are controlled. To advance the understanding of the biological differences across the racial groups, PDAC primary tumors collected from 30 Caucasian, 12 African American (AA) and 3 Latinx patients were analyzed by quantitative proteomics. In collaboration with the IDeA National Resource for Quantitative Proteomics, 5820 proteins were identified and quantified using data-independent acquisition (DIA) in the tumor proteome. Comparing the Latinx and the Caucasian tumor proteome, 120 and 95 proteins were found up- and down-regulated in the Latinx proteome, respectively. Proteins involved in the fatty acid metabolism, urea cycle, bile acid and bile salt metabolism were found enriched among the upregulated proteins. 108 and 75 proteins were found up- and down-regulated in African American tumor proteome over the Caucasians, respectively. The 108 upregulated proteins were submitted for Reactome Pathway Analysis. Pathways such as the complement cascade, extracellular matrix (ECM) organization and ECM proteoglycans were found enriched. Haptoglobin-related protein (HPR) was one of the 108 upregulated proteins in the AA tumor proteome, which is also observed at the transcript level in the The Cancer Genome Atlas data. The HPR is known for its trypanolytic function and gene amplifications are observed in those of African descent. HPR works with haptoglobin to clear the free hemoglobin in blood to prevent oxidative damage. We believe that the proteins overexpressed, and the biological processes activated are contributing to the PDAC disparities observed in the African descendants. Therefore, the characterization of the PDAC proteome is a valuable method to delineate the underlying molecular signatures that may contribute to the health disparities.

PO-128 Completion of nipple reconstruction in triple-negative breast cancer patients compared to triple-positive breast cancer patients: A single institutional analysis Joshua Amaya, Kaitlin Jones, Nicholas T. Haddock, Sumeet S. Teotia. University of Texas Southwestern Medical Center, Dallas, TX.

Background: Triple-negative (TN) breast cancer is considered to be more aggressive than other subtypes of breast cancer and has a poorer prognosis. It is defined as breast cancer tumors that lack estrogen receptor (ER), progesterone receptor (PR), and HER2 expression and affects 17-20% of women with breast cancer. However, reconstructive outcomes remain to be elucidated when compared to other invasive breast cancer subtypes. The aim of this study is to determine if there is a disparity in completing nipple-areolar reconstruction in breast cancer patients with a triple-negative subtype compared to patients with a triple-positive (TP) subtype. Methods**:** 107 patients who underwent bilateral non-nipple sparing mastectomies from 2013 to 2017 diagnosed with a TN (n = 54) and TP (n = 53) invasive breast cancer subtype were identified. All 107 patients were seen by two attending surgeons at a single institution. Completion of nipple reconstruction and areolar tattoos, number of days from mastectomy to nipple reconstruction, and areolar tattoos were analyzed. Demographic/clinical variables, including race, age, BMI, smoking, comorbidities, neoadjuvant/adjuvant chemotherapy, hormonal therapy, radiation therapy, and choice of implants or flaps were also analyzed. Results**:** There was no significant difference in the proportion of patients who underwent radiation therapy in the TN group than in the TP group (55.56% vs 37.74%, p = 0.0819). Among these two groups, there was no significant difference in the percentage of patients completing nipple reconstruction (TN = 44.44%, TP = 49.06%, p = 0.7001) and acquiring an areolar tattoo (TN = 33.33%, TP = 39.62%, p = 0.5503). The differences in the average duration in days from mastectomy to nipple reconstruction (TN = 505.7, TP = 456.4, p = 0.5259) and areolar tattoos (TN = 665.6, TP = 638.5, p = 0.7653) among these two patient populations were also insignificant. Conclusion**:** TN subtype does not make a significant impact on completing nipple reconstruction when compared to TP patients, another extreme. These results should be considered when counseling TN patients on their reconstructive journey.

PO-129 Influence of triple-negative versus Luminal A breast cancer subtype on choice of autologous versus implant based delayed-immediate breast reconstruction Joshua Amaya, Ryan M. Dickey, Kaitlin Jones, Sumeet S. Teotia, Nicholas T. Haddock. University of Texas Southwestern Medical Center, Dallas, TX.

Background: Triple-negative and luminal A breast cancer molecular subtypes have divergent clinical and prognostic characteristics for breast cancer patients. Our study aims to compare the reconstructive choice of these two groups from the time they receive a tissue expander to the time they complete autologous or implant-based breast reconstruction. Methods**:** 255 patients who underwent delayed-immediate breast reconstruction with tissue expander placement from 2013 to 2017 diagnosed with either TN (n = 73) or luminal A (n = 182) invasive breast cancer subtype seen by two surgeons at a single institution were identified. Preference of autologous and implant- based reconstruction was analyzed, along with tissue expander (TE) complications, race, age, BMI, smoking, adjuvant therapy, and comorbidities. Results: There was a significant difference in the choice of implant- or autologous-based reconstruction among these two groups ($p < 0.05$). A greater proportion of luminal A patients underwent implant-based reconstruction (63.47%) and a greater proportion of TN patients underwent autologous-based reconstruction (53.13%). With regard to TE outcomes, there was no significant difference between the two groups with regard to duration of TE placement by reconstructive type, or TE surgical complications. Significantly more TN patients underwent radiation therapy ($p < 0.01$) and neoadjuvant chemotherapy ($p < 0.0001$) than luminal A patients. BMI, comorbidities, radiation therapy and overall TE complications were identified as predictive factors of patients electing for autologous reconstruction over implants. Conclusion**:** TN breast cancer patients mostly chose autologous-based reconstruction, while luminal A patients chose implant-based reconstruction. Both patient groups carried their tissue expanders for similar duration with similar complication profile. Radiation therapy is likely a major factor in the decision for the type of delayed-immediate reconstruction among this population.

Cancer Treatment and Outcomes: Second Cancers

PO-130 Disparities in risk of second primary lung cancer among lung cancer patients in the United States Eunji Choi, Sophia J. Luo, Jacqueline V. Aredo, Joel W. Neal, Leah M. Backhus, Heather A. Wakelee, Summer S. Han. Stanford University School of Medicine, Stanford, CA.

Introduction: Lung cancer is the leading cause of cancer death in the U.S. Despite recent survival improvements, racial and socioeconomic disparities still exist in lung cancer incidence and survival. Furthermore, recent studies showed that lung cancer survivors have a high risk of developing second primary lung cancer (SPLC). While racial and socioeconomic disparities have long been examined for lung cancer survival and incidence, little is known about their impacts on SPLC risk among lung cancer survivors. This study evaluated the disparities in SPLC incidence by calculating the standardized incidence ratio (SIR) of the observed SPLC incidence versus the expected incidence of initial primary lung cancer (IPLC) across different socioeconomic, acculturation, and smoking-related factors using county-level data obtained from the Surveillance, Epidemiology, and End Results Program (SEER). Methods**:** We identified 158,018 patients diagnosed with IPLC between 2000 and 2013 in SEER. SPLC was defined as a newly developed primary lung cancer after 2 years from IPLC diagnosis and was followed through 2018. The SIR was calculated as the ratio of the observed SPLC incidence versus the expected incidence of IPLC in the general population across different factors. Indicators of socioeconomic status, acculturation factors, and smoking prevalence in SEER were derived from county-level data using the American Community Survey and the Behavioral Risk Factor Surveillance System (BRFSS). The quintiles of these indicators were created using the data obtained across all 3,142 valid U.S. counties. We applied the Pearson's chi-squared test to evaluate the difference in SIRs across quintiles of the indicators we created, applying a statistical significance of $\alpha < 0.005$ after adjusting for multiple testing. Results**:** Among 158,018 IPLC patients, 10,650 (6.7%) developed SPLC over 626,853 person-years. The incidence of SPLC was 6 times higher than the IPLC incidence in the general population, with an overall SIR of 6.2 (95% Confidence Interval (CI): 6.09-6.32). Notably, the SIR, i.e., the ratio between the SPLC incidence and the IPLC incidence, was significantly higher among individuals who live in counties with the lowest quintile of median family income (<$51,770) versus the highest quintile (>$74,331) (SIR 7.18 versus 6.10, $P<1X10^{-6}$). Furthermore, the ratio between the SPLC versus the IPLC incidence was highest (SIR 8.01, CI: 7.36-8.71) among those who live in counties with the highest quintile of smoking prevalence (>29.6%) versus SIR of 5.77 (CI: 5.63-5.91) with the lowest quintile of smoking prevalence (<20.4%) ($P=3.4X10^{-3}$). Race/ethnicity and acculturation factors, including immigration status, did not achieve statistical significance.**Discussion:** Significant disparities exist in SPLC incidence among lung cancer survivors who live in areas with a low median family income and high smoking prevalence. Targeted SPLC surveillance for lung cancer survivors from an underserved population would be needed to reduce the existing disparities.

Carcinogenesis: DNA Damage and Repair Mechanisms

PO-131 RAD51 is a biomarker for aggressive disease and racial disparities in triple-negative breast cancer Ganesh N. Acharya[1], Chinnadurai Mani[1], Upender Manne[2], Komaraiah Palle[1]. [1]Texas Tech University Health Sciences Center, Lubbock, TX, [2]The University of Alabama at Birmingham, Birmingham, AL.

Breast cancer (BC) is the second most diagnosed malignant disease in women, and one of the leading causes of cancer-related deaths. Triple-negative breast cancer (TNBC) is the most aggressive and difficult to treat subtype of BC because it is highly metastatic and lacks targeted therapies. African American (AA) women have a higher death rate from BC than women of other races and ethnicities. The higher incidences of TNBCs and their aggressive growth in young AA women contributing to higher death rates indicate a biological basis for this difference. Thus, it is imperative to understand the molecular mechanisms that contribute to aggressive tumor growth in AA women, identify biomarkers to select patients who will respond to existing therapies, and develop effective therapeutics to reduce this disparity. Our studies identified that multiple TNBC cells derived from AA women are inherently chemoresistant and exhibit aggressive growth behavior compared to TNBC cells derived from European American (EA) patients. Our preliminary screenings showed that the DNA repair protein, RAD51, is overexpressed in AA TNBC patients and correlates a poor prognosis relative to EA TNBC patients. Analysis of AA and EA TNBC tumor specimens indicated the epigenetic regulation of *RAD51* by promoter methylations and microRNAs. Furthermore, AA women diagnosed with TNBC, have a considerably lower incidence of germline *BRCA1* mutations than women of other racial or ethnic groups. This indicates most TNBC tumors in AA patients are DNA repair proficient and have intact cell cycle checkpoint mechanisms that protect them from chemotherapy-induced DNA damage and promote therapeutic resistance. Our drug screenings identified CHK1 inhibitor, Prexasertib caused DNA repair deficiency in *BRCA* wild-type TNBC cells by promoting proteasome-mediated degradation of BRCA1 and RAD51 proteins. Therefore, we designed a synthetic lethality-based drug combination of Prexasertib with PARP inhibitors (PARPi) in DNA repair proficient TNBC cells. Data from our preclinical evaluations show Prexasertib and Olaparib cause increased DNA strand breaks, mitotic catastrophe, and synergistic TNBC cell lethality compared to individual drug treatments. Additionally, computational analysis of TCGA data revealed a *RAD51* upregulation in TNBC tumors compared to normal breast tissues and other subtypes of BC which renders as a poor prognostic marker for these patients. Remarkably, there was an interesting discrepancy in *RAD51* expression levels between different racial groupings, with AA and Asian BC patients having higher levels of *RAD51* expression than Caucasian BC patients. Consistent with these observations, AA and Asian TNBC patients showed decreased survival probability. Together, our data indicate that RAD51 and its epigenetic regulators could be biomarkers for aggressive TNBC and racial disparity in BC therapeutic outcomes and suggests a novel combination therapy involving Prexasertib and Olaparib may improve prognosis and reduce racial disparity in TNBC.

PO-132 Upregulated LYL1 promotes epithelial ovarian cancer (EOC) cell growth and metastasis Damieanus Ochola, Shirisha Jonnalagadda, Swetha Peddibhotla, Tasmin Omy, Mark Reedy, Palle Komaraiah. Texas Tech University Health Science Centre, Lubbock, TX.

Approximately 90% of ovarian cancer (OC) is Epithelial ovarian Cancer (EOC) subtype and claims ~15,000 lives in the United States annually, making it the deadliest reproductive cancer in women. There are few treatment options for EOC, amongst them include surgical resection of tumors or debulking, and chemotherapy alone or combination. In general, the survival rate of patients with EOC is about 48% and this has not changed in last few decades. According to recent reports from American Cancer Society and SEER, racial disparity in ovarian cancer not only exists for African American (AA) patients, but is worsening over the past few years. African American (AA) patients presents with more advanced disease and develop chemoresistance frequently, and as such, they experience worse survival. Thus identifying the cause of this discrepancy, or more importantly, describing which AA patients are at the highest risk of therapeutic relapse would alter our current treatment strategies and improve overall disease free survival rate. Therefore, the central focus of this proposal is to delineate the molecular and genetic mechanisms contributing to racial disparity of AA patients. Therefore, the overall objective of our studies are to identify the etiology of racial disparity in ovarian cancer and define the molecular networks that contribute this discrepancy in outcomes. Lymphoblastic Leukemia-Derived Sequence 1 (LYL1) is a polypeptide that harbors basic helix-loop-helix transcription factor, a DNA binding motif and dysregulated in many cancers including EOC. Analysis of TCGA data for EOC revealed that LYL1 gene amplification in about 12% patients and associated with poor prognosis. Interestingly, further analysis of LYL1 copy number alteration in different ethnicities disclosed LYL1 amplification in about 36% of the African American (AA) EOC patients. Importantly, EOC patients with low LYL1 (n=1640) expression has better survival probability compared to patients with overexpressed LYL1 (n=202). This discrepancy in survival probability is much more prominent in AA EOC patients. As this is an intriguing observation, we evaluated the levels of LYL1 expression in different EOC cell lines in comparison with fallopian tube epithelial cells. Our data shows, upregulation of LYL1 in most of the EOC cell lines compared to normal fallopian tube epithelial cells. To examine the upregulated LYL1 in EOC cell lines, we performed siRNA mediated downregulation, and evaluated their clonogenic, migration invasion potential. Consistent with the TCGA data, knocking down LYL1 in EOC cells significantly attenuated their clongenic, migration and invasion potential. Furthermore, ectopic overexpression of LYL1 in EOC cells that shows deep deletion of the gene, exhibited increased clonogenicity, invasion and migration. Collectively, our studies indicate an important role for LYL1 in EOC tumor progression and metastatic phenotypes, and could be a biomarker for disparities in EOC outcomes.

Carcinogenesis: Tumor Promotion and Progression

PO-134 Differential effects of CXCR1 and CXCR2 receptors on prostate tumorigenesis

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Chemokines and their receptors are important proteins that promote growth of various malignant tumors. In prostate cancer, some members of the CXC chemokine receptor have been shown to enhance angiogenesis, proliferation and metastasis. In this study we assess the roles of the interleukin-8 (IL-8/CXCL8) receptors CXCR1 and CXCR2 in prostate cancer development, using the African American MDA PCa 2b cell line. Our results show that overexpression of CXCR2 enhanced in-vitro cell proliferation, soft agar growth and in-vivo tumor xenograft in nude mice, whereas overexpression of CXCR1 inhibited cell proliferation and tumor growth, relative to control cells. Interestingly, cells overexpressing CXCR1 exhibited a more mesenchymal phenotype, characterized by reduced E-Cadherin but increased N-Cadherin and vimentin protein expression. CXCR1 overexpression also blocked AKT activation and signal transduction. CXCR2 overexpression, however, resulted in a neuroendocrine phenotype, characterized by reduced androgen (AR) receptor expression and altered chromogranin A expression. In conclusion, these results indicate that CXCR1 and CXCR2 overexpression may play alternate roles on prostate tumorigenesis.

Cell, Molecular, and Tumor Biology: Angiogenesis and Invasion

PO-135 The effects of DCLK1 isoform 2 upon the migration and invasion capabilities of colorectal cancer cells Valeria Brown, Lianna Li. Tougaloo College, Jackson, MS.

Double Cortin-like Kinase 1 (DCLK1) is a cancer stem cell (CSC) marker that is over-expressed in CSCs and epithelial-mesenchymal transition (EMT) cells of many cancers. Due to its expression in the chemoresistant, tumorigenic subpopulation in cancer tissue, DCLK1 plays critical roles in indefinite cell proliferation, tumorigenesis, tumor metastasis, and recurrence of cancer. Further evidence has shown that the deregulation or inhibition of DCLK1 directly causes a decrease in cancer succession and reduces the possibility of relapse. DCLK1 has five isoforms and association of each isoform with human colorectal cancer (hCRC) is unclear. For the current project, we aim to reveal correlation of the DCLK1 isoform 2 (DCLK1-S) with invasion and migration capability of hCRC cells. In order to achieve our goal, we established the isogenic DCLK1-S over-expression cells using the HCT116 cell line, performed the scratching assay, and used ImageJ software to determine the wound healing speed of DCLK1-S over-expression cells and HCT116 cells. Our preliminary results demonstrated that DCLK1-S was not associated with increased migration and invasion capability of hCRC cells. Compared to the HCT116 cells, the wound healing speed of DCLK1-S over-expression cells significantly decreased ($P<0.05$). Therefore, the DCLK1-S might not change migration and invasion capabilities of hCRC cells. In the future, we will further confirm our findings and will determine whether DCLK1-S affect stemness of hCRC CSCs and EMTs from other aspects.

Cell, Molecular, and Tumor Biology: Cancer Genetics/Gene Expression

PO-136 Major signaling pathways associated with biochemical recurrence in Hispanic/Latino patients with prostate cancer Natalia L. Acosta-Vega[1], Rodolfo Varela[2], Jorge Andrés Mesa[3], Jone Garay[4], Melody C. Baddoo[5], Alberto Gómez-Gutiérrez[6], Silvia J. Serrano-Gómez[7], Martha Lucía Serrano[7], Jovanny Zabaleta[8], Alba L. Combita[7], María Carolina Sanabria-Salas[7]. [1]Grupo de Investigación en Biología del Cáncer, Instituto Nacional de Cancerología de Colombia. Programa de doctorado en Ciencias Biológicas, Pontificia Universidad Javeriana., Bogotá, Colombia, [2]Departamento de Urología, Instituto Nacional de Cancerología de Colombia, Bogotá, Colombia, [3]Departamento de Patología Oncológica, Instituto Nacional de Cancerología de Colombia, Bogotá, Colombia, [4]Stanley S. Scott Cancer Center, Louisiana State University Health Sciences Center, New Orleans, LA, [5]Tulane University School of Medicine, New Orleans, LA, [6]Instituto de Genética Humana, Facultad de Medicina, Pontificia Universidad Javeriana, Bogotá, Colombia, [7]Grupo de Investigación en Biología del Cáncer, Instituto Nacional de Cancerología de Colombia, Bogotá, Colombia, [8]Departments of Integrative Oncology and Pediatrics, Stanley S. Scott Cancer Center, Louisiana State University Health Sciences Center, New Orleans, LA.

Purpose. A high number of diagnosed prostate cancer (PCa) tumors are indolent and will never become aggressive during a patient's lifetime, however, about 20%-40% will experience post-operative disease relapse with biochemical recurrence (BCR), and a fraction of these will progress towards metastatic disease, which is the leading cause of PCa death.
Reliable biomarkers helping in management decision-making and avoiding resistant PCa are still needed. We aimed to identify differentially expressed genes (DEGs) associated with BCR in localized PCa and to explore their involvement in signaling pathways contributing to the progression of PCa in Hispanic/Latino patients. Methods. A total of 117 Hispanic/Latino cases with localized PCa were included. RNA was extracted from FFPE tissues of radical prostatectomy (RP), RNA-seq was performed in 75 cases and used to identify DEGs between BCR positive (BCR) and BCR negative (non-BCR) cases. Signaling pathway analysis was done in MetaCore and DAVID database. DEGs with a p-value < 0.1 were used for enrichment analysis. Results. We identified 21 DEGs between BCR and non-BCR cases, three upregulated and 19 downregulated. From the enriched pathway maps found through MetaCore, the most remarkable pathways related with BCR included metabolism of androgen hormones; differentiation, self-renewal and maintenance of stem cells; mechanisms operating in type 2 diabetes (T2DM) and the cooperative action by pioglitazone and rosiglitazone with metformin; and metabolism of triacylglycerol. In line with these findings, results from DAVID also found *Diabetes mellitus* as one of the keywords, with downregulation of adiponectin (*ADIPOQ*) and *MCF2L2* as the main genes related to this pathway. Other studies have shown that, regardless of BMI, individuals with T2DM have lower plasma adiponectin levels, which, in turn, are associated with pathophysiological conditions such as obesity, metabolic syndrome and insulin resistance. In our study, BMI was not associated with BCR, however, other complementary measurements related to increased abdominal fat (e.g., waist circumference or waist-to-hip ratio), and with recent evidence of strong association with aggressive PCa, were not assessed by us. Additional pathways associated with BCR progression were those related to biosynthesis and metabolism of androgens, being *AKR1C* the main gene involved. This gene participates in

alternative pathways of the biosynthesis of androgens; for example, downregulated *AKR1C* leads to the synthesis of dihydrotestosterone and circumvents testosterone as a precursor. Conclusions. Enrichment analyses suggest that pathways related to T2DM and metabolism of androgens are main drivers of BCR in Hispanic/Latino PCa patients, mainly through the downregulation of *ADIPOQ* and *AKR1C*. Our findings confirm recent discoveries in the molecular understanding of PCa progression, but more studies analyzing abdominal fat measures in independent and larger cohorts could lead as to more precise conclusions, as well as to identify potential biomarkers and therapeutic targets.

PO-137 Comparative transcriptomic analysis of prostate cancer from African American and Caucasian American men by Gleason score and race Muthana Al Abo, Wen-Chi Foo, Daniel J. George, Steven R. Patierno, Jennifer A. Freedman. Duke Cancer Institute, Durham, NC.

African American (AA) men exhibit 2-3 times higher mortality from prostate cancer compared with Caucasian American (CA) men. Factors contributing to the disparity include societal-, neighborhood- and institutional-level determinants of health. In addition, a number of studies have reported individual-level ancestry-related biological differences, including in mutations, copy number variation, aggregate gene expression and response to treatment between AA and CA prostate cancer patients. Previously, by comparing the transcriptome between 20 AA and 15 CA prostate cancer patients, we identified a large number of race-related Alternative RNA Splicing (ARS) events. Among these, we further demonstrated that an exon skipping event involving exon 20 within *PIK3CD* increased tumor growth rate, metastatic potential and drug resistance in prostate cancer. To expand our previous findings, we collected non-neoplastic and tumor-paired tissue from 37 AA and 40 CA prostate cancer patients with different Gleason score categories: 14 high grade (4 AA and 10 CA), 22 low grade (10 AA and 12 CA), and 41 intermediate grade (23 AA and 18 CA). DNA and RNA were isolated for ancestral genotyping and RNA seq analysis, respectively. To achieve RNA sequencing depth adequate for ARS analysis, we performed RNA seq of 150 bp paired-end and an average of $5x10^6$ reads per sample. The read alignment was done using Star 2 TwoPass pipeline. The rMATS pipeline was used for ARS annotation and quantification. We identified 105,403 ARS events, including 60,657 exon skipping, 17,439 alternative acceptor, 12,737 alternative donor, 9,555 retained intron and 5,015 mutually exclusive exon. Using the Wilcoxon rank-sum test, we compared the Percent Spliced In (PSI) between AA and CA of the same Gleason score category and identified ARS events exhibiting $\Delta PSI > 15\%$ and p-value < 0.05. Specifically, we identified 536 race-related ARS events in high grade, 492 race-related ARS events in low grade, and 447 race-related ARS events in intermediate grade. Gene Ontology analysis demonstrated that the genes undergoing race-related ARS events function in cellular processes relevant to cancer biology, including metabolic processes in low grade, NF-kappaB signaling in intermediate grade and cell motility in high grade. Specific examples of these genes include *ERG* and *PARP2* in high grade, *KLK2* and *DNMT1* in intermediate grade, and *AURKA* and *SEMA3A* in low grade. These findings support a potential role for the ARS process in diversifying gene expression, potentially contributing to prostate cancer aggressiveness in AA patients. The race-related ARS events identified in our work represent potential biomarkers and/or therapeutic targets for precision oncology in the context of prostate cancer. Further analysis of the function of prioritized race-related ARS events and their association with local ancestry is ongoing. **Funding**: DoD Prostate Cancer Research Program Health Disparity Research Award. NIH Basic Research in Cancer Health Disparities R01 Award. Prostate Cancer Foundation Movember Challenge Award.

PO-138 The first Caribbean cell line, a prostate cancer cell line: ACRJ-PC28 Henkel Valentine[1], William Aiken[1], Belinda Morrison[1], Ziran Zhao[2], Holly Fowle[2], Jason S. Wasserman[5], Elon Thompson[3], Warren Chin[3], Mark Young[3], Shannique Clarke[1], Denise Gibbs[4], Sharon Harrison[4], Wayne McLaughlin[5], Tim Kwok[4], Fang Jin[4], Kerry Campbell[4], Anelia Horvath[6], Rory Thompson[7], Norman Lee[6], Yan Zhou[4], Xavier Graña[2], Camille Ragin[4], Simone Badal[1]. [1]The University of the West Indies, Mona, Kingston, Jamaica, [2]Fels Institute for Cancer Research and Molecular Biology, Temple University Lewis Katz School of Medicine, Philadelphia, PA, [3]Kingston Public Hospital, North Street, Kingston, Jamaica, [4]Fox Chase Cancer Center, Philadelphia, Philadelphia, PA, [5]The University of the West Indies, Mona, Kingston, Jamaica, , [6]George Washington University School of Medicine and Health Sciences, Washington, DC, [7]University Hospital of the West Indies, Mona, Kingston, Jamaica.

Background Prostate cancer cell lines from diverse backgrounds are believed to hold the key to addressing current disparities in prostate cancer incidence and mortality rates among Black men. Despite decades of established cell line protocols, developing new cell lines, especially from the prostate, continues to attract less than ideal success rates (<10%). Methods ACRJ-PC28 was developed from a transrectal needle biopsy (TRNB) that was mechanically dissociated and grown on 3T3 STO fibroblast feeder cells followed by establishment via inactivation of the CDKN2A locus and simultaneous expression of human telomerase. Characterization assays were carried out using growth curve analysis, immunoblots, immunohistochemistry, 3D cultures, immunofluorescence imaging, confocal microscopy, WGS and, RNA-Seq. Results ACRJ-PC28 has been passaged more than 40 times *in vitro* over 10 months with a doubling time of 45 hours. STR profiling confirms the novelty and human origin of the cell line while western blots indicate the cell line is of basal-luminal type; expresses p53, pRB and is AR negative. Soft agar anchorage-independent analysis indicated that the cells are transformed, confirmed by PCA analysis where ACRJ-PC28 cells cluster alongside other PCa tumour tissues. WGS confirms the absence of exonic mutations and the presence of intronic variants that seem to not affect function of AR, p53 and pRB. Meanwhile, RNA-Seq confirmed the expression of several neuroendocrine markers, most relative to the PC-3 cell line and numerous *TP53* and *RB1* mRNA splice variants and the lack of *AR* mRNA expression. This is consistent with retention of p53 function in response to DNA damage and pRB function in response to contact inhibition. Cytotoxic assay indicated that a Cannabis extract was 3 times more potent in reducing the viability of ACRJ-PC28 compared to PC-3 cells. Conclusions This is the first cell line from the Caribbean and the novel methodology used in its establishment should help develop additional prostate cancer cell lines from the region in hopes of addressing the disparity in PCa among Black men.

PO-139 BRCA sequence variants in breast cancer patients with African ancestry

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Introduction Breast cancer is the most common cause of cancer related deaths in women worldwide; however, significant disparities are evident in the epidemiology of breast cancer subtypes and clinical outcomes of different racial/ethnic groups. African Americans are 40% more likely to die from breast cancer—a disparity that is partially explained by genetic predisposition to early onset breast cancer and triple negative breast cancer (TNBC), an aggressive subtype linked to West African ancestry and associated with BRCA-1 germline mutations. Pathogenic BRCA mutations significantly alter breast cancer treatment, informing alternate screening, chemoprevention, prophylactic resections and use of PARB inhibitors; however, AAs have higher prevalence of BRCA variants of uncertain significance (VUS) secondary to underrepresentation of African ancestry in the reference genome. The aim of this study is therefore to further characterize BRCA mutations and BRCA VUS in breast cancer patients with African ancestry. **Methods** RNA Sequencing platforms were used to determine somatic mutation profiles from primary tumor samples of over 70 breast cancer patients from Ethiopia and Ghana, by identifying single nucleotide polymorphisms (SNPs) in BRCA 1 and 2. Each sequence variant was evaluated for consequence on the gene, previously reported clinical significance, and allele frequency by self-reported race in comparison to global allele frequencies. **Results** BRCA1: 10 BRCA1 SNPs were identified: Missense: Rs1799966, rs16942, rs16941, rs799917, rs4986850, rs1799950; synonymous: rs1060915, rs16940, rs1799949; variant of 3'UTR: rs3092995. Rs1799966, rs16942, rs16941 and rs1799950 cause deleterious missense mutations, and have been reported as uncertain clinical significance. No SNPs were previously reported pathogenic, 6 had uncertain significance, and 4 were classified as either benign or likely benign. Allele frequency of Rs799917 was high among Ethiopian, Ghanaian, and 1KG African subgroups. BRCA2: 13 BRCA2 SNPs were identified: Missense: rs766173, rs144848, rs1799944, rs169547; synonymous: rs1801439, rs1801499, rs1801406, rs543304, rs206075, rs1799955, rs9590940; downstream/missense: rs1801426; variant of 5'Prime UTR: rs1799943. Rs766173 caused a deleterious missense mutation, with conflicting interpretations of pathogenicity. No SNPs were previously reported pathogenic, 4 had uncertain significance, and 8 were either benign or likely benign. No SNPs had high allele frequency in African ancestry. **Conclusions**The BRCA-1 SNP Rs799917 has a high allele frequency rate among Ethiopian, Ghanaian, and 1KG African ancestry, suggesting this mutation is potentially unique to African ancestry. Further investigation with RNA seq or whole genome sequencing in larger cohorts is warranted.

PO-140 Unsupervised clustering and data modeling reveals molecular signatures linked a distinct African American enriched cluster with higher probability of death in triple negative breast cancer Edgar Gonzalez-Kozlova, Clelia Chalumeau, Ilaria LaFace, Charles Shapiro, Guray Akturk, Diane Marie Del Valle, Sacha Gnjatic. Icahn School of Medicine, New York, NY.

Triple-negative breast cancer is considered the most aggressive of all breast cancers, with the worst prognosis and increased risk in African Americans. This study aims to characterize proteomic, transcriptomic, and genomic signatures using tissue microarrays from resected TNBC tumors and correlate them with clinical data in an integrated approach to query immune mechanisms and predict patient survival. To this end, our cohort consisted of 118 localized, non-metastatic, resected TNBC patients with diverse demographics (African American 23% (n=28), Hispanic/Latino 9% (n=11), White/Caucasian 36% (n=43) and Other 30%(n=36)) with a median follow-up of 85 months. Here, we studied the patient transcriptomic profiles generated using NanoString sequencing. Immune cell subsets within the tumor microenvironment were assessed on tumor microarray slides by Multiplex Immunohistochemistry Consecutive on Single Slide (MICSSS). Protein markers measured include PD-L1, CD3, and CD8, CD20, CD66b, FOXP3, DC-LAMP, TLS, CD68, and CD163. We utilized unsupervised clustering of the patient transcriptomes as a data-driven approach to identify patient clusters defined by co-expressed RNA molecules. Then, we performed differential expression using mixed linear models for both data types (RNA & Protein), to compare these clusters to each other identifying cluster-specific molecular signatures and association to outcomes. This unbiased modeling strategy enabled us to include critical covariates in the analysis such as demographics, neoadjuvant treatment, clinical tumor parameters, and quantify the effect of potential confounders. Finally, these results revealed a cluster of patients with the best survival associated with high expression of genes such as GZMK/A, CCR5, IL10RA, IL2RG, and the highest levels of CD8, PD-L1, CD163, FOXP3, and CD68 protein tissue markers. By contrast, the cluster with the worst outcomes was enriched in African Americans (44% n=8/18, p.value<0.05, compared to an average of 16% (n=8/25) in other clusters). Furthermore, this cluster included increased BRCA1, MYC, KIF2C, BIRC5, and HMGA1 gene expression, with an absence of immune proteomic markers, and it was independent of chemotherapy type, histology scores, tumor status, or lymphatic vessel invasion. Genomic alteration analyses are pending. In conclusion, we are using a data-driven approach to characterize patients with triple-negative breast cancer and patient clusters by integrating proteomic and transcriptomic molecular tumor profiles, and we identified a gene cluster enriched in African Americans associated with worse outcomes and poor immune infiltration. By combining a wider immune tissue characterization using an extended panel of MICSSS markers together with genetic mutational and expression profiling of tumors, we expect to refine and distinguish subsets of high-risk TNBC patients for whom more aggressive tailored treatment regimens may be indicated.

PO-141 The role of African Duffy-null allele related inflammation on the tumor microenvironment Yanira Guerra[1], Rachel Martini[1], Jessica Bensenhaver[2], Yalei Chen[2], Joseph K. Oppong[3], Ishmael Kyei[4], Frances S. Aitpillah[4], Michael O. Adinku[4], Joseph K. Oppong[3], Ernest K. Adjei[3], Aisha Jibril[5], Baffour Awuah[3], Mahteme Bekele[5], Engida Abebe[5], Kwasi Ankomah[3], Ernest B. Osei-Bonsu[3], Kofi K. Gyan[1], Clayton Yates[6], Kim Blenman[7], Olivier Elemento[1], Lisa Newman[1], Melissa B. Davis[1]. [1]Weill Cornell Medical College, New York, NY, [2]Henry Ford Health System, Detroit, MI, [3]Komfo Anokye Teaching Hospital, Kumasi, Ghana, [4]Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, [5]St. Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, [6]Tuskegee University, Tuskegee, AL, [7]Yale University School of Medicine, New Haven, CT.

DARC/ACKR1 erythrocyte expression, also known as the "Duffy blood group," is understood to sequester pro-inflammatory chemokines and thereby regulate circulating gradients that direct immune cell infiltration. We hypothesize that this function also determines immune cell landscapes in the tumor microenvironment. Due to evolutionary selection pressures of malaria, individuals with sub-Saharan African ancestry typically carry the Duffy-null allele (rs4849887) and this lack of DARC/ACKR1 expression gives immunity to malaria while also allowing chronically high inflammation levels. Over 68% of African Americans (AA) have been found to have the Duffy-null genotype, compared to a rare 1-3% in European American individuals and we have shown it increases predisposition for Triple-Negative Breast Cancer (TNBC). In addition, we are currently studying if Duffy-null may contribute to higher breast cancer mortality that disproportionately affects AA women. This may be in part due to the role that low-DARC/ACKR1 expression plays in chronic inflammation, altering levels of several chemokines that modulate the migration and differentiation of specific immune cells. This role will impact tumor immune cell infiltration as well as the immune cell population composition overall, depending upon levels of DARC/ACKR1. Using RNA sequencing, our initial results indicated that for breast cancer tumors with high DARC/ACKR1 expression there was a higher estimated presence of CD8+ T cells, CD4+ T cells, regulatory T cells, follicular helper T cells, and memory B cells. Whereas with low DARC/ACKR1 expression, there was markedly less expression of resting dendritic cells and memory B cells. Therefore, in order to ascertain the influence DARC status has on spatial deposition and functional status of immune cell landscapes across the tumor microenvironment, we performed imaging mass cytometry on primary TNBC tumors. The panel contained tumor, structural, and immune markers, and was used to characterize the spatial differences between samples that had been verified to be DARC-high or DARC-low through immunohistochemistry. Our imaging analyses indicated that high DARC/ACKR1 expression correlates with infiltration of monocytes, macrophages, and cytotoxic T cells into the solid tumor microenvironment. Conversely, tumors with low DARC/ACKR1 expression showed monocytes and cytotoxic T cells contained in the tumor stroma. Using single-cell phenotyping, we were also able to identify distinct cell populations between DARC-high and -low. The tSNE analysis and heatmaps performed using Histology Topography Cytometry Analysis Toolbox (histoCAT), allowed us to visualize the spatial distribution of these cell populations, indicating an immune-suppressive tumor microenvironment in DARC-low tumors. These differences may be implicated in the causality of tumor progression as well as how to approach treatment given the cell heterogeneity of TNBC. This work provides greater context on the role that Duffy-null plays in chronic inflammation on the tumor microenvironment.

PO-142 Analysis of the genomic landscapes of Barbadian and Nigerian women with triple negative breast cancer Shawn M. Hercules[1], Xiyu Liu[2], Blessing I. Bassey-Archibong[3], Desiree H.A. Skeete[4], Suzanne Smith Connell[5], Adetola Daramola[6], Adekunbiola A.F. Banjo[6], Godwin Ebughe[7], Thomas Agan[7], Ima-Obong Ekanem[7], Joe E. Udosen[7], Christopher Obiorah[8], Aaron C. Ojule[8], Michael A. Misauno[9], Ayuba M. Dauda[9], Ejike C. Egbujo[10], Jevon C. Hercules[11], Amna Ansari[1], Ian Brain[1], Christine MacColl[12], Yili Xu[2], Yuxin Jin[2], Sharon Chang[2], John D. Carpten[2], André Bédard[1], Gregory R. Pond[1], Kim R.M. Blenman[13], Zarko Manojlovic[2], Juliet M. Daniel[1]. [1]McMaster University, Hamilton, ON, Canada, [2]Keck School of Medicine, University of Southern California, Los Angeles, CA, [3]Stem Cell and Cancer Research Institute (SCC-RI), McMaster University, Hamilton, ON, Canada, [4]University of the West Indies at Cave Hill, Bridgetown, Barbados, [5]Cancer Specialists Inc, Bridgetown, Barbados, [6]Lagos University Teaching Hospital, Lagos, Nigeria, [7]University of Calabar Teaching Hospital, Calabar, Nigeria, [8]University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria, [9]Jos University Teaching Hospital, Jos, Nigeria, [10]Meena Histopathology and Cytology Laboratory, Jos, Nigeria, [11]Institute for Studies in Economics, Xiamen University, Xiamen, China (Mainland), [12]McMaster University, Hamillton, ON, Canada, [13]Yale Cancer Center, Yale University, New Haven, CT.

Women of African ancestry (WAA) are disproportionately affected by the aggressive triple negative breast cancer (TNBC) subtype that is often associated with high recurrence rates and metastasis. Although there is a high prevalence of TNBC across West Africa and in women of the African diaspora, there has been no comprehensive genomics study to investigate the mutational profile of ancestrally related women across the Caribbean and West Africa. To shed more light on this phenomenon, whole exome sequencing (WES) was performed on 31 formalin-fixed paraffin-embedded TNBC tissues from ancestrally related Barbadian and Nigerian women. We compared these genomics profiles with data from The Cancer Genome Atlas (TCGA) for African American (TCGA-AA), European American (TCGA-EA) women with TNBC. With an average coverage of 382x for tumour samples (n= 31) and 4335x for pooled germline (n=22) non-tumor samples, the most mutated genes in our cohorts include *NBPF12*, *PLIN4*, *TP53* and *BRCA1*. For TCGA TNBC cases, these genes had a lower mutation rate, except for *TP53* (32% in our cohort; 63% in TCGA-AA; 67% in TCGA-EA). For all altered genes, there were no differences in frequency of mutations between WAA TNBC groups including the TCGA-AA cohort. Additionally, we observed a high frequency of copy number variant alterations in *PIK3CA, TP53, FGFR2* and *HIF1AN* genes. This study provides in-depth insights into the underlying genomic alterations in WAA-TNBC samples and shines light on the importance of inclusion of non-European populations in cancer genomics and biomarker studies.

PO-143 Differences in vitamin D genomic and epigenomic responses in colonic organoids from African- and European-Americans Sonia Kupfer, David Witonsky, Jinchao Li, Margaret Bielski, Kristi Lawrence. University of Chicago, Chicago, IL.

Background: African Americans have the highest burden of colorectal cancer (CRC) in the US. Active 1,25$(OH)_2$vitamin D (1,25vitD) protects from CRC, though the role of population differences in 1,25vitD responses to CRC disparities is unknown. To study inter-ethnic host-environment interactions in the colon, we have established human-derived colonic organoids from diverse populations. We used this approach to study differences in transcriptional and chromatin accessibility responses to 1,25vitD between Americans of African (AA) and European (EA) ancestry. Methods**:** Colonic organoids from 60 subjects (30 AA and 30 EA) were established. After passaging, organoids were differentiated for 24h and then treated with 100nM 1,25vitD or ethanol (vehicle control). Chromatin accessibility and gene expression were assessed at 4 and 6 hours by RNA-seq and ATAC-seq, respectively. Inter-ethnic responses were assessed using dream (Hoffman et al, 2020). Genotyping was performed using the Infinium OmniExpress-24, and ancestry was estimated using imputed genotypes. Expression quantitative trait loci (eQTL) mapping was performed using BRIdGE (Maranville et al, 2011). **Results:** Organoid lines from 54 subjects (28 AA and 26 EA) were included after removing 5 with inconsistent ancestry. For overall 1,25vitD response, 7816 differentially expressed protein-coding genes at a false discovery rate (FDR)<5% were found. Gene set enrichment included the KEGG pathway "colorectal cancer" (FDR<5%) with differentially responsive genes such as *APC* and *MYC*. eQTL mapping showed 131 1,25vitD-only and 21 control-only significant variants (FDR<5%). For inter-ethnic 1,25vitD responses, top genes included *MORC3, MAP4K3, AMACR, KYNU, PIK3CA* and *POLB.* Results for *POLB,* a base-excision repair polymerase, were particularly interesting given significant inter-ethnic differences in genomic and epigenomic responses to 1,25vitD likely due to a genetic mechanism. Specifically, organoids from AA showed significantly higher *POLB* expression with 1,25vitD. In the region, a *POLB* eQTL, rs2272733, showed large allele frequency differences for the ancestral T allele (80% in Africa; 14% in Europe). This eQTL is located in a *POLB* enhancer region, and there is a vitamin D-responsive ATAC peak ~10kb 5' to this SNP that is only present in T/T genotypes. Conclusion**:** Application of organoids from diverse populations enables genome-wide assessment of population differences in host-environment interactions related to CRC. In this study, overall 1,25vitD responses were robust and found pathways relevant to CRC. eQTL mapping further established a genetic basis for 1,25vitD colonic responses. We found a number of genes that showed differences in 1,25vitD transcriptional response between AA and EA with a particularly promising CRC-relevant candidate gene, *POLB.* These results provide new insights into differences in host-environment interactions between populations that could underlie cancer disparities.

PO-144 Functional characterization of estrogen-regulated divergent long noncoding RNAs in estrogen receptor-positive breast cancer Enrique I. Ramos, Laura A. Sanchez-Michael, Melina J. Sedano, Barbara Yang, Ramesh Choudhari, Alana L. Harrison, Shrikanth S Gadad. Texas Tech University Health Sciences Center El Paso, El Paso, TX.

Introduction/background: Recent studies have shown that long noncoding RNAs (lncRNAs) could be potential biomarkers and therapeutic targets in cancer. LncRNAs are significant in regulating transcriptional, post-transcriptional, and epigenetic changes in human development. Previously, we identified ~1900 lncRNAs in breast cancer (BC) using advanced technologies including Global Run-On sequencing (GRO-seq) and subcellular fractionation RNA sequencing (RNAseq); intriguingly, many were transcribed bidirectionally, now referred to as divergent lncRNAs. Currently, little is known about their role in regulating estrogen-dependent signaling in BC. In this study, we have investigated the role of a previously annotated and characterized estrogen-regulated lncRNA known as *lncRNA67*.**Materials and Methods:** We used integrated genomics to compute expression across BC molecular subtypes. Single-molecule RNA-FISH (Fluorescence in Situ Hybridization) determined its localization in BC patient samples. The role of *lncRNA67* in estrogen receptor-positive (ER+) BC cells was investigated using stably inducible lncRNA overexpressing MCF7 and T47D cell lines. Total-directional RNA-seq was performed to understand its effect on global gene expression profiles. Results**:** *LncRNA67* showed distinct expression patterns across molecular subtypes of BC. RNA-FISH revealed nucleus and cytoplasm localization, indicating one to two copies of mature RNA are present in ER+ BC patient cells. Functional assays with reduced expression showed inhibited growth of BC cells. When *lncRNA67* was overexpressed in ER+ BC cells, the result correlates with clinical outcome. Gene Set Enrichment Analysis (GSEA) showed its role in regulating estrogen-dependent transcription. Conclusion**:** Our molecular analyses suggest *lncRNA67* plays a pivotal role in ER-dependent and -independent pathways. Taken together, our results indicate that lncRNAs are an integral component of cancer biology.*Acknowledgments: S.S.G. is supported by a First-time Faculty Recruitment Award from the Cancer Prevention and Research Institute of Texas (CPRIT; RR170020). S.S.G. is also supported by a grant from Lizanell and Colbert Coldwell foundation.*

PO-145 Contribution of the GR-LEDGF/p75 axis to prostate cancer chemoresistance Evelyn S Sanchez-Hernandez[1], Greisha L. Ortiz-Hernandez[1], Pedro T. Ochoa[1], Christian R Gomez[2], Carlos A Casiano[1]. [1]Loma Linda University, Loma Linda, CA, , [2]University of Mississippi Medical Center, Jackson, MS.

Prostate cancer (PCa) is the second leading cause of cancer deaths in the U.S., disproportionally affecting African American (AA) men. Glucocorticoids (GCs) are administered to PCa patients and have been implicated in therapy resistance. This may be critical to AA men with PCa since they have elevated endogenous GCs levels compared to Caucasian American (CA) men. GCs bind to the glucocorticoid receptor (GR) to exert their actions. The mechanisms of GR-mediated chemoresistance, and its possible contribution to PCa mortality disparities are unknown. We demonstrated that GCs upregulate the chemoresistance-associated protein and transcription co-activator LEDGF/p75 in PCa cells and identified consensus GR binding sites in the promoter region of this protein. Given that both GR and LEDGF/p75 are components of the RNA polymerase II transcription complex, we **hypothesized** that GR transcriptionally upregulates LEDGF/p75 and then interacts with it to enhance taxane resistance in PCa cells. Pharmacological and genetic inhibition of GR in a panel of docetaxel (DTX)-sensitive and -resistant PCa cells decreased the expression of LEDGF/p75, confirming its status as a candidate GR target gene. However, silencing of LEDGF/p75 had no effects on GR expression. Immunoprecipitation studies revealed that GR and LEDGF/p75 interact in DTX-sensitive and -resistant PCa cells. This interaction was confirmed by confocal microscopy. Immunohistochemical analysis of GR and LEDGF/p75 expression in normal and tumor prostate tissues was performed and the results are currently being analyzed. Our studies use a mechanistic approach to evaluate the potential contribution of the GR-LEDGF/p75 axis to PCa chemoresistance. Evaluating the co-expression of these proteins in racially diverse PCa tissues may also reveal race-related differential expression, providing insights into the potential contribution of this axis to PCa chemoresistance and mortality disparities.

PO-146 Copy number landscape of primary African-American and European-American prostate tumors Thiago Vidotto[1], Eddie Imada[2], Farzana Faizal[1], Siqun Zheng[3], Jianfeng Xu[1], Karen S. Sfanos[1], Luigi Marchionni[2], Tamara L. Lotan[1]. [1]Johns Hopkins University, Baltimore, MD, [2]Weill Cornell Medical College, New York City, NY, [3]NorthShore University Health System, Evanston, IL.

African-American (AA) men are more likely to be diagnosed with and to die of prostate cancer than their European-American counterparts. Much of this disparity is due to access to care and social determinants of health; however, there is emerging evidence of molecular differences in prostate tumors arising in patients of different genetic ancestry. We investigated the copy number landscape of 290 grade and race-matched primary prostate tumors through interrogation of Infinium MethylationEPIC Array (Illumina) data derived from primary prostate tumors at radical prostatectomy. Our cohort was composed of 145 self-identified AA patients and 145 self-identified EA surgically-treated patients with accompanying genetic ancestry estimation via SNP array (GSAv3). EPIC array-derived copy number data estimated through the *Conumee* package on R was significantly correlated with genomic losses and gains identified by exome sequencing of a panel with 100 cancer driver genes. We also observed a significant association between genomic losses of the *PTEN* gene and PTEN protein loss by immunohistochemistry ($P<0.001$). Similar observations were made for p53 protein nuclear accumulation detected by immunohistochemistry and *TP53* gene copy loss ($P<0.001$). Next, we derived percent genome altered (PGA) from EPIC array data for our 290 patients. PGA from EPIC array was significantly correlated with PGA obtained from targeted sequencing of a subset of AA tumors ($n=119$, $P<0.0001$, $R^2=0.50$). No difference in PGA was found between self-identified AA and EA patients ($P<0.05$), though PGA levels were significantly associated with Gleason Grade groups for both AA ($P<0.0001$) and EA ($P=0.003$). We then used the genetic ancestry estimation derived from SNP arrays to identify regions of genomic loss and gain differing by percent African ancestry. We used a comprehensive genome annotation with >80k coding and non-coding regions from FANTOM CAT. Adjusted LIMMA models with age, Gleason Grade Group, and pre-operative PSA levels showed significant copy number differences by percent African ancestry in chromosomes 6p, 10q, 11p, 12p, and 17p. *PTEN* losses (as expected) and *WT1* gains were more frequent in patients with lower percent African ancestry. Gene expression data from TCGA data showed that *WT1* expression was significantly increased for self-identified EA patients. Multivariable Cox regression models adjusted for age, Gleason Grade Group, and pre-operative PSA levels revealed that chromosome 8q gains (including *MYC*, *GRHL2*, and *FZD6*) were significantly associated with biochemical recurrence and metastasis. However, when we stratified the models by self-identified race, only AA tumors showed significant associations with 8q gains and poor outcome. Further *in silico* and mechanistic validation will be conducted to confirm whether chromosome 8 gains may be a potential biomarker for prostate cancer outcome in AA men.

Cell, Molecular, and Tumor Biology: Cell Growth Signaling Pathways

PO-147 Targeting Notch signaling in cancer stem-like cells of triple-negative breast cancer Adrienne M. Murphy[1], Ayse D. Ucar[2], Lucio Miele[2]. [1]LSUHSC-New Orleans School of Medicine, New Orleans, LA, [2]LSUHSC-New Orleans, Stanley S. Scott Cancer Center, New Orleans, LA.

Triple-Negative Breast Cancer (TNBC) is an aggressive form of breast cancer. This particular type expresses no Estrogen (ER) and Progesterone (PR) hormone receptors or Human epidermal growth factor receptor-2 amplifications. African American women are more frequently affected at a younger age by this aggressive breast cancer than any other ethnicity. Furthermore, heterogeneity of cells within a tumor challenges to identify specific targets to develop new drugs. Specifically, a subpopulation of cells within a tumor, called cancer stem-like cells (CSC) are known to grow slower, resist treatments, and be responsible for the relapse and metastasis of a tumor. Notch signaling pathway, which is one of the key regulatory signaling pathways in normal and cancer stem cells. We hypothesize that Notch1 signaling is a crucial signaling pathway for TNBC and worthwhile to target. To be able to identify and test Notch-specific targeted drugs, it is crucial to establish a cell line that overexpresses and knocks down the target gene. Therefore, in this project, we establish Notch1 modified stable TNBC cell lines and checked their morphological and physiological changes. Using MDA-MB-231 TNBC cell line, for the Notch1 knockout, we used crisper/cas9 gene-editing method and clonal selection of knockout cells. For the overexpression of NOTCH1 intracellular domain, we constructed and used pBABE-puro lentivirus system. Our results showed the Notch1 KO cells become more epithelial-like in appearance, with reduced expression of $CD44^{+}/CD24^{lo}$ CSC markers, and reduced capacity to form mammospheres. On the other hand, overexpression of Notch1 the CSC become more mesenchymal and increase the expression of CSC markers. Also, we observed reduced metabolic activity of our Notch1KO cells while the overexpression of Notch1 increased the metabolic activity of the TNBC cells. Our preliminary results show that targeting Notch signaling is a promising approach to cure TNBC patients suffering from this aggressive cancer.

PO-148 The role of annexin A6 in triple-negative breast cancer metabolism and disease progression Stephen D. Williams, Sarrah E. Widatalla, Amos M. Sakwe. Meharry Medical College, Nashville, TN.

Triple-negative breast cancer (TNBC) , which accounts for up to 17% of all breast cancer cases in the Unites States, disproportionately affects premenopausal African American and Hispanic women. Here, we report the synergistic function of the tumor suppressor annexin-A6 (AnxA6) and Lapatinib-resistance (Lap-R) in the context of cellular bioenergetics. Metabolic profiling of TNBC cell lines show extensive diversity amongst basal-like (BSL) vs mesenchymal-like (MSL) molecular subtypes. Down regulation of AnxA6 in AnxA6- expressing and Lap-R cell lines attenuated mitochondrial respiration, glycolytic function, and cellular ATP production capacity, decreasing the overall metabolic plasticity of the cell. Additionally, AnxA6-depletion altered lipid metabolism by enhancing the mitochondrial uptake of cytosolic fatty acids for β-oxidation. NMR-based metabolomics revealed that AnxA6 depleted and/or Lap-R TNBC cells have a greater dependency on gluconeogenic precursors including glycine, alanine, lactic acid, and oxaloacetic acid as survival mechanisms. Taken together, this study proposes that altered expression of AnxA6 is accompanied by significant bioenergetic adaptations and hence provide novel insights into the failure of EGFR-targeted therapies as therapeutic options and disease progression in patients with triple-negative breast cancer.

Cell, Molecular, and Tumor Biology: Oncogenes/Tumor Suppressor Genes

PO-150 Comparison of RUNX1, RUNX2, RUNX3 and CBFβ gene expression in breast tumors Indicate ethnic differences and similarities by receptor status Uzoamaka A. Okoli[1].
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The RUNX family of transcription factors RUNX1, RUNX2 and RUNX3 encode nuclear proteins with a Runt DNA-binding domain that functions in a complex with their obligate partner core-binding factor CBFβ to regulate gene expression. RUNX genes are known for paradoxical roles, with oncogenic as well as tumor suppressor functions, dependent on context. Interestingly, RUNX2 has been shown to play a potentially important functional role in Triple-Negative Breast Cancer (TNBC), and RUNX1 expression associates with poor prognosis in TNBC in a cohort of women of European descent. Women of African descent experience more aggressive TNBC with higher mortality rates than their women of European ancestry counterparts. TNBC is the most difficult breast cancer subtype to treat globally and has a poor prognosis and low survival which remains an important clinical challenge. There is a paucity of genomics studies interrogating TNBC of diverse populations. Hence, RNAseq datasets of 782 breast cancer patients were leveraged from a web-based platform -CbioPortal and published literature. 685 patients were queried for the RUNX1, RUNX2, RUNX3, and CBFβ genes, and an additional 97 patient data were harnessed from research publications. The cohort includes 595 (70%) patients of European ancestry (EA), 90 (11%) of African descent (AD), both from The Cancer Genome Atlas (TCGA), and 97 (13%) patients indigenous African from Nigeria (IAN). The queried genes were compared for race /ethnic disparity by estrogen receptor status (er). Mutual exclusivity was analyzed and P-values were determined by Fisher's extract test with the null hypothesis that a pair of genes alteration frequency of occurrence is proportional to uncorrelated occurrence in each gene. The queried genes enrichment in TP53, PIK3CA, CDH1, MAP3K1, and GATA3 between patients of European ancestry and African descent were analyzed and the Kaplan-Meier plots with P-value from the Long rank test were determined. The queried genes were altered in 69 patients (12%) of EA and 9 patients of AD due to unavailability of data on RUNX2 and RUNX 3 in IAN only RUNX1 and CBfβ was altered in 4 (4%) patients of 97 patients. Ethnic disparities and similarities were indicated in the queried altered genes in RUNX1 and RUNX 2 and showed similar expression in ER-negative correlating with the TNBC poor prognosis however RUNX3 genes were silenced in that of AD and was expressed in EA. They were differences in mutual exclusivity and co-occurrence but were not statistically significant, this may be due to the small data size. Interestingly, there was statistically significant equal gene enrichment of RUNX1 and CBfβ in CDH1mutations of both EA and AD. Larger cohorts in particular the AD cohort is needed, to further elucidate some of these borderline findings. In conclusion, our findings are insightful towards deciphering the characteristic aggressive nature of TNBC in ethnic disparity.

PO-151 Prognostic relevance of ZNF668 expression in clear cell renal carcinoma: Implications for patients of African Ancestry R. Renee Reams[1], Simone O. Heyliger[2], Marilyn Saulsbury[2]. [1]Florida A& M University, Tallahassee, FL, [2]Hampton University, Hampton, VA.

Although the incidence of clear cell renal carcinoma (ccRCC) is higher in Whites, a recent report suggests Blacks suffer worst outcomes relative to White ccRCC patients. These observations underscore the need to determine the molecular basis for survival disparity among Blacks and Whites in clear cell renal carcinoma patients. Since higher stage/grade ccRCC is uniformly lethal, it is imperative that biomarkers and candidate genes be found that can identify patients at greater risk of progressing to advanced stage/grade, drug-resistant clear cell renal carcinoma, as well as that, can point to the drivers of ccRCC progression in different demographic groups. Using KIRC (clear cell renal carcinoma) TCGA dataset, we have observed that ZNF668, a KRAB zinc-finger transcription factor, is significantly overexpressed in ccRCC (p=1.62E-12). Moreover, ZNF668 transcripts were significantly elevated in higher stages and grades (p<.001). Higher ZNF668 transcripts levels were also correlated with metastasis (p<0.01) and were associated with the more aggressive ccB phenotype (p<0.001). Overexpression was also associated with more unsatisfactory overall patient survival (p<.001; HR = 1.76 (1.3 − 2.37) with a median survival of 66 months for the high expression group compared to 120 months for the low expression. In addition, we observed that Blacks exhibited higher expression of ZNF668 transcripts relative to Whites (p=2.22E-04). Taken collectively, data suggests that higher levels of ZNF668 is associated with cancer progression and more aggressive ccRCC subtypes. Moreover, ZNF668 behaves in a manner that indicates that it is a negative prognostic marker and a possible oncogene in clear cell renal cell carcinoma. Lastly, higher expression in Blacks suggests this population may be particularly at risk for developing more aggressive forms of ccRCC.

Cell, Molecular, and Tumor Biology: Other

PO-152 Metabolic rewiring in African-American prostate cancer: A role for adenosine-inosine axis Christy Charles. Baylor College of Medicine, Houston, TX.

African-American (AA) men have a 60% higher incidence of prostate cancer compared to European-American (EA) men and tend to have a more aggressive clinical outcome. An understanding of the altered biological responses and the factors that lead to health disparity in prostate cancer development and progression is unclear. Metabolism defines the physiological state of the cell and metabolic reprogramming is a hallmark of cancer. Thus, studying the metabolic landscape will be critical for understanding the biological changes that might contribute to this disparity. Analysis of 190 metabolites across prostate cancer/benign adjacent tissue pairs from ancestry typed AA and EA men performed in our laboratory, revealed altered levels of adenosine and inosine. High inosine to adenosine ratio is observed in AA men compared to EA men. In line with this finding, the enzyme adenosine deaminase (ADA), which converts adenosine to inosine was found elevated in AA men, potentially explaining the high inosine to adenosine ratio in AA PCa. The effects of these metabolic alterations on AA PCa progression are unknown. The current study will address the knowledge gap on the consequences of elevated ADA activity in AA PCa and attempt to dissect its role in effecting an aggressive phenotype in PCa. To determine the role of elevated ADA in PCa, it was overexpressed in ancestry-typed AA (MDA-PCa-2A) and EA PCa(LNCaP) cell lines (termed ADA OE). Phenotypic examination of these cells revealed increased ADA enzyme activity decreases the cell-ECM adhesion. Molecular analyses revealed a significant reduction in Tenascin C(TNC), a matrix protein known for its anti-adhesive properties. TNC is critical for modulating cell motility and adhesion. TNC is also a marker for the reactive stromal microenvironment. Therefore, we evaluated the effects of altered adenosine-inosine levels on stromal cells. TNC induction was observed in stromal cells upon treatment with ADA OE conditioned media and inosine addition. These molecular findings suggest that high ADA activity could facilitate adhesion decrease and modulate the stromal microenvironment to aid in the metastatic dissemination from the primary tumor. From a translational viewpoint, ADA enzyme activity could serve as a biomarker for metastatic prostate cancer. Therefore, we further look to analyze the inosine to adenosine levels in patient samples and correlate with various clinical outcomes in PCa. Our initial analysis reveals high inosine to adenosine ratio in biopsy positive patient samples compared to biopsy negative samples. Our next steps of analysis include correlating the enzyme activity with (i)Biochemical Recurrence(BCr) (ii)Time to attaining castration resistance in castration-sensitive patients (iii)Time to metastasis (iv)Response to Androgen deprivation in patients after BCr. Based on our current findings, we expect the inosine to adenosine ratio in plasma or urine to serve as a predictive marker for PCa incidence or progression in AA men. In addition, we expect ADA to serve as a potential therapeutic target for AA PCa.

PO-153 ANPEP: A potential regulator of tumor-immune metabolic interactions in African American men with prostate cancer Asmaa E. El-Kenawi, Shivanshu Awasthi, Amparo N. Serna, Jasreman Dhillon, Kosj Yamoah. Moffitt Cancer Center, Tampa, FL.

In prostate cancer (PCa), lack of TMPRSS2-ETS gene fusion ($ETS^{negative}$) has been a hallmark of tumor in African American (AA) as compared with European American (EA) men. To elucidate biologic features associated with $ETS^{negative}$ PCa in AA men, we identified aminopeptidase N (ANPEP) as ETS-regulated gene with preferential overexpression in AA. Aminopeptidase N is involved in endocytosis, cholesterol, amino acid transport and peptide hydrolysis. In the current work, we sought to investigate the role of ANPEP in a PCa development and exploit its role in PCa metabolism as a therapeutic vulnerability, particularly in AA tumors. Methods To understand the role of ANPEP in PCa progression and therapeutic vulnerability, we determined the expression of ANPEP in different component of tumor microenvironment. We also developed a consumption and release metabolomic platform to assess the impact of ANPEP on transport of cholesterol, fatty acids and a number of relevant amino acids. Additionally, we assessed the availability of these metabolites and their end products in plasma samples of PCa patients. Results Using publicly available datasets, we showed that prostate tumors form AA men harbor the highest expression of ANPEP as compared with other groups. Using further data mining and experimental approaches, we found that aminopeptidase N is predominantly expressed on macrophages compared with prostate tumor cells, T cell, B cells, neutrophils and dendritic cells. Expression of ANPEP predominantly correlated with various amino acid transporters which also tend to be differentially expressed by ETS status. We have successfully developed a metabolomics-based approach to assess the consumption of more than 15 metabolites in prostate cancer cells and patient derived explants. Conclusion We have identified ANPEP as a macrophage-related gene with a potential role in tumor metabolism. Future work will focus on investigating functional role of ANPEP in the tumor immune microenvironment using our unique metabolic consumption/release assay in explants derived from AA and EA prostate cancer patients.

PO-154 Clinical and prognostic significance of tumor infiltrating lymphocytes of triple negative breast cancer in Colombian women Carlos A. Huertas[1], Mayra A. Ramirez[1], Henry J. Gonzalez[2], Juan C. Mejía[1], Laura Fejerman[3], Jovanny Zabaleta[4], María C. Sanabria[1], Silvia J. Serrano[1]. [1]Grupo de investigación en biología del cáncer, Instituto Nacional de Cancerología, Bogotá D.C., Colombia, [2]Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Colombia, [3]University of California Davis, Davis, [4]Stanley S. Scott Cancer Center, Louisiana State University Health Sciences Center, New Orleans.

Background: Triple negative breast cancer (TNBC) is the most aggressive breast cancer subtype, represents 10%-20% of all breast cancers and occurs more frequently in young Non-Hispanic Black and Latina women. TNBC is highly immunogenic due to the relatively high levels of tumor infiltrating lymphocytes (TILs) which in turn has been associated with long term survival as well as a risk reduction of death and recurrence. Little is known about TILs and its prognostic value in TNBCs from Latinas such as Colombian women. The goal of this study was to evaluate the differences in the clinic-pathological variables according to TILs levels. Also, to evaluate if TILs are an independent prognostic factor in TNBC from Colombian patients. **Methods**: We included 130 TNBC patients diagnosed between 2008-2016 at the Colombian National Cancer Institute. Analysis of TILs was performed on a single full-face hematoxylin and eosin (H&E) stained pre-treatment sections. TILs score was estimated as a proportion of intratumoral TILs (iTILs) and stromal TILs (sTILs) on tumoral area and was classified using a cut-off of 10% for sTILs and 1% for iTILs. Additionally, immunohistochemistry for PD-L1 (n=92), CD4 (n=40) and CD8 (n=40) was evaluated on three different fields of vision. Chi-squared test and ANOVA were used to test differences in clinic-pathological variables and Kaplan Meier analysis and long-rank test was used to explore differences in survival according to TILs. **Results:** High sTILs (≥10%) was observed in 36.4% of the patients. We observed that patients in the high sTILs group were usually diagnosed at early stages and with smaller tumors (<2cm) compared to patients with low sTILs (48.9% vs 23.2%, p<0.01 and 27.3% vs. 5.3%, p<0.01). Regarding treatment, a lower number of patients with high sTILs received neoadjuvant chemotherapy (46.8% vs. 74.4%, p<0.01 and mastectomy (53.2% vs. 74.4%, p=0.02) but had clinical complete response (cCR) (30% vs. 6.2%, p=0.053) compared to patients with low sTILs. Similar results were found for cCR in the iTILs positive group compared to iTILs negative group (13.8% vs. 0%, p<0.01). Differences in overall survival was observed according to sTILs (p<0.01). Cox regression analysis in a model adjusted by AJCC stage found low sTILs (<10%) as a prognostic factor associated with higher risk of death (HR: 1.65, 95% CI 0.99 – 2.77, p=0.05). Stromal and intratumoral CD4 and CD8 were evaluated, and patients were categorized according to the median of expression. For low iCD4 we observed a higher percentage of patients with node involvement (88.9% vs. 52.6%, p=0.04) and for the low iCD8 group we observed larger tumors (>5cm) (47.4% vs. 31.2%, p=0.03). Finally, PD-L1 expression was positive in 21.7% of the patients and was associated with high level of sTILs (p=0.02). **Conclusions:** Our results suggests that higher levels of sTILs in the TNBC are associated with a better prognosis. Further work is needed to explore the level of CD4, CD8 and PD-L1 expression in our patients to assess its clinical impact.

PO-155 Racial heterogeneity in the molecular landscape of pancreatic adenocarcinoma: A call for action Haleigh Tianna Larson, Ankit Chhoda, Astrid Hengartner, Nesrin Hasan, Nensi Ruzgar, Sri Yalamanchi, John W. Kunstman, James J. Farrell, Anup Sharma, Nita Ahuja. Yale School of Medicine, New Haven, CT.

Background: Pancreatic adenocarcinoma (PDAC) is an aggressive cancer predicted to be the second leading cause of cancer mortality in the next decade. Significant disparities in the incidence rate and outcomes of Black patients with PDAC have recently been reported. Efforts to characterize the molecular landscape of PDAC are ongoing; however, the molecular mechanisms driving cancer in PDAC patients remain largely unexplored with respect to sociocultural race. In this study, we utilized the Cancer Genome Atlas (TCGA) dataset to describe the somatic mutation, DNA methylation and gene expression profiles of PDAC patients with respect to sociocultural race in an effort to elucidate the racial heterogeneity in pancreatic carcinogenesis. **Methods:** This study involved accessing the public TCGA dataset for all patients with diagnosed PDACs. We filtered this cohort to include only patients with available racial information and matched DNA methylation, mRNA expression and simple somatic mutation data (n = 150). We analyzed the frequency and nature of non-silent simple somatic mutations for our cohort, both combined and separated by sociocultural race, and calculated the top differentially-methylated and differentially-expressed genes, using a maximum p-value of 0.01 for the Benjamini-Hochberg adjustment method as our cut-off. **Results:** We observed the four previously reported pancreatic adenocarcinoma driver genes (*KRAS, TP53, SMAD4,* and *CDKN2A*) to be the genes most frequently mutated in White (n = 132) and Asian (n = 9) PDAC samples. In Black (n = 5) samples, PDAC appears to be only partially driven by mutation of these driver genes. We found Black PDAC samples have a distinct mutational landscape and harbor somatic mutations in additional genes, including: *CSMD2* (42.9%), *RYR1* (28.6%), *CBLL2* (28.6%), *ANKRD24* (28.6%), *SAMD7* (28.6%). The DNA methylation landscape of PDAC patients is also distinct with respect to sociocultural race, with the majority of differentially-methylated loci present to a greater degree in Black (53.8%) or Asian samples (28.2%), compared to White (17.9%) samples. Gene expression data also follow this trend, with the majority of genes showing the highest degree of differential expression in Black (82.4%) versus Asian (14.7%) or White (2.9%) patients. **Conclusion:** Our preliminary analyses suggest racial heterogeneity exists at the level of DNA methylation, gene expression and somatic mutation. We discovered that reporting on PDAC driver mutations is likely biased by the overrepresentation of White patient samples in the TCGA dataset – the largest publicly available dataset with data on sociocultural race. Given our preliminary results, further work to describe the DNA methylation and gene expression landscape in PDAC with respect to sociocultural race is imperative. However, until minority representation is improved in such biobanking efforts – the ability to perform molecular profiling of PDAC within those populations experiencing disparate incidence and outcomes remains underpowered.

PO-156 The impact of genetic ancestry on the biology and prognosis of childhood acute lymphoblastic leukemia Shawn Lee[1], Federico Antillon[2], Deqing Pei[1], Wenjian Yang[1], Kathryn G Roberts[1], Zhenhua Li[3], Meenakshi Devidas[1], Wentao Yang[1], Cesar Najera[4], Hai Peng Lin[5], Ah Moy Tan[6], Hany Ariffin[7], Cheng Cheng[1], William E. Evans[1], Stephen P. Hunger[8], Sima Jeha[1], Charles G. Mullighan[1], Mignon L. Loh[9], Allen EJ Yeoh[3], Ching-Hon Pui[1], Jun J. Yang[1]. [1]St. Jude Children's Research Hospital, Memphis, TN, [2]National Pediatric Oncology Unit,, Guatemala City, Guatemala, [3]National University of Singapore, Singapore, Singapore, [4]National Pediatric Oncology Unit, Guatemala City, Guatemala, [5]Sime Darby Medical Centre Subang Jaya, Subang Jaya, Malaysia, [6]KK Women's & Children's Hospital, Singapore, Singapore, [7]University of Malaya Medical Centre, Kuala Lumpur, Malaysia, [8]Children's Hospital of Philadelphia, Philadelphia, PA, [9]University of California San Francisco, San Francisco, CA.

BACKGROUND: Although cure rates of childhood acute lymphoblastic leukemia (ALL) have improved significantly with risk-adapted therapy, stark racial disparities persist in both the incidence and treatment outcomes of ALL. There is a paucity of data describing the genetic basis of these disparities, especially in relation to modern ALL molecular taxonomy and in the context of contemporary treatment regimens. **AIMS:** To determine the associations of genetic ancestry with ALL biology, and the relevance of genetic ancestry to survival outcomes of modern ALL therapy. Methods: This was a multi-national genomic study of 2,428 children with ALL on front-line trials from United States, Singapore, Malaysia, and Guatemala, representing diverse populations of European, African, Native American, East Asian, and South Asian descent. We performed RNA-sequencing to characterize ALL molecular subtype and genetic ancestry, and then evaluated associations of genetic ancestries with ALL biology and treatment outcomes. Results: Of 21 ALL subtypes, 11 showed significant associations with ancestry. The frequency of somatic *DUX4* gene rearrangement was positively correlated with both East Asian and South Asian ancestries; and genomic alterations in *ZNF384* and *PAX5* increased with East Asian ancestry. By contrast, occurrence of *CRLF2* rearrangements was linked to Native American ancestry. *ETV6-RUNX1* fusion became less frequent as Native American ancestry increased, with the opposite observed for *ETV6-RUNX1*-like ALL. There was a marked preponderance of T-ALL in children of African descent. African ancestry was also positively correlated with the prevalence of *TCF3-PBX1* and *MEF2D* fusions. Survival outcomes differed significantly by genetic ancestry, where African and Native American ancestries were both associated with poorer event-free survival (African: HR, 2.3; 95% CI, 1.4 – 3.8; P=0.001; Native American: HR, 2.5; 95% CI, 1·0 – 5.9; P=0.044) and overall survival (African: HR, 2·4; 95% CI, 1.2 – 4.7; P=0.012 for African; Native American: HR, 3.3; 95% CI, 1.1 – 10.0; P=0.033). Importantly, even after adjusting for biological subtypes and clinical features, Native American and African ancestries remained independently associated with poor prognosis. Conclusion**S**: ALL biology and prognosis are highly associated with genetic ancestry, pointing to a genetic basis for racial disparities in ALL. Biology-driven treatment individualization is needed to eliminate racial gaps in outcomes.

PO-157 Calcium/calmodulin-dependent protein kinase-related peptide (CARP) increases stemness of colorectal cancer cells Leo Mei[1], Jinghe Mao[2]. [1]Madison Central High School, Madison, MS, [2]Tougaloo College, Tougaloo, MS.

Calcium/calmodulin-dependent protein kinase-related peptide (CARP) is one of the five alternative splicing products of the doublecortin-like kinase 1 (DCLK1) gene, which is a specific marker for cancer stem cells in multiple cancers. Up-regulation of DCLK1 is correlated with progression and poor prognosis of malignant cancers, but the role of individual DCLK1 isoforms during tumorigenesis is unclear. CARP was reported to play an important role in the hippocampus and in the facilitation of apoptosis in granule cells of the rat dentate gyrus. Here we aimed to reveal the effects of CARP on the stemness of cancer cells. In order to achieve our goal, isogenic CARP over-expressing cells were established using HCT116 cells, a colorectal cancer cell line. Spheroid formation assay, proliferation assay, and clonogenic capacity assay were applied to assess the effects of CARP on cancer biology. Our results demonstrated that over-expression of CARP increased the number of spheroids, but decreased the proliferation rate in comparison to parental control HCT116 cells. In conclusion, CARP can increase the self-renewal capability of cancer cells under spheroid formation conditions, but can also inhibit cell proliferation under normal cell culture conditions. CARP may be used to develop a therapeutic target for cancer treatment.

Epidemiology, Lifestyle, and Genetics: Behavioral Epidemiology

PO-158 Influence of health beliefs on COVID-19 vaccination among patients with cancer and other comorbidities in Puerto Rico McClaren Rodriguez[1], Andrea López-Cepero[2], Ana Patricia Ortiz[3], Emma Fernández-Repollet[4], Cynthia Pérez[5]. [1]University of Pittsburgh, Pittsburgh, PA, [2]Emory University, Atlanta, GA, [3]University of Puerto Rico Comprehensive Cancer Center; University of Puerto Rico, San Juan, Puerto Rico, [4]University of Puerto Rico-Medical Sciences Campus, San Juan, Puerto Rico.

Background: Ethnic minority populations are more likely to suffer from chronic comorbidities, making them more susceptible to the poor health outcomes associated with COVID-19 infection. Ensuring COVID-19 vaccination among vulnerable populations, such as cancer patients, is of utmost importance. Thus, we aimed to investigate health behaviors and perceptions related to COVID-19 vaccination among adults with cancer and other chronic comorbidities in Puerto Rico (PR). Methods**:** This secondary analysis used data from 1,911 participants who completed an online survey from December 2020 to February 2021. The Health Belief Model (HBM) was used to measure perceptions surrounding COVID-19 vaccination among individuals diagnosed with cancer, adults with other chronic comorbidities, and healthy adults. Multivariate logistic regression analyses assessed the associations of disease status (healthy, cancer diagnosis, other chronic conditions/comorbidities [excluding cancer]) with individual HBM constructs and vaccine intent, while adjusting for age, sex, education, income, employment status, influenza vaccine, health literacy, and religiosity. Results**:** Among study participants, 76% were female, 34% greater than or equal to 50 years old, 5% had a cancer diagnosis, and 70% had other chronic conditions/comorbidities. Participants with a cancer diagnosis had significantly higher odds of getting vaccinated when the vaccine was made available to them compared to healthy individuals (OR: 2.08 95%CI: 1.00-4.30). Compared to healthy participants, those diagnosed with cancer and those with other chronic conditions other than cancer had higher odds of perceiving their chance of getting COVID-19 as high (OR: 1.63 95%CI: 1.01-1.62; OR: 1.39 95%CI: 1.11-1.73), believed getting COVID-19 was a possibility for them (OR: 1.94 95%CI: 1.16-3.25; OR: 1.56 95%CI: 1.24-1.97), perceived they would get very sick if infected with COVID-19 (OR: 4.18 95%CI: 2.30-7.58; OR: 1.83 95%CI: 1.47-2.28), and were afraid of COVID-19 (OR 2.51: 95%CI: 1.18-5.35; OR 1.67: 95%CI: 1.25-2.22). Individuals with other chronic comorbidities also had increased odds of perceiving that COVID-19 side effects would interfere with their usual activities (OR: 1.32 95%CI: 1.06-1.64), worrying about their likelihood of getting COVID-19 (OR: 1.63 95%CI: 1.09-2.44), and taking the vaccine regardless of the information provided (OR: 1.42 95%CI: 1.14-1.77). COVID-19 vaccine safety was the main reason for vaccine hesitancy among all participants. **Discussion:** Understanding vaccine hesitancy and willingness is essential in creating effective vaccine promotion programs and informing health policy. Our findings elucidate the effect of disease status on health-related decision making and isolate what steps can be taken to increase vaccine uptake among vulnerable ethnic minority populations.
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PO-159 Patient relatedness with healthcare providers: An intersectional mixed-methods analysis focused on race and sexual orientation in breast cancer screening and treatment Kristi Tredway[1], Melissa S. Camp[1], Tonia Poteat[2], Lorraine T. Dean[1]. [1]Johns Hopkins University, Baltimore, MD, [2]University of North Carolina, Chapel Hill, NC.

The provider-patient relationship is important in breast cancer care, and the patient's ability to relate to healthcare providers (HCPs) across intersectional identities is also important. Self-determination theory outlines autonomy (a sense of independence), competence (experiencing mastery), and relatedness (feeling connected to others) as key factors for attaining optimum health. In our previous paper, we identified relatedness as a likely key component for the experiences of racial and sexual minorities with HCPs. This mixed-methods study included a nationally representative sample of 728 participants and focused on the experiences of women who are racial and sexual minorities accessing breast cancer screenings and treatment. Relatedness was measured using a 3-point Likert-type scale and those respondents selecting "very important" were offered the opportunity to explain their selection in an open-ended qualitative response. Using intersectional categories, we compared the survey response differences between four groups: 1) Black heterosexual women (BHW; n=185), 2) Black sexual minority women (BSMW; n=96), 3) White heterosexual women (WHW; n=307), and 4) White sexual minority women (WSMW; n=140). Across all participants, relatedness by sex was rated high, while relatedness by religious beliefs and age were rated low. Within Black groups, race was next important, in contrast with White groups, where sexual orientation was next important. Taking an intersectional look at relatedness preferences by sex, 32% of WHW, 40% of BHW, 57% of WSMW, and 66% of BSMW claim that having a female HCP is important to them, the numbers increasing as women's lived experiences become more and more intersectional. In regards to race, 32% of BHW, and 59% of BSMW claim that a HCPs race is important to them compared with 3% of WHW and 2% of WSMW, highlighting how race is a concern for Black women but not for White women. Finally, in terms of sexual orientation, the data show that 5% of WHW, 19% of BHW, 18% of WSMW, and 42% of BSMW claim that a HCPs sexual orientation is important to them, illuminating a provocative set of numbers, with WHW not concerned about it, BHW wanting sexual majority HCPs, and WSMW and BSMW preferring relatedness with other sexual minority HCPs. This quantitative data is supported by the rich qualitative data in which participants explain why these features of relatedness are important. This study supports previous research on female patient preference for female physicians while adding important elements of intersectionality for a richer understanding. This work also expands the research on patient preference for HCP race and sexual orientation as having an intersectional perspective illuminated distinct differences for these women based on race and sexual orientation. What needs to happen now is an increase in the ability for HCPs to express relatedness with a diverse range of patients. Given the research identifying Black and LGBTQ people being hesitant to seek medical care, this can be a route for addressing that health disparity.

Epidemiology, Lifestyle, and Genetics: Diet and Nutrition

PO-160 Associations between diet and food security with colorectal cancer-based health disparity among African Americans Jonathan A. Laryea, Eryn K. Matich, Ping-Ching Hsu, Joseph Su. University of Arkansas for Medical Sciences, Little Rock, AR.

Introduction. African Americans (AAs) have a colorectal cancer (CRC)-based health disparity. However, AAs had higher screening test usage than non-Hispanic whites (NHWs) in Arkansas in 2016. Additionally, CRC is of interest in Arkansas because geographic areas such as the Delta regions in Arkansas remain mortality hotspots. Also, certain lifestyle factors such as diet, alcohol and tobacco use, and physical activity have been associated with CRC risk. Our goal is to examine the association between colorectal health, diet, and sociodemographics related to access to adequate food, to understand the factors involved in the CRC health disparity among AAs. **Method.** We are recruiting participants who have recently (2019-2021) received a colonoscopy. These participants are filling out surveys related to their demographics, socioeconomic status, health, family history, lifestyle, and diet, as well as collecting a stool sample at home for our future untargeted metabolomic analysis. For this preliminary analysis, we have focused on self-report survey data to determine which factors are associated with colorectal health and race. Results**.** We used t-tests with Bonferroni correction and chi-square test with statistical significance at $p<0.05$. The comparisons were healthy vs. polyp(s), healthy vs. cancer, and polyp(s) vs. cancer. The cancer group had statistically lower percentages of having gone to or completed college, and of having hourly or salaried wages as well as higher percentages of $25,000/year or less in household income, overweight BMI of 25-30, family history of CRC, and ever smoked at least 100 cigarettes. In addition, all participants in the cancer group had ever used tobacco products and not lifted weights for physical activity in the last year. Also, the polyp(s) group had the highest percentage engaging in light physical activity, and the control group had the highest percentage of current use of cigarettes every day. We also compared the food- and nutrient-level data. Coumestrol was found to be significantly higher among the healthy group vs. polyp(s). Starch, starchy vegetables, phosphorous, zinc, and pinitol were found to be significant when comparing healthy vs. cancer, and all but pinitol were found to be higher among the cancer group. Also, starchy and total vegetables, *trans*-hexadecenoic acid, *cis*-9,*trans*-11 conjugated linoleic acid, and pinitol were found to be significant between polyp(s) vs. cancer, and all but pinitol were found to be higher among the cancer group. In addition, 37 food- and nutrient-level data points were significantly higher among NHW participants vs. AAs. Conclusion**.** CRC has minimal symptoms, and that is why routine CRC screening is important. From our findings, targeted education related to risk factors for CRC should be implemented among all people, especially on vegetable and fruit consumption, tobacco use, physical activity, and appropriate screening. Additional importance should be focused on high-risk individuals such as AAs and those with a family history of CRC.

PO-161 A community-based liver cancer education initiative led to healthier dietary and alcohol use behaviors among racial/ethnic minority community members Tiffany Li[1], Wenyue Lu[1], Lin Zhu[1], Ellen Kim[1], Kerry Traub[1], Steven Zhu[2], Nathaly Rubio-Torio[3], Evelyn Gonzalez[4], Marilyn A. Fraser[5], Ming-Chin Yeh[6], Grace X. Ma[1], Olorunseun O. Ogunwobi[7], Yin Tan[1]. [1]Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, [2]Pennsylvania United Chinese Coalition, Philadelphia, PA, [3]Voces Latinas Inc, New York, NY, [4]Fox Chase Cancer Center, Philadelphia, PA, [5]Arthur Ashe Institute for Urban Health, Brooklyn, NY, [6]Nutrition Program, Hunter College, City University of New York, New York, NY, [7]Hunter College, City University of New York, New York, NY.

Background: There is an increasing body of literature that suggests a relationship between modifiable dietary behaviors and alcohol use and liver cancer. We designed and implemented a culturally tailored community-based education program to promote liver cancer prevention. Methods**:** Through NCI funded U54 TUFCCC/HC Cancer Partnership Community Outreach Core **program, u**sing CBPR approach, we engaged community-based organizations and community stakeholders serving underserved African, Asian, and Hispanic American communities in the Philadelphia metropolitan area and New York City. The community-based education incorporated in-person and virtual hybrid education workshops to address COVID-19 pandemic barriers. We conducted pre-education surveys and follow-up assessments at 6 months post-education. Participants' dietary behaviors, alcohol use, and sociodemographic characteristics were examined at both time points. Results**:** 526 participants were recruited including 92 African Americans, 247 Asian Americans, and 187 Hispanic Americans, with an average age of 59. We found that at 6-month follow-up assessment, participants had average decreased intake of red meat (3.148/6 vs. 2.685/6, $p < 0.001$), and average increased intake of vegetables (4.484/6 vs. 5.044/6, $p < 0.001$) and fruits (4.327/6 vs. 4.877/6, $p < 0.001$), compared to their intake at pre-education assessment. Additionally, average change in beer (-0.252) and spirit (-0.905) consumption substantively decreased from pre-intervention to 6-month follow-up assessment. Conclusion**:** This community-based education showed significant effects in improving healthy dietary behaviors and reducing alcohol intake among community members through CBPR community engagement from the two metropolitan areas. Future efforts are needed to sustain the positive changes in modifiable lifestyle behaviors and liver cancer prevention in these medically underserved communities.

Epidemiology, Lifestyle, and Genetics: Exercise and Prevention

PO-162 Association between the frequency of using wearable activity trackers and minutes of moderate to vigorous physical activity among cancer survivors from HINTS data Steven A. De La Torre[1], Trevor Pickering[1], Donna Spruijt-Metz[2], Albert J. Farias[3]. [1]Keck School of Medicine, University of Southern California, Los Angeles, CA, [2]Dornsife Center for Economic and Social Research, University of Southern California, Los Angeles, CA, [3]Norris Comprehensive Cancer Center, Keck School of Medicine, University of Southern California, Los Angeles, CA.

Purpose: Cancer survivors tend to exercise less after diagnosis and treatment. Given the health benefits of exercise, there is a need for innovative and engaging ways to aid in exercise participation among survivors. Wearable activity trackers (WATs) can provide avenues for self-monitoring and may enhance exercise motivation. However, less is known about the relationship between how often survivors use WATs and their amount of moderate to vigorous physical activity (MVPA). Our purpose is to investigate this relationship and determine if it differs based on a survivor's time since diagnosis or demographic characteristics. Methods**:** Data was obtained from the National Cancer Institute's Health Information National Trend Survey (HINTS) 5 Cycles 3-4 (January 2019-April 2020) (n=1,369). Information on survivor's frequency of WAT use (daily, non-daily, no use), cancer type, time since diagnosis, age, gender, household income, body mass index, education, and race/ethnicity were used. To model the relationship between these variables and the number of self-reported weekly minutes of MVPA, we utilized a zero-inflated negative binomial Poisson (ZINBP) regression model with interactions for WAT use and race/ethnicity, and WAT use and time since diagnosis. Results**:** Most of the sample were female (n=735, 53.7%) and non-Hispanic White (n=961, 70.2%). Also, 44% (n=602) were college graduates or higher and 34.3% (n=664) were between the ages of 65-74 years. Skin was the most frequently reported cancer type (n=334, 24.4%) and 48.5% (n=664) reported that it had been 11+ years since their diagnosis. Results from the ZINBP model found that survivors who reported using WATs daily had an expected 3.6 times higher number of weekly MVPA minutes compared to non-daily users (OR: 3.6, 2.81-4.60, p=<.0001). Daily WAT users also had a predicted mean weekly MVPA of 100 minutes (80.2-124.8) compared to non-daily users (27.8 minutes, 21.8-35.5) and non-WAT users (10.1 minutes, 8.6-12). Additionally, survivors who reported 6-10 years since diagnosis had an expected 0.20 times lower number of MVPA minutes compared to those who reported 11+ years (OR 0.80, 0.79-0.94, p=0.006). The effects of WAT use on reported weekly minutes of MVPA did not differ across race/ethnicity. However, Hispanics had a lower frequency of daily use compared to their non-Hispanic White counterparts (7.1% vs.12%) and a higher frequency of reporting no use (87.9% vs. 79.6%) (p=0.04). Reporting daily WAT use was also lower among those with less educational attainment (p<.0001) and lower household income (p<.0001). Conclusion**s:** Findings from this study indicate that reporting daily WAT use was predictive of higher MVPA and less sedentary behavior. Survivors aiming to increase exercise may benefit from integrating WATs into their daily routine. However, there is a need to better understand how to engage survivors who come from traditionally underserved racial/ethnic backgrounds including Hispanics, and those with lower income or less educational attainment in using WATs for exercise.

Epidemiology, Lifestyle, and Genetics: Familial and Genetic Epidemiology

PO-163 Genome-wide polygenic risk score of prostate cancer in African and European ancestry men Burcu F. Darst[1], Ravi K Madduri[2], Alexis A. Rodriguez[2], Xin Sheng[1], Rosalind A. Eeles[3], Zsofia Kote-Jarai[3], John M. Gaziano[4], Amy C. Justice[5], David V. Conti[1], Christopher A. Haiman[1]. [1]University of Southern California, Los Angeles, CA, [2]Argonne National Laboratory, Lemont, IL, [3]The Institute of Cancer Research, London, United Kingdom, [4]VA Boston Healthcare System, Boston, MA, [5]VA Connecticut Healthcare System, West Haven, CT.

Genome-wide polygenic risk scores (PRS) are reported to have higher performance than standard genome-wide significant PRS across numerous complex traits. We evaluated the ability of genome-wide PRS to evaluate prostate cancer risk compared to our recently developed and highly predictive multi-ancestry PRS of 269 fine-mapped and established prostate cancer risk variants. Genome-wide PRS approaches included LDpred2, PRS-CSx, and EB-PRS. Models were trained using the largest and most diverse prostate cancer GWAS to date of 107,247 cases and 127,006 controls, which was previously used to develop the multi-ancestry PRS of 269 variants. For each approach, we constructed the PRS using population-specific weights (i.e., African or European) and multi-ancestry weights, which were calculated across men from African, European, East Asian, and Hispanic populations in our previous GWAS. Resulting models were tested in independent samples of 1,586 cases and 1,047 controls of African ancestry from the California Uganda Study and 8,045 cases and 191,835 controls of European ancestry from the UK Biobank. Across all approaches, multi-ancestry weighted PRS had either similar or stronger performance compared to population-specific weighted PRS, both in terms of area under the curve (AUC) and odds of prostate cancer. Among the genome-wide PRS approaches, PRS-CSx constructed with multi-ancestry weights had the best performance, with AUCs of 0.656 (95% CI=0.635-0.677) in African and 0.844 (95% CI=0.840-0.848) in European ancestry men. Based on PRS-CSx, African and European ancestry men in the top 90-100% PRS decile relative to men in the median 40-60% PRS category had odds of prostate cancer of 2.67 (95% CI=2.00-3.55) and 4.17 (95% CI=3.87-4.50), respectively. However, the PRS constructed using 269 fine-mapped variants had larger AUCs in both African (0.679, 95% CI=0.659-0.700) and European ancestry men (0.845, 95% CI=0.841-0.849), with African and European ancestry men in the top PRS decile having larger odds of prostate cancer (3.53, 95% CI=2.66-4.69 and 4.20, 95% CI=3.89-4.53, respectively). We are currently further validating these findings in diverse men from Million Veteran's Program. This investigation suggests that genome-wide PRS may not improve the ability to distinguish prostate cancer compared to our genome-wide significant PRS and that a multi-ancestry approach to constructing PRS leads to similar or better performance than a population-specific approach.

PO-164 Pathogenic variants in breast cancer risk genes in Latinas Jovia L Nierenberg[1], Aaron Adamson[2], Yuan C. Ding[2], Yiwey Shieh[1], Donglei Hu[1], Scott Huntsman[1], Esther M. John[3], Gabriela Torres-Mejia[4], Christopher A. Haiman[5], Lawrence H. Kushi[6], Charite N. Ricker[5], Linda Steele[2], Robin Lee[1], Jeffrey N. Weitzel[2], Laura Fejerman[7], Elad Ziv[1], Susan L. Neuhausen[2]. [1]University of California San Francisco, San Francisco, CA, [2]Beckman Research Institute of City of Hope, Duarte, CA, [3]Stanford University School of Medicine, Stanford, CA, [4]Instituto Nacional de Salud Pública, Cuernavaca, Mexico, [5]University of Southern California, Los Angeles, CA, [6]Kaiser Permanente Northern California, Oakland, CA, [7]University of California Davis, Davis, CA.

Introduction: Pathogenic variants (PVs) in high- and intermediate-penetrance breast cancer susceptibility genes have large effects on disease risk. While individual PVs are rare, in aggregate, they markedly contribute to breast cancer risk in women of European ancestry in the general population. We examined the association with risk of developing breast cancer in Latinas. **Methods:** We conducted a pooled case-control analysis of breast cancer in Latinas from the San Francisco Bay Area, Los Angeles, and Mexico (4,172 cases and 3,692 controls). Case ascertainment included 2,095 participants from high-risk breast cancer studies (age below 50 years at breast cancer diagnosis, family history, or bilateral breast cancer) and 5,769 from general population studies. We determined presence of a rare PV in nine known breast cancer risk genes (*ATM*, *BARD1*, *BRCA1*, *BRCA2*, *CHEK2*, *PALB2*, *PTEN*, *RAD51C*, and *TP53*). We examined associations between PVs in each gene and breast cancer using multivariable logistic regression models, adjusted for age and ancestry. Secondary analyses were stratified by age, family history, or Indigenous American (IA) ancestry. **Results:** PVs in known risk genes were detected in 7.0% of cases and 1.7% of controls in participants from general population studies. Odds ratios (OR) for breast cancer in those with PVs in *BRCA1*, *BRCA2*, *CHEK2*, *PALB2*, and *TP53* were 15.7 (95% CI: 5.7-64.8), 7.0 (95% CI: 3.7-14.4), 1.9 (95% CI: 1.0-4.0), 6.1 (95% CI: 3.1-13.9), and 3.7 (95% CI: 1.1-16.2) respectively. PVs in *ATM* (OR: 1.2, 95% CI: 0.7-2.1), *BARD1* (OR: 1.5, 95% CI: 0.3-10.4), *PTEN* (PVs in 4 cases and 0 controls), and *RAD51C* (OR: 1.5, 95% CI: 0.2-11.5) were not significantly associated with breast cancer. Among cases, those with age<50 at diagnosis or with family history of breast cancer had increased odds of having a PV, with ORs of 1.4 (95% CI: 1.0-1.9) and 2.3 (95% CI: 1.4-4.0), respectively. IA above the median was associated with increased odds of having a PV among cases (OR: 1.8; 95% CI: 1.4-2.5) but not among controls. **Discussion:** Among Latina participants, having a PV in any of the nine genes was associated with increased risk of breast cancer. As expected, cases who were younger or had a family history of breast cancer were more likely to have a PV. In addition, cases but not controls with high IA were more likely to have a PV. The higher prevalence of PVs among high IA cases but not controls may be due to the younger age of these women and/or lower prevalence of other environmental risk factors. Our PV prevalence estimates among Latinas were similar to those previously found among European ancestry participants. Our results suggest that there may be clinical utility in testing for rare PVs in breast cancer risk genes among those in the general population.

Epidemiology, Lifestyle, and Genetics: General Epidemiology and Biostatistics

PO-165 Prevalence of metabolic syndrome among cancer survivors: An NHANES study

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INTRODUCTION The purpose of this study was to determine the prevalence of metabolic syndrome (MetS) and its components by race and ethnicity in cancer survivors (CS) compared to participants without a self-reported history of cancer with (CD) and without (NCD) a chronic disease diagnosis. METHODS Using National Health and Nutrition Examination Survey (NHANES) data from 2015 to 2018, the prevalence of metabolic syndrome (MetS) was evaluated among respondents 50 years and older. MetS criteria was based on the 2005 National Cholesterol Education Program's Adult Treatment Panel III. MetS is diagnosed when three of the following five factors are present: low HDL, elevated triglycerides, elevated blood pressure, impaired fasting glucose, and elevated waist circumference. Weighted data were used to estimate the prevalence of metabolic syndrome, stratified by gender, sex, and race/ethnicity. Chi-square test was used to assess group comparisons respectively. RESULTS Approximately, two thirds of all respondents met the criteria for MetS, of which 37% were Non-Hispanic White (NHW), 30.2% were Non-Hispanic Blacks (NHB), and 25.7% were Hispanic or Mexican Americans (Hisp) ($p<0.001$). Of the five factors in the MetS criteria, elevated TG ($p=0.012$), elevated glucose ($p=0.009$), and elevated blood pressure ($p<0.001$) were significantly associated with NHW, NHB, and Hisp participants who met the MetS criteria. Among those with MetS, 61.5% of NHW, 68.0% of NHB, and 65.6% of Hisp participants had at least one chronic disease (CD), whereas 22.1% of NHW, 10.9% of NHB, and 9.3% of Hisp were cancer survivors (CS) ($p<0.001$). Of the CS with MetS, the highest reported cancer was non-melanoma skin cancer (35.2%) in NHW, prostate cancer (39.5%) in NHB, and breast cancer (28.5%) in Hisp ($p<0.001$). CONCLUSION Due to increasing numbers of CS, comorbidities such as MetS have become a concern for healthcare providers. A better understanding of the association between MetS, its factors, and specific cancer sites can provide insight into providing complete clinical care to CS, especially if there are differences by race or ethnicity.

PO-166 Geographic distribution of the cervical cancer incidence in the northeast region of the state of São Paulo, Brazil Adeylson G. Ribeiro[1], Allini M. Costa[1], José Humberto T.G. Fregnani[2]. [1]Barretos Cancer Hospital, Barretos, Brazil, [2]A.C.Camargo Cancer Center, São Paulo, Brazil.

Background: Cervical cancer is the third most common cancer in Brazil among females. The National Cancer Institute (INCA) estimates 16,500 new cases of cervical cancer for each year of the 2020-2022 triennium with an estimated risk of 15.43 cases per 100,000 women. This study aimed to geographically analyze the incidence of cervical cancer in the 18 municipalities that make up the Regional Health Department of Barretos (RHD-V), located in the state of São Paulo, Brazil. **Methods:** A total of 357 incident cases of cervical cancer (ICD-O-3 C53) between 2002 and 2016 were obtained from the Population-Based Cancer Registry of Barretos. Age-standardized rates (ASR) for the entire study period, and five-year periods, were calculated by the direct method using the world population as the standard, and the results are presented in thematic maps with quintile categories. The relative risk (RR) was obtained by the ratio between the total number of observed and expected cases for each area producing excess risk maps. The expected cases resulted from the application of a reference risk for the RHD-V (the sum of all the events over the sum of all the populations at risk). Spatial autocorrelation between municipalities was assessed by the Moran Global Index, being significant when the pseudo-p value was ≤ 0.05 for 999 permutations. In the analysis, the software RStudio 1.4.1717 and GeoDa 1.16 were used. All maps were produced in QGIS 3.10 software. Study approved by a research ethics committee under the number CAAE: 33712320.4.0000.5437. **Results:** Annual ASR for cervical cancer incidence ranged from 1.2 to 16.4 (per 100,000) for the period 2002 – 2016, and from 0.0 to 29.8 (per 100,000), from 0.0 to 15.4 (per 100,000) and from 0.0 to 29.3 (per 100,000) for the periods 2002 – 2006, 2007 – 2011 and 2012 – 2016, respectively. Overall, half of the municipalities had excess risk (RR > 1) for cervical cancer in all periods analyzed, most of them located in the northern region of the RHD-V. Higher RRs (from 2.0 to 4.0) were identified in one municipality in the period 2007 – 2011, and in two municipalities in the period 2012 – 2016. A weak spatial autocorrelation was detected for the entire period 2002 – 2016 and for the last period 2012 – 2016, with the Moran Global Index values of 0.241 (pseudo-p = 0.051) and 0.256 (pseudo-p = 0.038), respectively. **Conclusions:** Geographical variability was identified in the incidence and risk of cervical cancer among the RHD-V municipalities, with an evident fluctuation in rates over the years. Thus, this study made it possible to strategically visualize cancer research data, identifying spatial patterns that would possibly be incomprehensible in other analysis formats. The results can inform evidence-based decision-making and public policy and can support the implementation of community-level interventions and the efficient allocation of resources.

Epidemiology, Lifestyle, and Genetics: Molecular Epidemiology

PO-167 Predictive genetic risk factors and prognostic nomogram for colorectal cancer in Native Hawaiian population Yuanyuan Fu, Devin Takahashi, Vedbar Khadka, Masaki Nasu, Mayumi Jijiwa, Yu Chen, Heather Borgard, Youping Deng. University of Hawaii John A. Burns School of Medicine, Honolulu, HI.

Background While Native Hawaiians (NH) comprise a small portion of the US population, their numbers are expected to increase. Concerningly, NH exhibit disproportionate health issues, and specifically those with colorectal cancer (CRC) present elevated incidence and mortality above the US population. This study aims to identify race-specific genetic factors for CRC early detection and prognosis in this unique population. **Methods** Paired tumor and adjacent normal biospecimens from NH patients with primary CRC were collected from the Hawaii Tumor Registry (HTR), and RNA sequencing on 41 paired samples were performed to establish the first genome-wide transcriptome profiling dataset specifically for NH with CRC. RNAseq data of 18 paired samples and additional 212 cancer samples were taken from The Cancer Genome Atlas (TCGA) white patients. Differential expressed genes (DEGs) were identified for both NH and TCGA cohorts via DESeq2 with FDR q-value < 0.05 and a cutoff of 2-fold change. A diagnostic model was built by Least Absolute Shrinkage and Selection Operator (LASSO) logistic regression with 10-fold cross validation, and Ingenuity Pathway Analysis (IPA) was processed for canonical pathways and network discovery. Univariate Cox proportional regression was performed to identify DEGs related to NH patient survival; multivariable Cox regression model with stepwise fitting generated a prognostic index (PI): PI=Σbi×expGenei (where expGene defines the gene expression and b equals the regression coefficient), and the prediction value was examined by the Area Under the Receiver Operating Characteristic (ROC) Curve (AUC). A nomogram was developed by integrating PI and clinicopathologic factors; calibration curves were provided to internally validate the performance, and discriminative ability was appraised by concordance index. **Results** In total, 2096 DEGs were identified between tumor and normal groups, and 1740 transcripts were unique to NH compared to the TCGA Whites cohort. A set of 23 genes including 10 NH specific DEGs was identified as genetic risk factors for detecting NH with CRC, and the AUC was 99.8%. A 9 gene-signature prognostic model including 5 NH specific DEGs was built with high survival prediction capability (AUC=0.99), and Kaplan-Meier curve showed that the low PI group had a better survival than the high PI group in NH with CRC (Logrank P=3.6E-05). After adjustment by age, gender, and tumor grade, the prognostic 9 gene-signature was still significant (*P*=0.0059). By integrating the above signatures with prognostic clinicopathologic features, a nomogram was constructed to stratified patients with overall survival rates for 3, 10, and 20 years. **Conclusion** Divergent DEGs and consequential pathways between NH and TCGA cohort reinforced the necessity of NH race specific biomedical research. The prognostic gene signature offered evidence that genomic data provided independent and complementary prognostic information, and the nomogram incorporating genetic and clinicopathological factors refined the prognosis of CRC for this unique population.

PO-168 Association of urinary PGE-M with all-cause mortality in men with prostate cancer is influenced by aspirin use Maeve Kiely[1], Ginger L. Milne[2], Tsion Z. Minas[1], Tiffany H. Dorsey[1], Wei Tang[1], Cheryl J. Smith[1], Francine Baker[1], Christopher A. Loffredo[3], Clayton Yates[4], Michael B. Cook[1], Stefan Ambs[1]. [1]National Cancer Institute, National Institutes of Health, Bethesda, MD, [2]Vanderbilt University Medical Center, Nashville, TN, [3]Lombardi Comprehensive Cancer Center, Georgetown University Medical Center, DC, [4]Tuskegee University, Tuskegee, AL.

Background: Chronic inflammation has been implicated in prostate cancer etiology and progression. The pro-inflammatory cyclooxygenase (COX) pathway, where arachidonic acid is converted to bioactive prostaglandins and eicosanoids via the COX1 and COX2 enzymes, has been linked to elevated systemic inflammation. Urinary PGE-M is a stable and measurable metabolite of prostaglandin E2 (PGE2). PGE2 is a product of the inflammatory COX signaling pathway and elevated levels have been associated with risk of cancer in many sites including colorectal and gastric cancers. PGE2 synthesis can be inhibited by aspirin. We investigated the association of PGE-M with lethal prostate cancer in a case-control study of African American and European American men. Identifying PGE-M as a novel marker of aggressive disease would have importance for high risk groups like men of African descent who experience a disproportionately high burden of prostate cancer lethality. **Methods:** We measured urinary PGE-M using mass-spectrometry. Samples were obtained from 977 cases and 1022 controls at time of recruitment. For analysis, we assessed PGE-M as either a continuous measure or assigned PGE-M values to quartiles and median with cutoff points determined using the distribution of PGE-M values among all controls. We applied multivariable logistic and Cox regression modeling to examine associations of PGE-M with prostate cancer and participant survival. Median survival follow-up was 8.4 years with 246 deaths among cases. Self-reported aspirin use over the past five years was assessed with a questionnaire. Race/ethnicity was self-reported. **Results:** Urinary PGE-M levels did not differ between men with prostate cancer and population-based controls. We report a lack of robust PGE-M inhibition in both cases and controls who reported aspirin use in our study. We observed no association between PGE-M and aggressive disease as defined by the National Comprehensive Cancer Network risk score. We also observed no association between PGE-M and prostate cancer-specific survival. However, we observed a statistically significant association between higher (> median) PGE-M and all-cause mortality in African American cases who did not regularly use aspirin (HR = 2.04, 95% CI 1.23-3.37). Among cases, who reported using aspirin, there was no association. **Conclusions:** Our study does not support a meaningful association between urinary PGE-M and prostate cancer. Moreover, PGE-M levels were not associated with aggressive prostate cancer. However, the observed association between elevated PGE-M and all-cause mortality in AA non-aspirin users reinforces the potential benefit of aspirin to reduce mortality among African American men with prostate cancer.

Epidemiology, Lifestyle, and Genetics: Neighborhood Factors

PO-169 Impacts of neighborhood characteristics and surgical treatment disparities on overall mortality in stage I renal cell carcinoma patients Alejandro Cruz, Faith Dickerson, Kathryn R. Pulling, Kyle Garcia, Francine C. Gachupin, Chiu-Hsieh Hsu, Juan Chipollini, Benjamin R. Lee, Ken Batai. University of Arizona, Tucson, AZ.

Background Racial/ethnic minority groups in the United States have high kidney cancer mortality rates. Disparities in treatments may contribute to higher mortality in racial/ethnic minority groups, but the relationship between treatment disparities and kidney cancer mortality is not well understood. In this study, we assessed if there are differences in surgical treatments across racial/ethnic groups and surgical treatments influence disparities in overall mortality. **Methods** Stage I renal cell carcinoma patients who were diagnosed between 2004 and 2016 from National Cancer Database were included. Logistic regression was performed to assess associations between race/ethnicity and treatment patterns adjusting for neighborhood socioeconomic (SES) and other factors. Cox regression analysis was performed to assess associations between race/ethnicity and overall mortality. **Results** A total of 238,141 patients were included in the analysis. Compared to non-Hispanic Whites, American Indians/Alaska Natives, and non-Hispanic Blacks (NHBs) were more likely not to receive surgical care even after adjusting for neighborhood SES (OR 1.85, 95% CI: 1.28-2.70 and OR 1.32 95% CI: 1.20-1.45 respectively). Although all racial/ethnic groups had significantly increased odds of undergoing radical nephrectomy rather than partial nephrectomy, . NHBs had the greatest odds of receiving radical rather than partial nephrectomy (OR 1.38, 95% CI: 1.33-1.44).. The associations were slightly attenuated after including healthcare access and neighborhood SESNHBs had an elevated risk of overall mortality, while Asian Americans and Hispanic Americans had reduced risk. Including surgical treatment, health access and neighborhood factors slightly attenuated the association for NHBs, but the associations between race/ethnicity and overall mortality remained significant. Analysis was performed stratifying samples based on surgical treatment to further assess effects of surgical treatment disparities on associations between race/ethnicity and overall mortality. NHBs who had surgical treatment had increased risk of mortality (HR 1.11, 95% CI:1.06-1.17).. Among patients who underwent nephrectomy, NHBs who underwent radical nephrectomy had increased risk of mortality (HR 1.15, 95% CI: 1.08-1.23), but not NHBs who underwent partial nephrectomy (HR 0.92, 95% CI:0.84-1.02). **Conclusion** Racial/ethnic minority patients were more likely not to receive surgical treatment. When they do, they are likely to have less optimal surgical treatment (radical rather than partial nephrectomy). Surgical treatment disparities account for high kidney cancer mortality in NHBs.

PO-170 Association between outdoor ambient benzene and invasive breast cancer incidence: The Multiethnic Cohort Study Ugonna Ihenacho[1], Jun Wu[2], Chiu-Chen Tseng[1], Juan Yang[3], Scott Fruin[1], Timothy Larson[4], Salma Shariff-Marco[3], Loic Le Marchand[5], Daniel Stram[1], Beate Ritz[6], Iona Cheng[3], Anna H. Wu[1]. [1]University of Southern California, Los Angeles, CA, [2]University of California, Irvine, Irvine, CA, [3]University of California, San Francisco, San Francisco, CA, [4]University of Washington, Seattle, WA, [5]University of Hawaii, Honolulu, HI, [6]University of California, Los Angeles, Los Angeles, CA.

Background: Benzene is classified as a Group 1 carcinogen in humans. A major pathway of benzene exposure is through the inhalation of ambient air contaminated by emissions from motor vehicle exhaust, gas stations, industries, tobacco smoke, and other consumer products. Past studies on benzene and breast cancer based on job titles or occupational history have yielded mixed results and the role of ambient benzene and breast cancer risk has been sparsely studied. Within the California component of the Multiethnic Cohort study, we examined the association between outdoor exposure to benzene and breast cancer risk among four major U.S. racial/ethnic groups—African Americans, Latinos, Japanese Americans, and Whites. **Methods**: Outdoor ambient benzene exposure was estimated from U.S. EPA measurements from air monitoring stations that were within 15 km of residences of 57,589 female MEC participants, largely from Los Angeles County, from time of recruitment (1993-1996) through study end date (12/31/2010). Cox proportional hazards models were used to examine the associations between time-varying benzene exposure and invasive breast cancer risk (cases=2,388), adjusting for age, race/ethnicity, education, smoking pack-years, family history of breast cancer, body mass index, physical activity, parity and age at first live birth, age at menarche, menopausal status, use of hormone therapy, alcohol consumption, intake of total calories, and neighborhood (block group) socioeconomic status. Stratified analyses were conducted by race/ethnicity, smoking history, and hormone receptor status. **Results**: Outdoor ambient benzene exposure (average median level from 1993-2010 was 0.94 ppb) was associated with an increased risk of breast cancer (per 1 ppb hazard ratio [HR]=1.40, 95% confidence interval [CI]: 1.24-1.58). This positive association was observed across all racial/ethnic groups; HR ranged from 1.23 to 1.67 (p values were <0.001 in African Americans, Japanese Americans, and Whites). Analysis by smoking status at baseline showed significant increased risk among former smokers (HR=1.53, 95% CI:1.22-1.91) and never smokers (HR=1.33, 95% CI: 1.12-1.58) but this risk did not reach statistical significance among current smokers (HR=1.27, 95% CI: 0.91-1.79) ($P_{heterogeneity}$=0.56). A larger effect estimate of benzene was observed for hormone receptor negative (HR=1.66; 95% CI: 1.18-2.33) than for hormone receptor positive (HR=1.28, 95% CI: 1.10-1.50) breast cancer ($P_{heterogeneity}$=0.02). **Conclusions**: Benzene exposure adversely impacted the risk of breast cancer across all racial/ethnic groups but appeared to be more prominent for hormone receptor negative breast cancer after adjusting for covariates mentioned above. Additional large population-based studies with breast cancer subtypes are needed to further determine benzene's role in breast cancer development.

PO-171 Local economic and racial/ethnic segregation and breast cancer risk: The Multiethnic Cohort Study Jenna Khan-Gates[1], Salma Shariff-Marco[2], Katherine Lin[2], Pushkar Inamdar[2], Juan Yang[2], Yuqing Li[2], Meera Sangaramoorthy[2], Christopher Haiman[3], Loïc Le Marchand[1], Lynne R Wilkens[1], Scarlett L Gomez[4], Iona Cheng[2]. [1]Epidemiology Program, University of Hawai'i Cancer Center, Honolulu, HI, [2]School of Medicine, University of California San Francisco, San Francisco, CA, [3]University of Southern California, Los Angeles, CA.

Introduction: Residential segregation has been documented to contribute to health inequities. The Index of Concentration at the Extremes (ICE) is a local measure of residential segregation that can capture economic, racial, and combined racialized economic residential segregation. ICE measures have only recently been examined in cancer studies, few of which have focused on breast cancer risk and none among Asian American or Pacific Islander (AAPI) groups. In the Multiethnic Cohort Study (MEC), we examined the associations of neighborhood ICE measures with breast cancer incidence among 101,811 female participants in five racial/ethnic groups (African American, Latino, Japanese American, Native Hawaiian, and White). Methods: ICE measures were developed based on 1990 U.S. census tract-level data, categorized in quintiles based on Los Angeles county and Hawai'i state-specific distributions, and assigned to the residential census tract of MEC female participants residing, at study baseline, in California (CA) (primarily Los Angeles, n=56,880), and Hawai'i (HI) (n=44,931). Separate ICE measures were created for household income, education, race/ethnicity, and combined household income and race/ethnicity. Women, aged 45-75 at enrollment, completed a comprehensive lifestyle questionnaire and were followed from baseline (1993-1996) to earliest date of invasive breast cancer diagnosis (n=6,398), death, or end-of-follow-up (12/31/2014). Invasive breast cancer incidence was modeled using Cox proportional hazards regression adjusted for demographics, family history of breast cancer, reproductive and lifestyle factor factors. Stratified analyses were conducted by race/ethnicity and stage at diagnosis. Results: For women in CA MEC, there were significantly higher risks of breast cancer for those living in neighborhoods with more versus less concentrated privilege [Q5 v Q1 Hazard Ratios (HR): ICE income 1.16 (1.03-1.31), ICE education 1.21 (1.05-1.39)]. In stratified analyses, these patterns of associations were seen for African Americans, Latinos, and Japanese Americans. Risks were also higher among Japanese American women living in neighborhoods with greater concentrations of Whites versus AAPI [Q5 v Q1 ICE Race HR: 1.77 (1.22-2.57)] and for Latino women living in neighborhoods with greater concentrations of high income-White households versus low income-Hispanic households [Q4 v Q1 ICE Race + Income HR: 1.48 (1.20-1.82)]. For women in HI MEC, those living in neighborhoods with higher versus lower ICE income or ICE education had higher risk of localized stage at diagnosis and lower risk of regional & distant diagnosis (p Het <0.01). No associations were found among White or Native Hawaiian women. Conclusions: Our findings suggest economic residential segregation plays an important role in breast cancer risk among African American, Latino, and Japanese American women. This study also highlights the importance of examining racial and racialized economic residential segregation separately across racial/ethnic groups.

PO-172 The impact of environmental quality on colorectal cancer incidence rates in the United States Tingting Li[1], Mei-Chin Hsieh, Lee S. McDaniel, Edward S. Peters. LSU Health Sciences Center New Orleans, New Orleans, LA.

Background Colorectal Cancer (CRC) is the third most common cancer and the third leading cause of cancer-related deaths in the US. CRC has been shown to be an environmentally associated disease, and the identification of specific environmental risk factors is critical to identify intervention opportunities in high-risk populations. CRC incidence rates have been increasing among people living in rural areas compared to non-rural. Understanding the relationship between environmental factors and rurality on CRC incidence is imperative to improve CRC prevention and control efforts. We used the Environmental Quality Index (EQI) developed by the US Environmental Protection Agency (EPA) to represent multiple simultaneous environmental domains to measure of the overall environment and examined its association with CRC incidence rates in the US. **Methods** The 2006-2010 EQI, a county-level index including overall and five specific domains (air, water, land, sociodemographic (SD), and build) for the entire US, was obtained from the US EPA public database. Data for the 2013-2017 county-level age-adjusted CRC incidence rates were extracted from the State Cancer Profiles and linked to the EQI data using the Federal information processing standard (FIPS) state-county code. EQI was categorized into Quintiles (Q1 represents highest environmental quality and Q5 represent poorest environmental quality). Pearson's correlation and linear regression were used to test associations between CRC incidence rate and EQI. Covariates included rural/urban status, percent of Black or African Americans (AAs), and state. Incidence rate differences (IRDs) and 95% confidence intervals (95%CI) were reported. **Results** Correlations between CRC incidence and EQIs were observed positive in overall ($r = -0.06$; $P = 0.002$) and domains including air ($r = 0.01$; $P = 0.66$), build ($r = 0.01$; $P = 0.67$), land ($r = 0.08$; $P < 0.001$), SD ($r = 0.45$; $P < 0.001$), and negative in build domain ($r = -0.12$; $P < 0.001$). In the adjusted model, for the SD domain, those counties with lowest quality quintile were associated with an incidence rate increase of 10.26 (8.87, 11.65) cases per 100,000 persons per year compared to counties in the highest quintile. The lowest build EQI (5th quintile) had 1.49 fewer cases per 100,000 persons per year comparing to the 1st quintile. About 82.5% of the observed elevation 7.7 (6.55, 8.84) in CRC incidence rates among rural counties, compared to metropolitan urbanized counties, were explained by the EQI and the percent of Black or AAs residing in the counties. ConclusionThe EQI was observed to be a significant factor for increased CRC incidence, although its impact varied when examined by domains. The lowest sociodemographic quality had the strongest association with CRC, followed by highest build environmental quality. Further, sociodemographic disadvantage was found to be a robust predictor and largely explained the rural-urban CRC incidence disparity. Our study provides a broader view of the environmental quality effect on the CRC incidence disparities in rural areas.

PO-173 Spatial heterogeneity and rural-urban differences in the Black-White breast cancer mortality disparity in Georgia Rebecca J. Nash[1], Lauren E. McCullough[1], T.J. Pierce[1], Lindsay J. Collin[2], Anne H. Gaglioti[3], Kevin C. Ward[1], Michael Kramer[1], Jeffrey Switchenko[1]. [1]Emory University, Atlanta, GA, [2]Huntsman Cancer Institute, Salt Lake City, UT, [3]Morehouse School of Medicine, Atlanta, GA.

Introduction: Breast cancer mortality in the US is 40% higher among Black than White women. Even among patients with prognostically favorable tumors, disparities persist, suggesting clinical features do not fully account for mortality differences. Area-level factors (*e.g.,* rurality) influence health outcomes and may explain spatial variation in mortality disparities. Rurality can impact access to and quality of care, and socioeconomic status. Georgia is an ideal place to study spatial heterogeneity in race disparities because of the diverse population (>30% Black), large number of counties (159), and pronounced disparities in breast cancer mortality in the Atlanta area. Methods**:** Race-specific standardized mortality ratios (SMRs) were calculated for each county in Georgia to account for sparsely populated areas and areas with high residential segregation. Observed deaths among women diagnosed with localized or regional breast cancer between 2005 and 2013 were obtained from the Georgia Cancer Registry. To ensure equal follow-up, only deaths within five years of diagnosis were included. Expected deaths were estimated using race-specific population counts, race-specific breast cancer incidence rates, and the pooled (Black and White) mortality rate among Georgia women, with indirect age adjustment (20–44, 45–54, 55+ years). Spatial smoothing methods, including adding neighboring data to meet a threshold and Bayesian models with conditionally autoregressive priors, were used to stabilize local estimates. Counties were classified by 2013 RUC codes (urban: 1–3, rural: 4–9). **Results:** A total of 3,235 breast cancer deaths were observed during the study period, with 42% among Black women. The median SMR was lower for White (0.8, IQR: 0.7, 1.1) than Black women (1.4, IQR: 1.1, 2.0). Among Black women only, median SMR was greater in rural (1.7, IQR: 1.1, 2.5) than urban counties (1.3, IQR: 1.1, 1.6). After sequentially adding neighboring data to meet a race-specific threshold of 30 observed deaths, smoothed median SMRs were 0.9 (IQR: 0.8, 0.9) and 1.4 (IQR: 1.2, 1.6) for White and Black women, respectively. For Black women, median SMR was attenuated in rural counties (1.4, IQR: 1.2, 1.7) but unchanged in urban counties (1.3, IQR: 1.2, 1.5). The greatest SMRs for Black women were observed in urban counties comprising the Atlanta area and rural southeast Georgia. For example, Fulton County SMRs were 1.6 and 0.7, for Black and White women, respectively. Highest SMRs for White women were observed in southwest Georgia, but were similar to SMRs among Black women in this region. The spatial distribution of SMRs using same neighbor smoothing and Bayesian models were similar. Conclusion**:** Breast cancer mortality race disparities vary widely across Georgia. These results highlight specific areas for public health intervention, especially among Black women. This work presents a potential mechanism to monitor trends in small area cancer mortality race disparities over time. Future work will model the impact of area-level factors on the disparity magnitude.

PO-174 Using GIS mapping to explore factors in Texas' disparities in access to cancer care Yeka W. Nmadu[1], Deborah V. Dahlke[1], Scott A. Horel[1], Marcia G. Ory[1], Kenneth S. Ramos[2]. [1]Texas A&M University School of Public Health, College Station, TX, [2]Texas A&M University Health Science Center, Houston, TX.

Introduction: The significant decline in cancer incidence and mortality over the last two decades in the United States is likely the result of reductions in tobacco use, increased uptake of preventive methods, adoption of early screening methods and improved treatment options. Texas, due to its large size and significant rural and heterogeneous populations, continues to experience disparities in cancer incidence and access to care and clinical trials. This study aimed to: 1) assess cancer incidence in Texas for three target indications compared to national data, and 2) analyze potential disparities in access to care with respect to the locations of American College of Surgeons Accredited (ACoS) Cancer Centers and National Cancer Institute (NCI) Cancer Centers within Texas' 11 Public Health Regions (PHR). Methods: We used data from the Texas Cancer Registry and compared age-adjusted incidence for our three target indications (adult colon cancer in patients under 50 years of age, advanced cervical cancer, and advanced liver cancer) in the 11 PHR and the defined Border Region of Texas with national data from the US Surveillance, Epidemiology, and End Results Program (SEER). We used GIS mapping to locate the cancer centers in Texas' PHR. Results: Initial results indicate that all 11 Texas' PHR ranked higher than national averages for age-adjusted incidence of cervical and liver cancer. Further, incidence rates for adolescents and young adult colorectal cancer are above SEER average in the majority of the PHR located in the northern and eastern regions of the state. When compared with Texas incidence rates, PHR 1 (Lubbock) and PHR 11 (Harlingen) have higher incidence rates for all three indications. Two PHR in the Border region (PHR 10: El Paso and 11: Harlingen) have Texas' highest incidence of liver cancer. The distribution of ACoS centers appears concentrated in eastern Texas, with highest numbers in PHR 3 (Dallas area) and PHR 6 (Houston area); with three of the four NCI-designated cancer centers in Texas are located in these two regions. Lower rates of cancer incidence for all three cancer indications were found in PHR regions 3 and 6. Among the Border counties, Cameron, Maverick and Star counties ranked above the Texas' average for all three cancer indications. There is an apparent paucity of cancer centers in the Border Region with only three centers identified in the 32 counties within the region. Conclusion: Texas statewide ranked above SEER's averages in two of the three cancer indications-cervical and liver cancers. There are clear regional differences in incidence of cervical, liver, and colorectal cancer which suggest disparities in access to care. Future research will draw on these findings to assess distance to cancer centers and clinical trial locations for Texas patients in our three targeted cancers and determine if broadband coverage is associated with disparities in cancer rates.

PO-175 Neighborhood segregation typology and breast cancer risk: The Multiethnic Cohort Study Meera Sangaramoorthy[1], Joseph Gibbons[2], Juan Yang[1], Katherine Lin[1], Yuqing Li[1], Jenna A Khan-Gates[3], Pushkar Inamdar[1], Christopher A. Haiman[4], Loïc Le Marchand[3], Lynne R Wilkens[3], Scarlett L. Gomez[1], Salma Shariff-Marco[1], Iona Cheng[1]. [1]University of California San Francisco, San Francisco, CA, [2]San Diego State University, San Diego, CA, [3]University of Hawaii Cancer Center, Honolulu, HI, [4]University of Southern California, Los Angeles, CA.

Background: Chronic stress as a result of residing in neighborhoods with higher levels of racial/ethnic segregation may increase a woman's risk of breast cancer. There is strong evidence of increased breast cancer risk due to social stress from animal models. Furthermore, epidemiologic studies have suggested links between racial/ethnic segregation and poor breast cancer outcomes. While a limited number of studies have demonstrated increased breast cancer risk and worse prognostic factors for African American women residing in neighborhoods with high racial/ethnic segregation compared to White women, no studies have examined this potential association in other racial/ethnic groups. **Methods:** Using data from the Multiethnic Cohort (MEC) (1993-2014), we examined the association between a neighborhood segregation typology of racial/ethnic compositions and incidence of primary, invasive breast cancer in a population-based sample of 101,811 African American, Japanese American, Latina, Native Hawaiian, and White women primarily residing in Los Angeles County, California and Hawaii. Segregation typology was based on the distribution of racial/ethnic groups across census tracts and linked to participants' geocoded baseline residential addresses. Hazard ratios (HRs) and 95% confidence intervals (CIs) for breast cancer risk were estimated using multivariable Cox proportional hazards regression adjusted for age, family history of breast cancer, reproductive and lifestyle risk factors for breast cancer, and stratified by state and self-reported race/ethnicity. For each state and racial/ethnic group, the reference typology was specific to co-ethnic residents. Results: A median follow-up of 20 years yielded 6,398 breast cancer cases. In California, African American women living in predominantly White neighborhoods had reduced risk of breast cancer (HR=0.68, 95%CI=0.46-0.99) compared to African American women living in predominantly Black neighborhoods. Among Latina women, compared to residents in predominately Latino neighborhoods, those in mixed White and Asian American/Pacific Islander (AAPI) (HR=1.54, 95%CI=1.05-2.25) and multiethnic White neighborhoods (HR=1.34, 95%CI=1.07-1.69) had increased risk of breast cancer. In Hawaii, Native Hawaiian women in predominantly AAPI neighborhoods had increased breast cancer risk (HR=1.20, 95%CI=1.04-1.38) compared to Native Hawaiian women in mixed White and AAPI neighborhoods. For Japanese American women in Hawaii, those living in mixed Native Hawaiian (HR=1.28, 95% CI=1.05-1.55) and multiethnic (HR=1.61, 95% CI=1.36-1.90) neighborhoods had higher breast cancer risk than those living in predominately Asian neighborhoods. **Conclusion:** This large-scale prospective study in a multiethnic population found differential associations between neighborhood racial/ethnic segregation and breast cancer risk by state of residence and self-reported race/ethnicity. Future research should aim to identify pathways through which segregation measures influence breast cancer risk in specific racial/ethnic populations.

PO-176 Neighborhood deprivation and living with prostate cancer: Patients' and partners' psychosocial behavioral status, symptoms, and quality of life Shenmeng Xu, Peiran Guo, Gail Patricia Fuller, Cloie Ann Dobias, Eno Idiagbonya, Lixin Song. University of North Carolina at Chapel Hill, Chapel Hill, NC.

Despite the major prostate cancer disparities, little research has examined how patients and their partners manage prostate cancer and related issues in the context of *Socioeconomic disadvantage* at the individual, dyadic, and neighborhood levels. Guided by an adapted stress appraisal and coping model, this study aimed to compare the health outcomes (QOL and symptoms) and psychosocial behavioral factors (appraisals of illness and coping resources) for men with newly treated localized prostate cancer and their partners who lived in neighborhoods with different socioeconomic disadvantage. We examined the baseline data from 273 patients and partners from a randomized controlled trial that tested the efficacy of a tailored eHealth symptom management intervention. FACT-G scale was used to access cancer-related physical, social, emotional, and functional domains of QOL. Financial well-being was assessed using FACIT-COST. Prostate cancer-specific symptoms and general symptoms were measured using the EPIC-26 and PROMIS questionnaires, respectively. Appraisals of illness and coping resources were measured using the Appraisal Scales, Lewis Cancer Self-Efficacy Scale, PROMIS, MOST, and Mediterranean Diet Assessment Tool. We used Multilevel Modelling to examine the role, ADI, and role*ADI interaction effects on QOL, symptoms, appraisal, and coping variables while controlling the effect of race. Area Deprivation Index (ADI) (high vs low) was used to measure the social, economic, and physical conditions in different geographic areas. There were significant but mixed role and ADI effects, but no interaction effects. Compared to the patients, partners had worse emotional QOL ($p<.05$); lower self-efficacy in symptom management ($p<.01$); lower emotional and instrumental social support ($p<.05$ and $p<.001$, respectively); and more frequent anxiety ($p<.001$), depression ($p<.05$), pain ($p<.05$), and fatigue ($p<.01$)). Partners also perceived less negative impact of patients' prostate cancer-related urinary and sexual problems, but more negative impact of hormonal problems (all $ps<.001$). Partners spent fewer hours watching tv ($p<.01$) and reported healthier eating habits than the patients ($p<.05$). Compared to those in low ADI neighborhoods, patient-partner couples who lived in more disadvantaged high ADI neighborhoods reported worse overall QOL and subdomains ($ps<.05$ – 0.001); more negative appraisals ($p<.01$); less interpersonal support and fewer health behaviors ($ps<.05$); more bothersome prostate cancer specific bowel and hormonal symptoms ($ps<.01$); and more frequent anxiety, pain, and fatigue (all $ps<.05$). This is the first study that used a multilevel approach to comprehensively examine the disparities in the health outcomes and stress-coping related psychosocial behavioral factors among patients with localized prostate cancer and partners who manage cancer and treatment-related stress in the context of neighborhood deprivation. Tailored interventions are needed to best meet the care needs of prostate cancer patients and partners, especially those in deprived neighborhoods.

PO-177 Does greater oncologist density reduce estimates of Black-White disparities in cancer mortality Yuehan Zhang[1], Kathryn M. Leifheit[2], Otis W. Brawley[1], Roland Thorpe[1], Darrell Gaskin[1], Lorraine Dean[1]. [1]Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD, [2]UCLA Fielding School of Public Health, Los Angeles, CA.

Background: Black-White racial disparities in cancer mortality in the US are well-documented. Oncologist density, as a measure of oncology care access, has the potential to improve cancer outcomes. Given the estimated shortage of oncologists over the next decade, understanding how oncologist density might influence cancer disparities is of considerable importance. We hypothesized that greater oncologist density was associated with smaller racial disparities in cancer mortality. Methods**:** An ecological study of 1,048 US counties was performed. Oncologist density (per 100,000 population) was calculated where oncologists were identified from the 2013 National Plan and Provider Enumeration System. Using the age-standardized cancer mortality rate between 2014-2018 from State Cancer Profiles, the Black:White cancer mortality rate ratio was calculated for each county. Linear regression was constructed to assess the association of oncologist density with (1) Black-White cancer mortality rate ratio, and (2) cancer mortality rates overall, and separately among Black and White people. Results**:** The mean Black:White cancer mortality rate ratio across US counties was 1.13. Every five additional oncologists per 100,000 population was associated with 0.02 increase in the Black:White cancer mortality rate ratio (95% confidence interval [CI]: 0.007 to 0.03) in the multivariable model. The role of oncologist density on cancer mortality was different between Black and White people. Every five additional oncologists per 100,000 population was associated with a 1.59 decrease per 100,000 population in cancer mortality rates among White people (95% CI: -2.96 to -0.23), whereas oncologist density was not associated with cancer mortality rates among Black people. **Conclusions:** Greater oncologist density was associated with larger Black-White racial disparities in cancer mortality. Greater oncologist density was associated with significantly lower cancer mortality among White patients, but not among Black patients. Increasing oncologist density alone could exacerbate mortality disparities, thus attention to ensuring equitable care is critical.

Epidemiology, Lifestyle, and Genetics: Obesity, Metabolism, and Cancer

PO-178 Metabolic syndrome and risk of breast cancer by molecular subtype: Analysis of the Mechanisms for Novel and Established Risk Factors for Breast Cancer in Women of Nigerian Descent (MEND) study Tomi Akinyemiju. Duke University School of Medicine, Durham, NC.

Background: The African continent experiences the highest age-standardized breast cancer mortality globally, with Nigeria reporting the highest rate within the continent. Breast cancer in Nigeria is characterized by several striking epidemiological features. These cancers are disproportionately pre-menopausal, diagnosed at late-stages with high-grade disease, and characterized by the highly-aggressive triple-negative subtype. However, few studies have focused on understanding the differentially patterned risk factors associated with high breast cancer burden among Nigerian women. Metabolic syndrome is characterized by a cluster of biological irregularities and is known to be a significant predictor of breast cancer incidence. The purpose of this analysis was to examine the association of metabolic syndrome with breast cancer and molecular subtypes among Nigerian women for first time. Methods: Metabolic syndrome was defined as having at least 3 out of 5 of: high blood pressure (≥130/85 mm Hg), reduced HDL (<50 mg/dL), elevated triglyceride (>150 mg/dL), high waist circumference (≥80 cm), and prior diagnosis of diabetes or elevated fasting glucose level (≥100 mg/dL). Among 296 newly diagnosed breast cancer cases and 259 healthy controls, multivariable logistic regression models were utilized to estimate adjusted odds ratios (aOR) and 95% confidence intervals (95% CI) for the association between metabolic syndrome and breast cancer overall. Multinomial logistic regression models were used to evaluate each molecular subtype (Luminal A, Luminal B, HER2-enriched and triple-negative). Results: Cases compared to controls were significantly more likely to have metabolic syndrome (30% vs. 17%; p<0.001). After adjusting for age, socio-demographic and reproductive risk factors, there was a positive association between metabolic syndrome and breast cancer (aOR: 1.84, 95% CI: 1.07, 3.16). In stratified analyses, metabolic syndrome was associated with breast cancer regardless of BMI status; however, the estimate was significant only among normal weight women (aOR: 3.85; 95% CI: 1.25, 11.90). Metabolic syndrome was significantly associated with the triple-negative breast cancer subtype (aOR: 4.37, 95% CI: 1.67, 11.44); associations for other molecular subtypes were not statistically significant. Conclusion**s**: Metabolic syndrome appears to be a robust risk factor for breast cancer, particularly for triple-negative breast cancer. Public health and clinical interventions can provide substantial benefits in reducing the burden of metabolic syndrome and preventing breast cancer among Nigerian women.

PO-179 Analysis of long-term exposures to cigarette smoking and female hormones jointly with risk alleles of glucose metabolism in African American hormone receptor positive breast cancer Su Yon Jung[1], Jeanette C. Papp[1], Eric M. Sobel[1], Matteo Pellegrini[1], Herbert Yu[2]. [1]University of California, Los Angeles, Los Angeles, CA, [2]University of Hawaii Cancer Center, Honolulu, HI.

Background: Breast cancer (BC) is the most common cancer diagnosis and cause of death related to cancer in women in the United States and worldwide and more than 80% of new cases and deaths occur in postmenopausal women ages 50 years and older. Whereas African American (AA) women have a lower BC incidence rate than white women (e.g., 126.7 vs. 130.8 cases per 100,000 during 2012–2016), AA women's incidence rates have more rapidly increased than those in white women (0.9% vs. 0.4% per year), contributing to a convergence in BC incidence rates in 2016. BC is also the top leading cause of cancer incidence and mortality in AA women. Glucose intolerance/insulin resistance (IR) is a well-established risk factor for invasive BC development in AA postmenopausal women. While obesity and IR are more prevalent in AA than white women, they are under-represented in genome-wide studies for systemic regulation of IR and the association with BC risk. Methods**:** By examining 780 genome-wide IR single-nucleotide polymorphisms (SNPs) available in the Women's Health Initiative Database for Genotypes and Phenotypes (WHI dbGaP) SNP Health Association Resource (SHARe), we tested 4,689 AA women for potential causal pathways of genetically determined IR and BC risk in a Mendelian randomization (MR) framework. By incorporating 37 BC-associated lifestyle factors, we further conducted a gene–environment interaction analysis to estimate risk prediction for the most influential genetic and lifestyle factors and evaluated their combined and joint effects on BC risk. Results**:** Our MR results analyzing 38 index SNPs were mixed. By accounting for variations of individual SNPs in BC risk in the prediction model, we detected 4 fasting glucose–associated SNPs in *PCSK1*, *SPC25*, *ADCY5*, and *MTNR1B* and 3 lifestyle factors (smoking, oral contraceptive use, and age at menopause) as the most predictive markers for BC risk. Our joint analysis of risk genotypes and lifestyles with smoking revealed a synergistic effect on increased risk of BC, particularly ER/PR+ BC, in a gene–lifestyle dose-dependent manner. The joint effect of smoking on ER/PR+ BC was more profound in women who had long-term exposure to cigarette smoking and a prolonged exposure to female hormones. Conclusion**:** Our finding may improve the prediction accuracy in BC subtypes and highlight genetically targeted preventive interventions (e.g., smoking cessation) for AA postmenopausal women who carry particular risk genotypes.

PO-180 Synergistic interplay between genetic characteristics of glucose homeostasis and long-term exposure to cigarette smoking in development of African American colorectal cancer Su Yon Jung. University of California, Los Angeles, Los Angeles, CA.

Background: Colorectal cancer (CRC) is the leading cause of cancer diagnosis and death in women in the United States and other westernized countries and approximately 90% of new cases and deaths occur in women 50 years old and older. African American (AA) women have the highest CRC incidence and mortality rates among all races/ethnic female groups. Also, CRC is the third most common cancer diagnosis and cause of cancer deaths in AA women. Insulin resistance (IR) or glucose intolerance is a critical biologic mechanism for the development of CRC owing to obesity in postmenopausal women. Whereas IR and excessive adiposity are more prevalent in AA women than in white women, AA women are under-represented in genome-wide studies for systemic regulation of IR and the association with CRC risk. Methods**:** Having examined 780 genome-wide IR single-nucleotide polymorphisms (SNPs) available in the Women's Health Initiative Database for Genotypes and Phenotypes (WHI dbGaP) SNP Health Association Resource (SHARe) among 4,692 AA women, we tested for a causal inference between genetically elevated IR and CRC risk in a Mendelian randomization (MR) framework. Further, by incorporating 35 CRC-associated lifestyle factors, we established a prediction model on the basis of gene–environment interactions to generate risk profiles for CRC with the most influential genetic and lifestyle factors and eventually estimated their combined and joint effects on CRC risk. Results**:** In the pooled MR analysis, the genetically elevated IR was associated with 9 times increased risk for CRC. By addressing the variation of individual SNPs in CRC risk in the prediction model, we detected 4 fasting glucose–specific SNPs in *GCK*, *PCSK1*, and *MTNR1B* and 4 lifestyles, including smoking, aging, prolonged lifetime exposure to endogenous estrogen, and high fat intake, as the most predictive markers for CRC risk. Our joint test for those risk genotypes and lifestyles with smoking revealed the synergistically increased CRC risk, more substantially in women with longer-term exposure to cigarette smoking. Conclusion**:** Our findings may improve CRC prediction ability among medically under-represented AA women and highlight genetically informed preventive interventions (e.g., smoking cessation; CRC screening to longer-term smokers) for those women at high risk with risk genotypes and behavioral patterns.

Epidemiology, Lifestyle, and Genetics: Other

PO-181 Race, educational attainment and pancreatic cancer mortality among Latinos

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Background: Socioeconomic status, race, and educational attainment are known to impact outcomes of various cancers. Pancreatic cancer is one of the most aggressive types of cancer and accounts for a high number of deaths worldwide. This study aims to describe the mortality for pancreatic cancer by sex, race/skin color, and educational attainment in Brazil in the past decade. Methods**:** Descriptive ecological study, which evaluated the mortality rate for pancreatic cancer in the Brazilian National Health System from 2010-2019. The mortality rate was evaluated by sex, race/skin color, and educational attainment using the national database (DATASUS – Department of Informatics of the Unified Health System). The official classification of race/skin color in Brazil is composed of five categories: White, Brown [Pardo], Black, Yellow, and Indigenous. Results**:** During this time period, there was a total of 94024 deaths from pancreatic cancer in the Brazilian National Health System, of which 47295 (50.3%) were female. Regarding race/skin color; 58802 (62.5%) considered themselves white, 24845 (26.4%) brown, 5883 (6.3%) black, 954 (1%) others, and 3540 (3.8%) did not answer the question. Regarding educational attainment (n=76343); 9658 (12.7%) never had formal education, 41157 (53.9%) had >0 to 7 years, 15632 (20.4%) had 8 to 11 years, and 9896 (13%) had >12 years of educational attainment. Conclusion**s:** The majority of patients who died from pancreatic cancer in our study were female, white, and had >0 to 7 years of educational attainment. However, these associations are still little analyzed worldwide and need more attention.

PO-182 Disaster severity experience and verbal abuse among gynecological cancer patients in Puerto Rico in the aftermath of Hurricanes Irma and María Lianeris Mariel Estremera-Rodriguez[1], Istoni da Luz-Sant'Ana[1], Liz Marie Martinez-Ocasio[2], Ana Patricia Ortiz-Martinez[1,2]. [1]University of Puerto Rico Medical Sciences Campus, San Juan, Puerto Rico, [2]University of Puerto Rico Comprehensive Cancer Center, San Juan, Puerto Rico.

Objective: This study aimed to investigate stressors experienced as a result of hurricanes Irma and Maria among a sample of gynecologic (GYN) cancer patients in Puerto Rico (PR) and evaluate if the severity suffered was associated with verbal violence (VV) events during a year after the event. Methods: Secondary analysis of a retrospective cohort study that included 114 women aged ≥ 21 years, diagnosed with GYN cancer, who received oncology services in PR and reported to have a partner during the 12 months post-hurricanes. Participants completed an interview and the Conflict Tactics Scale 2 (CTS 2). Bayesian Exploratory Factor Analysis was performed to create the hurricane severity experience variable (HSE). The association between HSE and VV was evaluated through a logistic regression model. Results: In our study 26.32% of women reported VV within 12 months of the hurricanes, none of them had experienced VV before the event. Regarding hurricane-related stressors, 42.98% suffered house flooding, while 29.82% (phone service) and 31.25% (cellphone service) lost communication. Also, 21.93% lost water service for over 30 days and 21.05% lost power service for over 107.5 days (both over the median). In addition, 22.32% reported death of a close friend and 15.18% death of a family member. Stressors that contributed to form the HSE variable were health complications post-hurricane, loss of power, loss of water, death of a friend or family member, displacement, car flooding, physical injuries or illness after hurricanes, loss of debris and loss of garbage disposal service. No association was found between HSE and VV (RR=1.00, 95% CI=0.94, 1.06), nor each stressor evaluated separately as an independent variable. Adjusted analysis showed that for every unit increase in age, the probability of suffering VV decreased by 2% (RR=0.98, 0.97, 0.99). Conclusions: Our study evidences a high prevalence of VV and hurricane related stressors in this population of GYN cancer patients. Even though we did not evidence an association between HSE and VV in the study sample, cancer patients are vulnerable after disasters and recognizing the intersection they may experience with IPV, should be considered in disaster management and response plans, as well as within cancer control plans. Younger age can be a predictor of IPV. Thus, along with routine screening, physicians can enhance early identification of IPV victims in younger individuals and cancer patients.

Epidemiology, Lifestyle, and Genetics: Other Risk Factors

PO-183 Racial disparities in *Helicobacter pylori* infection: A systematic review and retrospective study HannahSofia T. Brown, Meira Epplein, Helen Tang, Katherine Garman. Duke University, Durham, NC.

Background/Aims: Racial disparities exist across the spectrum of non-cardia gastric carcinogenesis, from *H. pylori* infection through gastric intestinal metaplasia and gastric cancer. Currently, there are no guidelines supporting widespread gastric cancer screening in the US, however there are suggestions that race and ethnicity may be important risk factors for both *H. pylori* infection and gastric cancer. A better understanding of racial differences in *H. pylori* infection prevalence and virulence might allow for improved risk stratification strategies for gastric cancer prevention. This systematic review sought to provide a comprehensive evaluation of the literature regarding racial disparities in *H. pylori* infection in the US. The review was performed to inform a larger translational research project at Duke that includes a retrospective study of Duke's patient population with *H. pylori* infection and gastric intestinal metaplasia. **Methods:** We performed a systematic search of Medline, EMBASE, and Web of Science through May 26, 2021. Using COVIDENCE software, 4143 studies were imported for screening, and 39 relevant studies that reported *H. pylori* infection prevalence by race in the US were identified. Odds ratios and prevalence of *H. pylori* for individual studies were compiled and assessed. We also present here an initial comparison of characteristics by race in a new, large retrospective study of *H. pylori* and intestinal metaplasia cases diagnosed from upper endoscopy from 2015-2019 at Duke University Hospitals. **Results:** All studies included documented higher *H. pylori* infection prevalence in Blacks and Hispanics compared to whites in the US. The ratio of Black to white *H. pylori* infection prevalence ranged from 1.3 to 5.4; for Hispanic to white *H. pylori* infection, the prevalence ranged from 1.8 to 4.4. Ten studies included odds ratios or risk ratios in their analysis. Compared to whites, Blacks had 2.6-4.4 times greater odds and Hispanics a 1.8-3.9 times greater odds of having an *H. pylori* infection. Four studies included prevalence of seropositivity to the *H. pylori* virulence factors VacA and CagA by race. In three of the four studies, Blacks and Hispanics had higher prevalence rates of infection with both VacA and CagA positive strains. In our local retrospective chart review, among all patients undergoing endoscopic biopsies at Duke in a 5-year period (n=20,352), *H. pylori* and *H. pylori*-positive intestinal metaplasia were 4-5 times more common in Blacks compared to whites. **Conclusion:** In a systematic review, across all identified studies and all time points, Blacks and Hispanics had significantly higher prevalence rates of *H. pylori* infection compared to whites in the US. This increased prevalence of *H. pylori* and *H. pylori* virulence factors may be relevant in the clinical setting relating to *H. pylori* testing and gastric cancer prevention. Similarly, in our local Duke cohort, a significantly greater percentage of Blacks presented with *H. pylori* positivity than whites at upper endoscopy.

PO-184 Investigating factors associated with colorectal cancer incidence among long-haul truck drivers in the United States Jasmine A. Lopez[1], Ethan M. Petersen[1], Folasade P. May[2], Ellen Brooks[1], Matthew S. Thiese[1], Carson D. Kennedy[1], Charles R. Rogers[1]. [1]University of Utah School of Medicine, Salt Lake City, UT, [2]University of California, Los Angeles, Los Angeles, UT.

A retrospective cross-sectional analysis using Commercial Driver Medical Exam (CDME) data was performed to determine the association between colorectal cancer (CRC) risk factors and CRC incidence among long-haul truck drivers (ages 21-85), after adjustment for age. Our hypothesis was that long-haul truck drivers with poor health have a higher prevalence of CRC due to the confluence of CRC risk factors experienced by this population after adjusting for age. CRC is a common and deadly malignancy with several known risk factors, including heavy alcohol use, obesity, high consumption of processed and red meat, sedentary lifestyle, and tobacco use. Long-haul truck drivers have a high prevalence of the abovementioned risk factors, yet CRC risk has not been studied in this group. Given the reported risk factors associated with the truck driving occupation married to the lack of health literature and, a need remains to extensively examine the health of long-haul truck drivers. National survey data from January 1, 2005, to October 31, 2012, among commercial motor vehicle drivers in 48 states were examined. The CDME does not have a specific question about CRC diagnosis, text recognition was used to identify specific terms in the CDME notes and comments. Next, the entire CDME was reviewed by two researchers to determine definite versus probable CRC diagnosis, blinded to all other data. Our team also identified 311 records by searching for the following terms: colon, rectum, cancer, colorectal, CRC, and polyp. To achieve the study purpose, Kruskal-Wallis tests were employed to analyze continuous variables and Fischer's exact tests to analyze categorical variables. CRC incidence was the primary outcome, while our independent variables included demographics, body mass index, along with concomitant medication conditions verified by a medical examiner. **U**nivariate and multivariable logistic regression was utilized to quantify the magnitude and direction of the association between our independent variables of interest and CRC incidence. Odds ratio (OR) and 95% confidence intervals (95% CI) were adjusted for age, gender, years of employment with the company, and Body Mass Index in a multivariate logistic regression. Obesity (OR=4.28; 95% CI=1.28-14.29) and increasing age (OR=1.09; 95% CI=1.06-1.12) were significantly associated with CRC incidence. Additionally, truckers with 4+ concomitant medical conditions were more likely to have CRC (OR=5.58; 95% CI=1.26 – 24.75). Despite a growing body of literature ascertaining the health of truck drivers and risk factors associated with truck driving as an occupation, knowledge gaps remain, and inadequate data is available on this population for CRC. Our findings highlight mutable risk factors and represent an opportunity for intervention that may decrease CRC morbidity and mortality among truck drivers—a unique population estimated to live up to 16 years less than the general male population.

PO-185 Relationship between reproductive factors and risk of luminal, triple-negative, and HER2-overexpressing breast cancer by race/ethnicity Nicole C. Lorona[1], Linda S. Cook[2], Mei-Tzu C. Tang[3], Deirdre A. Hill[2], Charles L. Wiggins[2], Christopher I. Li[3]. [1]University of Washington, Seattle, WA, [2]University of New Mexico and the University of New Mexico Comprehensive Cancer Center, Albuquerque, NM, [3]Fred Hutchinson Cancer Research Center, Seattle, WA.

Background: Black, Hispanic, and Asian/Pacific Islander (API) women are disproportionately affected by less-common, more aggressive subtypes of breast cancer, and differences in reproductive factors may contribute to these disparities. We conducted a population-based case-case analysis comparing the risks of luminal B, triple-negative (TN), and HER2-overexpressing (H2E) breast cancer to the risk of luminal A breast cancer to better understand how reproductive risk factors influence the excess burden of aggressive breast cancer subtypes among racial/ethnic minority women. Methods: This case-case analysis was based on incident breast cancer cases, 20-69 years of age, diagnosed among residents within the respective catchment areas of two population-based cancer registries. Subtypes were defined by joint estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2) status: luminal A (ER+/HER2−), luminal B (ER+/HER2+), H2E (ER−/HER2+), and TN (ER−/PR−/HER2−). Data were collected through medical record reviews and structured interviewer-administered questionnaires. Categorical exposure variables included: parity, number of full-term pregnancies, history of breastfeeding, age at menopause, and age at menarche. Multinomial logistic regression models were fit to calculate odds ratios (OR) and associated 95% confidence intervals (95%CI) for each subtype relative to luminal A breast cancer, separately for non-Hispanic white, Hispanic white, Black, and Asian/Pacific Islander (API) women, and adjusting for age at diagnosis, study site, and year at diagnosis. Results: This sample included 4,557 women with breast cancer (2,047 luminal A, 335 luminal B, 1,559 TN, and 615 H2E). Among non-Hispanic white women, parity was more strongly associated with H2E than luminal A breast cancer (OR:1.24, 95%CI:0.99-1.53). Among Black and API women, parity was associated with a greater risk of TN (Black OR:1.41, 95%CI:0.72-2.78; API OR:2.43, 95%CI:1.12-5.29) and a greater risk of H2E (Black OR:2.14, 95%CI:1.78-2.57; API OR:3.73, 95%CI:2.18-6.37), relative to luminal A breast cancer. Breastfeeding was more strongly associated with the risk of luminal B than luminal A breast cancer among API women (OR:1.33, 95%CI:1.13-1.57). Older age at menarche was associated with an increased risk of TN breast cancer only among Black women. Conclusion: In this population-based study, the associations between some reproductive factors and less-common subtypes of breast cancer differed by race/ethnicity. The reproductive choices of women from different racial/ethnic groups are driven by a complex set of factors that seem to influence their subsequent risk of TN and H2E breast cancer. Future studies are needed to further clarify these mechanisms among Black and API women and to identify optimal points of intervention.

PO-187 Atopic allergic conditions and prostate cancer risk in the Multiethnic Cohort Study Anqi Wang[1], Peggy Wan[1], Loic Le Marchand[2], Lynne R Wilkens[2], Christopher A. Haiman[1]. [1]University of Southern California, Los Angeles, CA, [2]University of Hawaii Cancer Center, Honolulu, HI.

Previous evidence of the impact of atopic allergic conditions (AACs, such as asthma, hay fever, and allergies) – a highly reactive immune state, on prostate cancer risk has been inconclusive, and few studies have focused on diverse racial and ethnic populations. To examine the association between AACs and AAC medication use with prostate cancer risk, we evaluated 74,598 men aged 45 years and older at baseline from Hawaii and California in the Multiethnic Cohort (MEC) Study (26% White, 13% African-American, 7% Native Hawaiian, 31% Japanese American, and 23% Latino). Prostate cancer cases and deaths were identified by linkage to the SEER cancer registries and death certificate files, supplemented by National Death Index. AACs status and AACs medication use and duration were obtained from a self-reported baseline questionnaire. We used Cox proportional hazard regression to estimate hazard ratios (HRs) and 95% confidence intervals (CIs), using age as the time metric. We adjusted for year at cohort entry, education, race/ethnicity, BMI, diabetes history, family history of prostate cancer, and aspirin and/or statin use in all analyses. The median follow-up through 2017 was 21.5 years, and a total of 8,696 incident prostate cancer cases, and 1,171 prostate cancer deaths occurred. Twenty-one percent of men reported any history of diagnosed AACs, with the highest prevalence reported in Whites, and the lowest prevalence in Latinos. After multivariate adjustment, AACs were not associated with incident prostate cancer (HR=0.98, 95%CI: 0.93-1.03), and no racial/ethnic differences were observed (p interaction=0.12). However, AACs were significantly associated with a reduced risk of prostate cancer mortality (HR=0.79, 95CI:0.68-0.93). After stratification, all racial/ethnic groups showed an inverse association (HR range 0.60-0.90, all p>0.05). Among men with AACs, a comparison of men with or without medication use showed similar risks of prostate cancer incidence (HR=1.01, 95%CI:0.93-1.10) and prostate cancer mortality (HR=1.00, 95%CI: 0.77-1.31). Moreover, there was no significant difference between duration of medication use and prostate cancer risk (p trend=0.4), suggesting that the inverse association between AACs and prostate cancer mortality was not due to medication use. In survival analysis among prostate cancer cases, men with AACs also showed a reduced risk of dying from prostate cancer (HR overall=0.75, 95CI:0.63-0.89; HRs by race/ethnicity all<1, with p's>0.05). Adjusting for the potential confounding effect of PSA screening did not meaningfully change the results. In summary, we found an inverse association between AACs and prostate cancer mortality across White, African-American, Native Hawaiian, Japanese-American, and Latino men, which was independent of the effect of PSA screening. Further etiological research on the relationship between allergic response and prostate cancer progression is warranted.

Epidemiology, Lifestyle, and Genetics: Physical Activity and Energy Balance

PO-188 The relationship of intervention attendance, changes in self-efficacy, social support, health behaviors, and weight loss outcomes among overweight Appalachian adults

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Objectives: To determine whether self-efficacy and social support mediate the association between intervention attendance and changes in health behaviors; and to quantify the dose-response relationship between changes in health behaviors and weight loss outcomes. Methods**:** Data were from a group-randomized trial that compared a 1-year faith-based weight loss intervention to an active control group among overweight Appalachian adults in churches. Participants from the weight loss group who completed the 12-month assessment were included. Intervention attendance was defined as the percentage of sessions attended. Baseline and 12-month data on weight, self-efficacy for physical activity (SEPA), social support for eating healthy (SSEH), social support for physical activity (SSPA), exercise, and dietary intake were used. Mixed effect models were used to control for the random-effect of geographic regions. Results**:** Among the 243 included participants, most were female (76.2%), white (97.5%), and married or living with a partner (81.2%). After the 12-month intervention, participants lost 1.12±0.33kg weight, increased 0.44±0.13 servings/day of fruit and vegetable, reduced 321.55±41.99kcal/day of caloric intake, improved SSEH from family and friends, and increased SSPA from the church family (all $P<0.05$). Each 10% increase in intervention attendance was associated with higher odds of increased SSEH from family (OR=1.17, 95% CI=1.06-1.30) and friends (OR=1.16, 95% CI=1.04-1.28), and higher odds of increased SSPA from the church family (OR=1.27, 95% CI=1.12-1.44). SSPA from the church family mediated 96.7% of the association between intervention attendance and total exercise MET·min/week. Although intervention attendance was associated with increased walking MET·min/week, SEPA, SSPA from family/friends/church did not mediate the association. Additionally, with every 100 kcal decrease in caloric intake, weight and BMI decreased at 12-months (0.15±0.05kg, P=0.002; 0.058±0.017kg/m^2, P=0.001). After adjusting for exercise, each 100 kcal decrease in caloric intake was associated with a decrease in weight and at 12-months (0.17±0.05kg, P=0.001; 0.065±0.019kg/m^2, P=0.001). Conclusion**:** Social support from the church family plays an important role in increasing physical activity. There was a dose-response relationship between daily caloric intake and weight loss among Appalachian residents. Strategies to improve social support and reduce caloric intake are needed to improve the efficacy of weight loss through lifestyle modifications for this population.

Epidemiology, Lifestyle, and Genetics: Race, Admixture, and Ethnicity

PO-189 Racial disparities in attainment of pathological complete responses in HER2 positive breast cancer Callie Angell[1], Jolonda Bullock[2], Anna Diaz[2], Riyaz Basha[1], Kalyani Narra[2]. [1]University of North Texas Health Science Center Texas College of Osteopathic Medicine, Fort Worth, TX, [2]Oncology and Infusion Center, JPS Health Network, Fort Worth, TX.

Pathologic complete response (pCR) is associated with the survival of breast cancer patients receiving neoadjuvant chemotherapy. John Peter Smith Hospital (JPS) has a high proportion of black patients, who have been shown to have lower pCR rates compared to non-Hispanic white (NHW) patients. The objective of this institutional study was to evaluate the racial and ethnic disparities in pCR rates of patients who received trastuzumab based neoadjuvant chemotherapy. A retrospective study was conducted using data from the institutional registry of the JPS Oncology and Infusion Center in Fort Worth, TX. Eligible patients were diagnosed with human epidermal growth factor receptor 2 (Her2) positive breast cancer between 1/1/2016 and 12/31/2019 and underwent neoadjuvant trastuzumab-based chemotherapy. Information on treatment regimen, diagnostic stage, hormone receptor (HR) status and demographic information were collected. The JPS Department of Pathology provided the pCR (ypT0/isypN0) data. JPS had 45 (NHW: 12, black: 15, and Hispanic: 11) eligible patients for this study. Of the 45 patients who underwent trastuzumab based neoadjuvant chemotherapy, 25 achieved pCR; 8 NHW, 7 Black, and 6 Hispanic. For HR negative patients, 3 of 4 NHW, 1 of 5 black, and 3 of 5 Hispanic patients achieved pCR for a total of 9 out of 17 patients. 40 of the 45 patients were treated with a regimen of docetaxol (T), carboplatin (C), trastuzumab (H), and pertuzumab (P), of which 21 achieved pCR. This study was limited by the number of eligible patients and should not be extrapolated to larger populations, but it shows the reality of an urban safety net hospital. It is interesting that overall, 67% of NHW patients achieved pCR, compared to 47% of black patients and with Hispanic patients in the middle at 55%. For HR negative cases, black patients were even less likely to have pCR. A previous study done by the University of Chicago found that the racial disparity in pCR rates was greatest in HR negative Her2 positive patients (Zhao et al, SABCS SS1-06). The neoadjuvant trials that tested pertuzumab in combination with trastuzumab and led to pertuzumab approval for Her2 positive breast cancer patients had few black patients, with 1.4% of patients being black in NEOSPHERE and 4% in TRYPHAENA, and neither commented on Hispanic patients. The data from TRYPHAENA showed 84% pCR for HR negative patients on P+TCH regimens, compared to 53% at JPS on similar treatment plans, and only 20% for HR negative black patients at JPS. Our institutional study supports the disparity in the effectiveness of the current treatment for Her2 positive breast cancer, especially for HR negative black patients, however, it is necessary to do more research to understand the response rates in black patients and planning for interventions for improving the outcomes. It is also important to further investigate the differences between ethnicities in treating Her2 positive breast cancer.

PO-190 Health disparities in high-risk lung cancer families and their association with smoking, environmental exposures, and other etiological factors Grace L. Brandhurst[1], Angelle Bencaz[1], Sarah North[1], Ellen Jaeger[1], Diptasri Mandal[1], Joan Bailey-Wilson[2]. [1]Louisana State University Health Sciences Center, New Orleans, LA, [2]NIH/NHGR, Baltimore, MD.

Lung cancer (LC) is by far the leading cause of cancer-related deaths worldwide. LC survival has only improved marginally over the last decades with the five-year survival rate for LC being lower than most other leading cancer sites. African Americans (AAs) have a higher incidence rate and lower survival rate for LC in comparison to all other racial and ethnic groups in the United States. In addition, incidence rates among AAs and European Americans (EAs) vary with histology of LC. Although tobacco smoking has been identified as the major risk factor for LC, studies have shown there is a genetic component involved in the development of the disease. About 25% of LC cases have at least one first- or second-degree relative, indicating that family history is a relevant risk factor. The goal of this study is to characterize genetic, clinical, and environmental risk factors among individuals of EA and AA ancestry from the high-risk families with LC that could hold important clinical value to address LC disease disparity. Study participants with LC were recruited from a network of 30 hospitals from Louisiana along with multiple states across the country. Study participants with at least two confirmed cases of primary LC within the family were eligible. Participants were divided into two subgroups: Familial (≥2 LC cases/family) and Hereditary LC (HLC families) (≥3 affected LC cases/ family). Medical and pathology reports were obtained from hospitals along with demographic and environmental data from the families. A total of 192 study participants (157 EA and 35 AA) from both familial and HLC families from the years 1992 through 2021 were used in this study. Data abstracted from the pathology, clinical reports, and study questionnaire was entered into spreadsheets and analyzed. Histology of LC diagnosis and clinical reports on mutation analysis were documented. The preliminary analyses of results have found that the average age of onset for AAs is significantly lower than in EA (P value < 0.0001). Additionally, while smoking is commonly referred to as a major contributor to LC disparities, AAs were found to have significantly lower pack years of cigarette use than EAs (P value < 0.05). The average age the AA participants 'begin to smoke' was also found to be significantly lower than EAs (P value < 0.05). The majority of the study participants with LC were diagnosed with adenocarcinoma irrespective of the number of pack-years for cigarette use. Mutation analysis in the clinical report for a small number of study participants in the EA families provided limited information. Additional analysis is ongoing. Clinical and pathological characterization in association with risk factors from high-risk families with EA and AA ancestry will provide us with a better understanding behind the disproportionate distribution of incidence and survival for LC in the AA population.

PO-191 Contributions of tumor characteristics, treatment, and access to care factors on racial disparities in endometrial cancer survival Jordyn A. Brown, Jennifer A. Sinnott, Kemi M. Doll[2], Macarius M. Donneyong, Tasleem J. Padamsee, Elyse Llamocca, David E. Cohn, Casey Cosgrove, Ashley S. Felix. The Ohio State University, Columbus, OH, [2]University of Washington, Seattle, WA.

Background: Among women with endometrial cancer (EC), well-established mortality disparities between White and Black women have continued to widen over time. Hispanic, American Indian/Alaska Native (AI/AN) women, and women broadly categorized as Asian or Pacific Islander have not been the focus of many prior studies of racial disparities in EC survival. We examined racial disparities in survival and assessed the contributions of demographic, tumor, treatment, access to care, and health status factors on racial disparities in survival among women with EC. Methods: Participants were diagnosed between 2004 and 2015 with stages 1A through 4B, endometroid and non-endometroid EC in the National Cancer Database (NCDB). Race was categorized as non-Hispanic white (NHW), non-Hispanic black (NHB), Hispanic, Asian, Native-Hawaiian/Pacific Islander (NH/PI), and AI/AN. We used a series of Cox regression models to estimate the relative contribution of prognostic factors to excess risk of mortality. We examined the following classes of prognostic factors: age at diagnosis, tumor characteristics (stage and histology), guideline-concordant treatment, access to care (insurance status, facility type, treatment delay), and Charlson comorbidity. Each class of factors was added individually to a baseline race-only model, and we estimated the percentage contribution of each class on changes in the hazard ratio (HR) for race using the equation: $(HR_0 – HR_n)/(HR_0 – 1)$, in which HR_0 is from the race-only model and HR_n is the HR for race categories from the model with the variables of interest. Asian women comprised the reference category in all models as mortality was lowest in this group. Changes in HRs are described as percentages. Results: Our study population included 208,112 women with EC. In the race-only model, overall HRs relative to Asians were 2.49 (95% CI, 2.32-2.67), 1.41 (95% CI, 1.18-1.69), 1.29 (95% CI, 1.20-1.38), 1.18 (95% CI, 0.97-1.43), and 1.09 (95% CI, 1.01-1.18) for NHB, NH/PI, NHW, AI/AN, and Hispanic women, respectively. Age at diagnosis was the most influential variable among NHW and NH/PI women, describing 93.1% and 75.6% of the survival disparity, respectively. Tumor characteristics were the most influential contributor for NHB women (40.9%), while among Hispanic and AI/AN women, access to care (77.8%) and comorbidities (50%) were responsible for the largest attenuation in HRs, respectively. Guideline-concordant treatment was linked with a small attenuation in HRs among NHB (2.7%), NHW (3.4%), and NH/PI (7.3%). Conclusions: Contributors to racial disparities in EC survival vary by race/ethnicity. Some factors, like age, are non-modifiable and represent poor intervention targets. Conversely, other factors, like high stage, comorbidities, and low access to care, are challenging but modifiable problems that implicate the larger societal context. Our preliminary findings suggest that interventions for reducing EC survival disparities will require a tailored approach for the particular group of women for whom we are trying to intervene.

PO-192 Comparing the association of self-reported race-ethnicity and genetic ancestry with all-cause mortality: A pan-cancer survivor analysis in the PLCO Screening Trial

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Despite improvements in overall cancer survival, there are racial and ethnic disparities in mortality rates among cancer survivors. Further investigation of both socioeconomic factors and genetic ancestry is needed to better understand contributors to disparities in cancer mortality. The aim of this study was to compare self-identified race-ethnicity (SIRE) with genetic ancestry as predictors of all-cause mortality among cancer survivors enrolled in the Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial. Multivariable Cox-proportional hazards models were used to estimate hazard ratios (HR) and 95% confidence intervals (CI) of all-cause mortality and to assess the effect of SIRE (non-Hispanic White [NHW], non-Hispanic Black [NHB], Asian & Pacific Islander [API], Native Indian [NI], and Hispanic) and genetic ancestry (continuous percentages of African, Asian, and European ancestry summing to 1, obtained from genotype array data and SNP weights) among all cancer survivors and by primary cancer site (>350 survivors). Models were (1) age-adjusted and (2) fully adjusted for: age at cancer diagnosis, year of cancer diagnosis, sex, stage, study arm, education, income, occupation, and percent urbanicity. Likelihood-ratio tests (LRT) were used to independently assess the effect of SIRE or genetic ancestry on overall survival. Participants were followed from cancer diagnosis and censored at first occurrence of death, last contact, or December 31, 2017. Among 27,249 cancer survivors, mean age was 71 years (SD 7.1), and mean follow-up time was 7.1 years (SD 6.1). SIRE and genetic ancestry were both predictors of all-cause mortality in age-adjusted models for all cancer survivors (p-LRT<0.001), and by prostate, colorectal, ovarian, and breast cancers. In the fully adjusted model, SIRE remained significant overall (p-LRT<0.001) and for prostate cancer survivors (p-LRT=0.005). Compared to NHW, API had a lower mortality (HR: 0.76, CI: 0.68-0.84) overall, which was similar for prostate cancer survivors. In comparison, genetic ancestry within the fully adjusted model remained a significant predictor overall (p-LRT<0.001), and for prostate (p-LRT=0.008), colorectal (p-LRT=0.017), and breast cancer survivors (p-LRT=0.014). Compared to European ancestry, African ancestry had an elevated mortality (HR: 1.11, CI: 1.004-1.23) overall but not significant by cancer site. Asian ancestry had a lower mortality (HR: 0.74, CI: 0.66-0.82) overall, as well as for prostate, breast, and colorectal cancer survivors when compared to European ancestry. Our analyses indicate both SIRE and genetic ancestry are important albeit different predictors of all-cause mortality among cancer survivors, with SIRE representing a social construct and genetic ancestry representing a measure of biological variation. Lack of treatment data on all participants was a limitation for this study, and future studies should consider examining disparities by treatment access. Selection of SIRE or genetic ancestry should be carefully considered when evaluating disparities in mortality.

PO-193 Disparities in perceived healthcare discrimination among *BRCA1/2*-positive women from disadvantaged health populations Avonne E. Connor, Kate E. Dibble. Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Background: Women with *BRCA1/2* mutations have different healthcare experiences in comparison with women without these mutations due to their increased risk of breast and/or ovarian cancers before the age of 70. These women live with an increased burden of healthcare costs, ongoing surveillance, and preventive surgeries. They are also impacted by cancer- and insurance-related discrimination. This analysis evaluated disparities in the association with experiencing healthcare discrimination by race/ethnicity, annual household income, and education among women with *BRCA1/2* mutations. Methods: We conducted a cross-sectional study of US-based women (≥18 years) who tested positive for either (or both) *BRCA1/2* genetic mutations within the past 5 years and who identify with one or more disadvantaged health population (racial, ethnic, or sexual minority, person with a physical disability, chronically ill, those in poverty, immigrant populations). A total of 211 women were recruited from Facebook *BRCA1/2*-oriented support groups to complete an online survey measuring demographic, cancer, and genetic information, in addition to experiences with access to care and genetic testing. Odds ratios (ORs) and 95% confidence intervals (CIs) were estimated using multivariable logistic regression models for the associations between race/ethnicity (non-Hispanic white (NHW), racial/ethnic minority), annual household income (at or above $40,000, below $40,000), education (college graduate, no college), and perceived experience of healthcare discrimination using the Discrimination in Medical Settings Scale responses. Models were adjusted for age at survey, years since genetic testing, out-of-pocket cost for genetic testing, comorbidities, marital status, income, disability status, cancer history, and residential locale. Results: A total of 182 women were included in the analysis, of which 57 were cancer survivors. Most participants were NHW (67.2%), <50 years of age (83.2%), and college graduates (64.5%). In multivariable models, women who identified as racial/ethnic minorities were 2.6 times more likely to report receiving poorer service than others in comparison to NHW women (95% CI, 1.26-5.33, p=0.01). Prior to adjusting for covariates, minority women were also two times more likely to report experiencing a doctor/nurse acting as if they were afraid of them; however, this association was no longer statistically significant with adjustment of covariates (OR, 2.04; 95% CI 0.95-4.39, p=0.07). Associations with income, education, and healthcare discrimination outcomes were not statistically significant. Conclusion**s:** Our findings indicate that racial/ethnic minority women with *BRCA1/2* mutations are more likely to experience poorer healthcare service in comparison to their NHW counterparts. Improving patient-provider interactions that can contribute to medical mistrust should be prioritized for the care of high-risk US minority women with *BRCA1/2* mutations.

PO-194 Hepatocellular carcinoma disparities among Latinos: A systematic literature review Tulio L. Correa[1], Mariana S.T.C. Guelli[2]. [1]Federal University of Pelotas, Pelotas, Brazil, [2]Volta Redonda University Center, Volta Redonda, Brazil.

Background: Liver cancer is one of the most important cancers in the United States, and hepatocellular carcinoma (HCC) is its most common form. In addition, health disparities can impact cancer-related outcomes in racial/ethnic minorities. Therefore, the aim of this study was to conduct a systematic review to analyze the hepatocellular carcinoma disparities among Latinos. Methods**:** A systematic review was conducted following the PRISMA guidelines. Papers were selected searching PubMed/Medline, SciELO, and LILACS databases in July 2021 using the search terms [Latin Americans] OR [Latinos] OR [Hispanics] OR [Racial Disparity] AND [Hepatocellular carcinoma]. The inclusion criteria was limited to observational studies published in the last five years that evaluated hepatocellular carcinoma disparities among Hispanics/Latinos. The language was restricted to English, Spanish or Portuguese. Results**:** Among the 179 papers initially identified, 44 were eligible for this review after full texts were read. Although there is a constant evolution in screening, diagnosis, and treatment strategies to improve the prognosis of HCC; racial and ethnic minorities are reported to have higher mortality related to HCC. In the United States, the age-adjusted incidence of HCC in Hispanics has surpassed those of HCC in Asians. From a public health perspective, active hepatitis C and B continue to drive most of the global burden of HCC, and there is a high prevalence of these infections in Latin America. In addition, non-alcoholic fatty liver disease (NAFLD) is one of the main risk factors for HCC in the USA, followed by alcoholic liver disease, and hepatitis C and B infections. Latin Americans have a higher prevalence of NAFLD, whereas African Americans have a lower prevalence of NAFLD. The exact contribution of genetic and environmental factors on these differences in prevalence has not been determined. While one in five HCC patients in the USA is of Hispanic ethnicity, only 38% meet the criteria for liver transplantation at the time of diagnosis. Acculturation, insurance status, and access to health care may further contribute to the observed HCC disparities among Latinos. Conclusion**s:** The data indicates that HCC disparities in early diagnosis, treatment, and outcomes among Latinos are an important issue and need more attention. We suggest that interventions are necessary to reduce HCC disparities among Latinos in order to improve cancer-related outcomes.

PO-195 Methodology for characterizing clinical differences & disparities for global populations to support disease area prioritization in industry oncology clinical development programs: Insights to inform scientifically driven evidence generation Keith Dawson[1], Dane Callow[2], Jimmy Ngueyn[1], Altovise T. Ewing [1], Ruma Bhagat[1], William Boyd[2], Caroline McCammond[2], Nicole Richie [1]. [1]Genentech, San Francisco, CA, [2]Scimitar Inc, Spokane, WA.

Introduction Population-specific disparities in clinical research are well characterized-with individuals of European ancestry comprising the majority of genetic and clinical data globally. Disease course and treatment response can vary across individuals of different race/ethnicity and ancestral backgrounds. As the population continues to diversify and healthcare evolves toward personalized medicine, it's essential that the biological differences among populations, and how these affect disease pathology, experience and outcomes, are investigated early and throughout the development process. Currently, there is no defined standard for characterizing population differences across diseases. Establishing a methodology to systematically assess and consider medically relevant population specific attributes for understudied populations is a critical enabler for the clinical research enterprise and supports greater inclusive clinical research. We established a methodology to assess and prioritize population specific attributes across disease areas (DA) and a framework to support hypothesis generation and population-driven clinical development considerations. Methods Data sources: NCI SEER, WHO Global Cancer Observatory, Global Health Data Exchange Burden of Disease, and published literature were used to assess population specific differences Attributes included: 1) Incidence and prevalence 2) Clinical outcomes, 3) molecular drivers, and 4) access factors. Population elements of race/ethnicity, genomic ancestry, and geographic origin were used to stratify outputs. A grid ranking framework was established based on relative prevalence and incidence and level of concordance or distinction of the above attributes across populations. Summary Methodology was established that included identification and analysis of key population-specific factors to rank DA's within a grid system. The following diseases were characterized as having disproportionate prevalence as well as biologically plausible population specific differences. Breast Cancer Cervical Cancer Colorectal Cancer Gastric Cancer Hepatocellular Carcinoma Head & Neck SCC Multiple Myeloma NSCLC Prostate Cancer Population specific reports were developed and used to inform business integration process into evidence generation considerations including guidelines for assessments of population level pertinence to study hypothesis, response modification potential, and relevance of biomarker differences. Conclusion The established methodology and framework provides a process and standards to characterize biologically relevant population specific attributes for understudied global populations at the disease level. This approach will support the clinical development environment to systematically approach conduct of scientifically driven inclusion of representative patients in research, ultimately supporting greater inclusion of understudied patient populations.

PO-196 Upregulation of bacterial and fungal pathogen sensing genes in preinvasive colorectal lesions in African Americans compared to Caucasian Americans Silvia Guglietta[1], Lauren R. Fanning[1], Alexandria G. Cousart[1], Kent E. Armeson[1], Zequn Sun[1], David N. Lewin[1], J Grant Brazeal[1], Dongjun Chung[2], Alexander V. Alekseyenko[1], Kristin Wallace[1]. [1]The Medical University of South Carolina, Charleston, SC, [2]The Ohio State University College of Medicine, Columbus, OH.

Background: Colorectal cancer (CRC) incidence and mortality are higher for African Americans (AAs) than Caucasian Americans (CAs). Variation in tumor immune responses by race appears to be important for prognosis. However, few studies have compared immune gene expression in preinvasive lesions where prevention may be possible. Methods**:** The immune gene expression of 95 cases of colorectal adenomas (AA 47, CA 48) excised via sigmoidoscopy or colonoscopy with polypectomy between October 2012 and May 2016 was assessed using the NanoString nCounter platform using the immunology v2 panel (n=579 genes). Data were analyzed using a NanoStringDiff R package, implementing negative binomial regression models of gene expression as the dependent variable and race group (AA vs. CA) as the primary predictor variable. Models were adjusted for age, sex, location within the colon, histology, and degree of dysplasia. Results**:** In AAs vs. CAs, 24 immune genes were up-regulated, while 11 genes were down-regulated (for each gene, $p<0.01$). Compared to CAs, genes overexpressed in AAs suggest more robust antibacterial and antifungal responses (e.g., *IL17F, IL21, AIRE, IL1A, GATA3, MARCO, FCGR1A*). Enhanced expression of terminal components of the complement pathway C8B and C9 further support an increased effector response in AAs. Additionally, genes related to wound healing (e.g., *GP1BB, XCL1)* were overexpressed in AAs. Genes associated with stimulation of cytotoxic responses (*NCR1, HLADRB1*), complement activation through lectin-related pathways (*ITLN2, MBL2*), and recruitment and function of innate immune cells (*IL8* and *IL6)* had lower expression in AAs vs. CAs. **Conclusion:** Our results suggest that preinvasive neoplasms in AAs vs. CAs display a gene expression that is suggestive of heightened sensing of bacterial and fungal commensals, which may potentially inflame local tissues and support tumor progression. Understanding the molecular differences in early tumorigenesis between AAs vs. CAs may help inform prevention interventions to address racial disparities.

PO-197 Combined effect of a prostate cancer polygenic risk score and germline pathogenic variants in DNA damage repair genes on prostate cancer risk in men of African ancestry Raymond W. Hughley[1], Burcu F. Darst[1], Marco Matejcic[2], Yesha Patel[1], Jenna Lilyquist[3], Steven N. Hart[3], Eric C. Polley[4], Lucy Xia[1], Xin Sheng[1], Alexander Lubmawa[5], Sue A. Ingles[1], Lynne Wilkens[6], Loïc L. Marchand[6], Stephen Watya[7], Fergus J. Couch[3], David V. Conti[8], Christopher A. Haiman[1]. [1]University of Southern California, Los Angeles, CA, [2]Moffitt Cancer Center, Tampa, FL, [3]Mayo Clinic, Rochester, MN, [4]Mayo Cancer Clinic, Rochester, MN, [5]Makerere University, Kampala, Uganda, [6]University of Hawaii Cancer Center, Honolulu, HI, [7]Mulago Hospital, Kampala, Uganda, [8], University of Southern California, Los Angeles, CA.

Introduction: Prostate Cancer (PCa) risk is influenced by both rare germline pathogenic variants (GPVs) in DNA damage repair genes and common variants as measured by polygenic risk scores (PRS) however, the combined effect of GPVs and PRS on PCa risk in men of African ancestry has not been investigated. Methods: We examined the combined effect of rare GPVs and PRS on PCa risk in 1,795 PCa cases and 1,424 controls of African ancestry men from the Multiethnic Cohort, the Los Angeles Study of Aggressive Prostate Cancer, and the Uganda Prostate Cancer Study. GPVs in 19 DNA genes were defined as clinically validated missense variants and variants that alter the protein sequence . The PRS was constructed as a weighted sum of 267 established PCa risk variants. The combined effect of the PRS and GPV status on PCa risk was evaluated using logistic regression models adjusting for age, study, and the first 10 principal components of ancestry to account for population stratification. Results: We identified 91 GPVs carried by 31 controls and 68 cases. Among GPV non-carriers, compared to those with average PRS (33.3-66.7%), odds ratios for PCa ranged from 0.56 (95% CI=0.45-0.70; P=1.2E-7) in low PRS men (0-33.3%) to 3.04 (95% CI=2.54-3.63; P=5.6E-35) in high PRS men (66.7-100%). Among GPV carriers, odds ratios for PCa ranged from 2.09 (95% CI=0.85-5.12; P=0.11) in low PRS men to 5.03 (95% CI=2.37-10.66; P=2.5E-5) in high PRS men, compared to GPV non-carriers with average PRS. Next, we restricted GPVs to *ATM, BRCA2, PALB2,* and *NBN[BD2]* (n=51 variants carried by 8 controls and 44 cases), which we previously reported as being the genes most strongly associated with advanced PCa in this population and study sample. Among GPV non-carriers, odds ratios for PCa ranged from 0.56 (95% CI=0.46-0.71; P=2.7E-7) in low PRS men to 5.03 (95% CI=0.85-5.12; P=0.11) in high PRS men, while among GPV carriers, odd ratios for PCa ranged from 2.08 (95% CI=0.58-7.49; P=0.26) in low PRS men to 18.06 (95% CI=4.24-76.84; P=9.0E-5) in high PRS men, compared to average PRS GPV non-carriers. When comparing aggressive cases to controls, considering the top four genes, GPV non-carrier odds ratios for PCa ranged from 0.52 (95% CI=0.40-0.70; P=6.2E-6) in low PRS men to 3.16 (95% CI=2.56-3.91; P=1.6E-26) in high PRS men, while among GPV carriers, odd ratios for PCa ranged from 2.97 (95% CI=073-12.16; P=0.13) in low PRS men to 23.58 (95% CI=5.39-103.20; P=2.7E-5) in high PRS men, compared to average PRS GPV non-carriers. Conclusion: We found that PCa risk in African ancestry men carrying GPVs in DNA damage repair and cancer predisposition genes, particularly *ATM*, *BRCA2*, *PALB2*, and *NBN*, varied depending on an individual's PRS. This implies that to comprehensively assess genetic risk of PCa, it is important to consider both rare and common variants. These findings could have implications for risk stratification in this high-risk population and emphasize the need for larger genetic studies of PCa in African ancestry men to identify and characterize genetic risk factors in this population.

PO-198 Disparities in nasopharyngeal cancer incidence among Asian American ethnic subgroups Alice W. Lee[1], Angela Sou[1], Lihua Liu[2]. [1]California State University, Fullerton, Fullerton, CA, [2]University of Southern California Keck School of Medicine, Los Angeles, CA.

Background: Although nasopharyngeal cancer is a relatively rare malignancy in the United States (U.S.), its racial disparities are striking. Incidence has been shown to be over four times higher in Asian Americans than the general U.S. population and over seven times higher when compared to Whites. However, Asian Americans constitute a heterogeneous racial group, and it is becoming increasingly evident that considering each Asian ethnicity separately is crucial when it comes to cancer research so ethnic-specific differences are not missed. These differences can inform disease etiology and improve prevention efforts, but there is limited literature that considers the diversity of the Asian American population when it comes to nasopharyngeal cancer. Methods: Using population-based cancer registry data in the Surveillance, Epidemiology, and End Results Program from 1990 to 2014, we calculated age-adjusted incidence rates of nasopharyngeal cancer for nine Asian American ethnic subgroups: Chinese, Japanese, Filipino, Korean, Asian Indian/Pakistani, Vietnamese, Laotian, Cambodian, and Native Hawaiian/Pacific Islander. We compared these rates to the rate for non-Hispanic whites using incidence rate ratios (IRRs) and 95% confidence intervals (CIs). Sex and tumor histology were considered in the analyses as well. Results: Approximately 9,700 nasopharyngeal cancer cases were included. Incidence of nasopharyngeal cancer in all Asian American ethnic subgroups with the exception of Japanese and Asian Indian/Pakistani were statistically significantly higher than non-Hispanic whites; most notably, incidence in Laotians was over 14 times higher (IRR=14.71, 95% CI 11.87-18.02) and incidence in Chinese was over 10 times higher (IRR=10.73, 95% CI 10.19-11.29). When tumor histology was considered, the disparities were most pronounced for the differentiated and undifferentiated non-keratinizing tumors. Relative to non-Hispanic whites, incidence of the differentiated non-keratinizing histology was over 30 times higher in Laotians (IRR=30.19, 95% CI 17.97-47.45), and incidence of the undifferentiated non-keratinizing histology was close to 25 times higher in both Chinese and Laotians (IRR=24.82, 95% CI 21.97-28.02 and IRR=24.95, 95% CI 15.24-38.91, respectively). Conclusions: The higher incidence of nasopharyngeal cancer previously observed in Asian Americans is largely attributable to specific ethnic subgroups. Such disparities are overlooked when Asian Americans are studied in the aggregate. Future research should explore the environmental, behavioral, and genetic factors that may contribute to the significantly higher incidence of nasopharyngeal cancer observed in Chinese and Laotians.

PO-199 Determining the association between circulating fatty acids, immune oncological markers, and prostate cancer risk in a diverse cohort Brittany D. Lord[1], Tsion Minas[1], Tiffany H. Dorsey[1], Francine Baker[1], Wei Tang[1], Edward D. Yeboah[2], Yao Tettey[2], Richard B. Biritwum[2], Andrew A. Adjei[2], Evelyn Tay[2], James E. Mensah[2], Robert N. Hoover[1], Ann W. Hsing[3], Michael B. Cook[1], Stefan Ambs[1]. [1]National Institutes of Health, Bethesda, MD, [2]University of Ghana, Accra, Ghana, [3]Stanford School of Medicine, Palo Alto, CA.

Men of African descent, including African American (AA) men and Ghanaian (AFR) men, have a disproportionately higher burden of lethal prostate cancer (PCa) when compared to European American (EA) men. This increased mortality burden could be partially attributed to lifestyle factors including the intake of dietary fatty acids and their metabolism, but may also relate to differences in inflammation and immune function. Although the extent to which fatty acids are PCa risk factors remains controversial, the relationship between fatty acids, inflammation and immune function, and PCa in men of African descent remains largely unexplored. Therefore, the goal of our study was to characterize the relationship between circulating fatty acids, immune-oncological mediators, and PCa in the ethnically diverse NCI-Maryland and NCI-Ghana Prostate Cancer Case-Control studies, with an over-representation of men of African descent. A CLIA-certified, mass spectrometry-based assay was applied to measure 24 fatty acids in sera from 1,562 cases and 1,693 controls. Logistic regression analyses were performed on seven types of fatty acids including total, saturated, *trans*, *cis*-monounsaturated, omega-6, omega-3 fatty acids, and the omega 6:3 fatty acid ratio to explore disease associations by population group. Additionally, we measured 82 immune-oncological proteins in the same sera and explored their role as potential mediators of the relationship between fatty acids and PCa. Using this approach, we observed a significant association between *trans* fatty acid levels and the odds of developing PCa in all three racial/ethnic groups. Although AFR men were found to have the lowest level of *trans* fatty acids compared to AA and EA men, they still experienced significantly increased odds of developing PCa with increasing *trans* fatty acid levels. Exploratory mediation analyses found a relationship between Palmitelaidic *trans* fatty acid levels and two circulating proteins, CD27 and CXCL1, with protein levels being higher in men with elevated levels of circulating Palmitelaidic *trans* fatty acids and an increased risk of PCa. Our findings point to a previously unexplored oncogenic role of fatty acids and immune-oncological mediators in men of African descent with PCa.

PO-200 Border differences on breast cancer incidence and survival between non-Hispanic white and Hispanic patients: A Texas population-based study Vutha Nhim, Alfonso E. Bencomo-Alvarez, Alok K. Dwivedi, Shrikanth S. Gadad, Anna M. Eiring. Texas Tech University Health Sciences Center, El Paso, TX.

Background: Breast cancer (BC) is the leading cause of cancer related deaths in Hispanic women. Hispanics make up an estimated 82% of the US/Mexico border, a region characterized by socioeconomic inequity and barriers to healthcare access. Identifying disparities associated with BC incidence and overall survival (OS) is a priority for allocating resources and optimizing care in this medically underserved population. We hypothesized that differences in Hispanics and Non-Hispanic Whites (NHW), proximity to the border, BC subtype, and treatment are associated with poor outcomes. Methods: BC data was obtained from the Texas Cancer Registry (1996-2016). Kaplan-Meier curves of OS by ethnicity, location (border, non-border), subtype (ER+, PR+, HER2+, Triple Negative (TN)), age group (18-39, 40-69, >70 years), and treatments were constructed. Other covariates included rurality, insurance status, poverty indicators, and comorbidities. Adjustment of these variables for effect on relative risk and OS were assessed with Mantel-Haenszel and Cox regression methods. Results: Univariate Cox analysis noted significantly higher Hazard Ratios (HR) for age >65 years, HER2+ and TN subtype (HR 1.76 and 2.21, $p<0.0001$), and use of biologic response modifiers (HR 1.09, $p=0.004$). Lower HR were observed for patients in El paso compared to the rest of Texas (HR 0.73, $p<0.0001$), and use of hormone therapy, chemotherapy and radiation (HR 0.92, 0.96, 0.82, $p<0.0001$). Surgery and transplant/endocrine procedures were not associated with mortality. Kaplan Meier curves showed increased median survival (MS) for Hispanic patients compared to NHW (16 and 14 years, $p<0.0001$). Similar trends were seen for patients in El Paso compared to the rest of Texas (MS 8 and 6 years, $p<0.0001$). With ER+ and PR+ subtypes, Hispanics and NHWs had similar OS, while patients in El Paso had improved OS compared to the rest of Texas (ER+: MS of 7 and 5 years, $p<0.00001$; PR+: MS of 6 and 4 years, $p<0.00001$). Non-significant differences in OS were noted for HER2+ subtype. No difference in OS was found for Hispanics and NHWs with TN subtype while OS was higher in El Paso compared to the rest of Texas (MS 4 versus 2 years, $p=0.024$). Older adults had lower OS (MS 22, 19, and 8 years for patients 18-39, 40-69, and >70 years, $p<0.00001$). Hispanics age 18-39 and 40-69 had worse OS ($p<0.00001$). ER+ and PR+ Hispanics across age groups had similar OS compared to NHW. HER2+ and TN Hispanics 18-39 years had worse OS ($p=0.0193$ and $p<0.00001$), while those ages 40-69 had similar OS for HER2+ compared to NHWs but improved OS with TN ($p<0.00001$). Similar OS was seen across age groups for patients in El Paso compared to the rest of Texas. Smaller sample sizes of patients in El Paso and loss to follow-up, especially for ages 18-39 may affect interpretation of results. Conclusion: Overall, Hispanics had comparable OS to NHW patients. Those in the border region seem to have improved OS compared to the rest of Texas. Efforts should focus on screening, detection, and follow-up for patients with HER2+ and TN subtypes.

PO-201 African ancestry predicts serous and copy number high endometrial cancer

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Introduction: Endometrial cancer (EC) is the leading gynecologic malignancy in the United States. Histologic classification is binary, with type I, low-grade tumors being exclusively endometrioid and type II, high-grade tumors inclusive of aggressive histologies like serous carcinoma. Molecular classification defines EC as POLE ultra-mutated, microsatellite instability (MSI), copy number low (CNL) and copy number high (CNH). Relative to White women, Black women have a higher risk of serous/CNH EC with worse overall survival. We aimed to understand whether self-identified race and genetic ancestry are associated with the probability of developing serous/CNH tumors among women diagnosed with EC. **Methods:** We reviewed tumor genomic data from The Cancer Genome Atlas (TCGA) and The Cancer Genetic Ancestry Atlas (TCGAA) under the project Uterine Corpus Endometrial Carcinoma. We merged both datasets matching the Patient ID and extracted age of diagnosis, histology, molecular classification, self-identified race, genomically-assigned race by EIGENSTRAT, and percentage of African, European, Asian, and Native American ancestry. We used chi-square or one-way ANOVA to test for associations to Serous/CNH diagnosis. Controlling for age, we used multivariate logistic regression to determine the odds of diagnosis with serous or CNH EC. **Results:** We identified 568 women with EC, including 115 (20%) self-identified Black, 417 (73%) White, and 23 (4%) Asian. Significant differences in mean age at diagnosis ($p<0.01$), self-identified race ($p<0.01$), and genomically-assigned race ($p<0.01$) were present between women with endometrioid and serous histologies. Self-identified race and genomically-assigned race were both significantly associated with molecular subtype of cancer ($p<0.01$). A greater percentage of African Ancestry was seen in CNH vs CNL (27% vs 11%, $p<0.01$) and CNH vs MSI (27% vs 15%, $p<0.001$). In logistic regression, self-identified Black women had higher probability of diagnosis with serous EC (OR=2.129, CI [1.273–3.561], $p<0.01$) and CNH tumors (OR=2.846, CI [1.759–4.604], $p<0.001$) compared to self-identified White women. Relative to women characterized as European American (≥48% European Ancestry), African Americans (≥35% African ancestry) had greater odds of serous EC diagnosis (OR=2.289, CI [1.376–3.806], $p<0.01$) and CNH molecular type (OR=2.839 CI [1.760–4.579], $p<0.01$). For every 1% increase in African ancestry there was 1% increase in the probability of diagnosis with serous EC (CI [1.004–1.017], $p<0.01$) and 1.4% increase on the likelihood of diagnosis with CNH EC (CI [1.008–1.020], $p<0.01$), with this percentage increasing directly proportional. **Conclusion:** Our findings suggest that African ancestry is associated with an increased odds for both high-grade EC histology and molecular EC classification. Self-identified race and genomically-assigned race demonstrate similar associations with aggressive disease. Further characterization of the molecular drivers of EC, with consideration of environmental factors and how they may impact risk, is warranted.

PO-202 Copy number variation (CNV) analysis identifies variants in 1p36 in African American and Caucasian hereditary prostate cancer cases Alan F. Williams[1], Kirsten W. Termine[1], John Waldron[1], Oliver Sartor[2], Joan Bailey-Wilson[3], Diptasri Mandal[1]. [1]LSUHSC-NO, New Orleans, LA, [2]Tulane University, New Orleans, LA, [3]National Human Genome Research Institute, Baltimore, MD.

Prostate cancer (PCa) is a common malignancy which affects 1 in 8 men. There is a significant racial disparity and African American (AA) males are more at risk for developing such cancers, at a rate of almost double compared to the males of European ancestry (EA). So far, not much is known about the role of germline copy number variations (CNVs) in this health disparity. Our previous work has shown several genetic regions with CNVs in both AA and EA hereditary prostate cancer (HPC) cases. The goal of this project was to detect germline CNVs in the targeted resequencing data spanning 9 Mb region in 1p36, that was previously identified by microarray and whole exome sequencing analyses. For this study, a total of 50 individuals were used, 25 AA and 25 EA men from HPC families. We have used three CNV calling algorithms: XHMM, CANOES, and GATK4. First, we focused on four PCa associated genes: *NBPF1*, *NBL1*, *SRSF10*, and *RHD*, that were previously identified in our study. In the current CNV analysis, XHMM identified deletions in *NBPF1* in several samples in both AA and EA cases. GATK4 was unable to call any CNVs in this gene. *NBL1* had no identified deletions in any tool, despite previous microarray data to the contrary. XHMM identified full deletions of SRSF10 in most of the cases, while GATK4 identified partial deletion in several cases from both ancestries, but more frequently in AA cases. Finally, a deletion was detected in *RHD* in only a few cases, and the deletion was confirmed by both XHMM and GATK4 algorithms. Deletion in *RHD* was more common in the EA population than the AA population. CANOES was unable to identify any variants within our regions of interest. We then expanded our search to other identified variants to identify regions commonly detected by the CNV calling algorithms. A region of deletion was detected in the *CELA3A* gene (reported to be downregulated in pancreatic and prostate cancer) and a region between *AKR7L* and *AKR7A3* both of which are found to be frequently mutated in cancer cells. XHMM called the deletion of both of these regions at a much higher rate than GATK4: nearly in all our cases from the two ancestries, compared to only a few in GATK4 and CANOES. The few PCa cases who had deletions across all tools were always in the AA population. Altogether, this new analytical strategy establishes the usefulness of applying multiple CNV callers in identifying regions of potential interest, as well as verifying the results from previous studies of PCa. Results from this study may hold valuable information in finding potential biomarkers to address PCa health disparity in the future. Further validation of the identified variants is ongoing.

PO-203 Assessment of previously reported polygenic risk score for breast cancer in Peruvian women Valentina A. Zavala[1], Tatiana Vidaurre[2], Xiaosong Huang[1], Sandro Casavilca[2], Jeannie Navarro[2], Michelle A. Williams[3], Sixto E. Sanchez[4], Bizu Gelaye[3], Laura Fejerman[1]. [1]University of California Davis, Davis, CA, [2]Instituto Nacional de Enfermedades Neoplasicas, Lima, Peru, [3]Harvard T.H. Chan School of Public Health, Boston, MA, [4]Universidad Peruana de Ciencias Aplicadas, Lima, Peru.

Background: Breast cancer is the most common cancer among women worldwide. Mutations in high and moderate penetrance genes account for ~10% of breast cancer cases. The remaining genetic predisposition is explained by multiple common genetic variants of relatively small effect. Genome-wide association studies in individuals of mostly European and Asian genetic ancestry have identified multiple risk-associated loci which can be combined into a polygenic risk score (PRS) to predict breast cancer. Our aim was to assess the association of a 313 polymorphism-PRS score (313-PRS) previously published and breast cancer risk in women of a relatively high proportion of Indigenous American ancestry from Peru. Methods: Breast cancer patients were recruited at the Instituto Nacional de Enfermedades Neoplásicas in Lima, Peru, to be part of The Peruvian Genetics and Genomics of Breast Cancer Study (PEGEN-BC, N=1,755). Women without a diagnosis of breast cancer from a pregnancy outcomes study conducted in Lima, Peru, were included as 'convenience' controls (N=3,342). Genome-wide genotype data were available for all women and missing genotypes were imputed using the Michigan Imputation Server including individuals from 1000 Genomes Project phase III as the reference panel. The 313 polymorphisms were extracted from the imputed data set for further analysis without imputation-r2 filter. Logistic regression was used to test the association between standardized PRS residuals (after adjustment for genetic ancestry) and breast cancer risk. Results: The 313-PRS was positively associated with breast cancer risk in women from Lima, Peru. (OR lowest decile vs. intermediate deciles=0.56, 95%CI= 0.44-0.71, p= 0.00001; OR highest decile vs. intermediate deciles=1.58, 95%CI=1.27-1.95, p= 0.000035). Analysis stratified by quartiles of Indigenous American ancestry did not show heterogeneity. AUROC curve analysis showed similar estimates for all quartiles of Indigenous American ancestry ranging from 0.59 (Q1-lowest ancestry) to 0.61 (Q4-highest ancestry). Conclusion: We confirmed the association between the previously published 313-PRS and breast cancer risk in highly Indigenous American women from Peru. The magnitude of the association and AUROC curve were not statistically significantly different by quartiles of Indigenous American ancestry. The similarity in the AUROC curve estimates by ancestry in a study where the highest ancestry quartile (Q4) includes women with more than 91% Indigenous American ancestry suggests that PRS developed in mostly European women could be used in Latin American populations of high Indigenous American ancestry.

Epidemiology, Lifestyle, and Genetics: Tobacco and Cancer

PO-204 Cigarette smoking and risk of prostate cancer in the Multiethnic Cohort Study

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Evidence regarding the association of cigarette smoking and prostate cancer (PCa) risk has been mixed and mostly based on studies in White populations. To provide additional information on the topic, we assessed the relation between smoking and PCa risk and mortality in a large multi-ethnic population, while considering the effect of PSA screening. We included 74,598 White, African American, Native Hawaiian, Japanese American, and Latino men from the Multiethnic Cohort Study in Hawaii and California (1993-2017). During 21.5 years of follow-up, we documented 8,696 PCa cases and 1,171 deaths from PCa. Smoking status, pack years, and age at initiation were obtained at baseline. Total nicotine equivalents (TNE) for smokers were imputed by an algorithm developed based on a subset of participants (n=2,239) who measured urine TNE. We used multivariable-adjusted Cox proportional hazard regression for all time-to-event analysis. Overall, 52.0% and 18.0% of the study population were current and former smokers, respectively. African Americans had the highest proportion of ever smokers at 75.6%, while Whites had the lowest proportion at 67.7%. Compared to never smokers, current smokers had a significantly lower risk of total PCa [hazard ratio (HR)=0.83, 95% confidence interval (CI):0.78-0.89], low-grade PCa (HR=0.80, 95%CI:0.74-0.87), and localized PCa (HR=0.75, 95%CI:0.70-0.82), but higher risks of metastatic PCa (HR=1.33, 95%CI:0.99-1.77) and PCa mortality (HR=1.38, 95%CI:1.15-1.65); former smokers had intermediate risks (total HR=0.94; low-grade HR=0.94; localized HR=0.93; metastatic HR= 1.12; mortality HR=1.00). Higher smoking intensity, as measured by greater pack-year, TNE level, and younger age at initiation, respectively, were all associated with decreased risks of total PCa, low-grade, and localized PCa and increased risks of metastatic PCa and PCa mortality (trend $p<0.05$). When stratified by race/ethnicity, current smokers in African American did not show as strong an inverse association with total PCa (HR=1.00, 95%CI:0.87-1.14) as current smokers in other races/ethnicities (HRs<1). Among men who completed a question regarding PSA screening history (n=56,434), current smokers had a lower odds of reporting a PSA test (OR=0.67, $p<0.001$) than never smokers, while former smokers had a higher odds (OR=1.04, p=0.06). In stratifying by PSA screening history, the results for men without a PSA screening were similar to the main analysis. However, among men who reported PSA screening, the inverse associations between smoking and risk of total, low-grade, and localized PCa were closer to null, while the associations with metastatic PCa and PCa mortality were positive and consistent with the main results. Lower PSA screening among smokers could partially explain the inverse association of smoking with total and low grade/stage PCa. Smoking was found to be related to higher risks of metastatic PCa and PCa mortality, independent of PSA screening.

PO-205 Association of pre-diagnostic cigarette smoking and alcohol consumption with mortality in Black breast cancer survivors Nur Zeinomar[1], Saber Amin[1], Bo Qin[1], Yong Lin[2], Baichen Xu[1], Dhanya Chanumolu[1], Coral O Omene[1], Karen S Pawlish[3], Kitaw Demissie[4], Christine Ambrosone[5], Chi-Chen Hong[5], Elisa V Bandera[2]. [1]Rutgers Cancer Institute of New Jersey, New Brunswick, NJ, [2]Rutgers Cancer Institute of New Jersey and Rutgers School of Public Health, New Brunswick, NJ, [3]New Jersey State Cancer Registry, Trenton, NJ, [4]School of Public Health, SUNY Downstate Health Sciences University, Brooklyn, NY, [5]Roswell Park Comprehensive Cancer Center, Buffalo, NY.

Purpose: There is limited data about how lifestyle factors are associated with breast cancer (BC) prognosis in Black women, as the majority of evidence is based on studies conducted in White women. Given the 40% increased risk of death for Black women diagnosed with BC compared to White women, and the differences in prevalence of these modifiable risk factors between racial groups, better understanding how these factors, among others, are associated with survival in Black women is necessary to address existing cancer health disparities. The purpose of this study is to examine the association of pre-diagnostic cigarette smoking and alcohol consumption with survival in a cohort of Black breast cancer survivors. Methods: We studied 1895 women enrolled in the Women's Circle of Health Follow-up Study, a population-based cohort study of Black BC survivors in New Jersey enrolled within 10 months of diagnosis. Smoking and alcohol consumption history, along with information on potential covariates were collected during in-person interviews. We evaluated the association between pre-diagnostic cigarette smoking (status, duration, intensity, pack-years) and alcohol consumption (average number of total drinks/week) and all-cause and BC- specific mortality using Cox Proportional Hazards models and Fine and Gray competing risk models, adjusted for confounders. Results: During 12,019 person years of follow-up (median 5.9, maximum: 14.8 years), we observed 290 deaths, of which 175 were breast-cancer related deaths. Currently smoking, particularly in regular drinkers, was associated with worse survival. Compared to never smokers, current smokers had 56% increased risk for all-cause mortality (hazard ratio (HR):1.56, 95% confidence interval (CI): 1.17-2.07), and this was higher for current smokers with pack years above the median (HR: 1.80, 95% 1.30-2.5). While the multiplicative interaction of smoking and alcohol was not statistically significant, compared to non-regular drinkers who never smoked, current smokers who regularly drank had a 72% increased risk of all-cause mortality (HR:1.72, 95% CI: 1.11-2.67), whereas the association for current smokers that were not regular drinkers was less substantial (HR: 1.41, 95% CI: 0.95-2.09). We observed similar associations for BC-specific mortality, with a 60% increased risk of BC-specific mortality (HR: 1.6, 95% CI: 0.92-2.78) for current smokers who regularly drank, but no association for current smokers who were not regular drinkers. We did not observe an association for smoking and BC-specific mortality or for alcohol consumption and all-cause or BC-specific mortality. However, self-reported alcohol drinking was low in this population (only 12% of women reported consuming >3 drinks/week). Conclusion: In a population based-study of Black BC survivors, smoking prior to a BC diagnosis was associated with worse overall survival, particularly in women who also regularly consumed alcohol.

Health Economics, Outcomes, and Policy Research: Health Economics, Policy, and Outcomes

PO-206 Community conversations on cancer: Creating and implementing a community engagement strategy for the 2022-2027 Illinois Comprehensive Cancer Control Plan through an academic – state public health department partnership Leslie R Carnahan[1], Jennifer Newsome[1], Sarah Christian[2], Colleen Hallock[3], Brenda Soto[1], Yohana Ghdey[3], Linda Kasebier[4], Manorama Khare[5], Erica Martinez[1], Vida Henderson[1]. [1]University of Illinois Cancer Center, Chicago, IL, [2]University of Illinois Springfield, Springfield, IL, [3]University of Illinois Chicago, Chicago, IL, [4]Illinois Department of Public Health, Springfield, IL, [5]University of Illinois College of Medicine Rockford, Rockford, IL.

Background: Comprehensive cancer control (CCC) plans are region-specific blueprints that identify cancer priorities and health equity informed strategies to address cancer burden and are supported by the National Comprehensive Cancer Control Program through the Centers for Disease Control and Prevention (CDC). Although CCC plans are created by stakeholder coalitions, few have focused on community engaged approaches, which may diminish their applicability for community members. Thus, in preparation for its forthcoming 2022-2027 CCC plan, the Illinois Comprehensive Cancer Control Program collaborated with the University of Illinois Cancer Center's Community Engagement and Health Equity office to implement a community engagement strategy to address cancer burden. **Objective:** To describe the development and implementation of a community engagement strategy for the 2022-2027 Illinois CCC plan. **Method:** The goal of the community engagement strategy was to identify barriers, facilitating factors and recommendations related to cancer burden and equity in Illinois by engaging diverse community stakeholders. A statewide town hall and focus groups (FGs) were implemented in early 2021. The development and analysis of the community engagement strategy were guided by the Model for Analysis of Population Health and Health Disparities, CDC's CHANGE Action Guide, and the Community ToolBox. Semi-structured guides included questions about fundamental causes of health, social and physical contexts, individual demographics and risk factors, and biologic responses and pathways. The town hall was open to Illinoisians over 18 years of age. FG participants were selected using purposive sampling to maximize group heterogeneity. Eight FGs were held, one each for: rural residents, survivors, young survivors, caregivers, and Spanish speakers, and three that were a mix of community members. Town hall notes and FGs were analyzed using content analysis. Results were synthesized and a final report was included in the forthcoming plan. Results**:** Town hall and FG (n=8) participants (n=115) included cancer survivors (36%), caregivers (27%), Latinos (17%), African Americans (23%), and rural residents (14%). Throughout the development of the plan, data were continuously reviewed with the coalition developing the CCC Plan. The final report described multi-level factors that contribute to cancer disparities among Illinoisians, proposed recommendations to improve health across the cancer continuum across multiple levels, funding priorities, and the impact of COVID-19 on cancer care. Participant quotes supported strategies throughout the plan. Conclusion**:** A robust community engagement strategy for the forthcoming 2022-2027 Illinois CCC Plan was implemented through a successful academic–state public health department partnership. This strategy ensures that the plan reflects the expertise and voices of Illinoisians impacted by cancer. This engagement strategy, framed around health

determinants that impact cancer risk and outcomes, may be replicated by other coalitions creating CCC plans.

PO-207 Impact of Medicaid expansion on stage at diagnosis for US adults with pancreatic cancer: A population-based study Erin M. Mobley[1], Christina Guerrier[1], Ian Tfirn[1], Michael S. Gutter[2], Kimberly Vigal[1], Keouna Pather[1], Brett Baskovich[1], Ziad Awad[1], Alexander S Parker[1]. [1]University of Florida, Jacksonville, FL, [2]University of Florida, Gainesville, FL.

Introduction: We evaluated whether expansion of state Medicaid programs is associated with earlier-stage at diagnosis for pancreatic cancer among those under the age of 65, before and after Medicaid expansion considering key demographic, clinical, and geographic covariates. Methods**:** We obtained Surveillance, Epidemiology, and End-Results (SEER-18) data on individuals under 65 years of age diagnosed with pancreatic cancer from 2007-2016, including Urban Influence Code (UIC) and Social Deprivation Index (SDI) data. We defined early stage as either local or regional disease (versus advanced disease). To estimate the effect of Medicaid expansion on stage at diagnosis, we used a Difference-in-Differences (DD) model, at the individual level, comparing those from early-adopting states in 2014 to non-early-adopting states. We utilized cluster-robust standard errors and explored the role of covariates including demographic factors (race, sex, insurance coverage at diagnosis), clinical indicators (disease located in the head of the pancreas), and county characteristics (UIC and SDI). Results**:** The probability of early-stage disease at diagnosis increased by 3.9 percentage points (ppt) for those from Medicaid expansion states post-expansion (n=36,609). After adjustment for key covariates, the ppt was attenuated to 2.7. Of note, we observed evidence of interactions with sex and race. Indeed, the beneficial effect of living in an expansion state on stage at diagnosis was less pronounced for men (increase in the probability of early stage at diagnosis by 2.1ppt) than women (3.6ppt) and non-existent for blacks (-3.1ppt) compared to whites (4.9ppt) and other races (4.8ppt). Redefining early stage to only local stage attenuated the beneficial effect for all groups and increased the negative effect for blacks. Conclusion**:** Medicaid expansion is associated with earlier stage at diagnosis for pancreatic cancer; however, this beneficial effect is not uniform across sex and race. This underscores the need to investigate the impact of policy changes and implementation strategies on disparities in pancreatic cancer survival.

Health Economics, Outcomes, and Policy Research: Healthcare Systems

PO-208 The value of estimating spillover effects in health equity interventions: A case study to promote mammogram uptake among African American women and their social networks Nyahne Bergeron[1], Veronica Fitzpatrick[2], Carl Asche[1], Karriem S. Watson[1], Aditya S. Khanna[3], Bridgette Hempstead[4], Elizabeth A. Calhoun[5], Jean McDougall[6], Yamilé Molina[1]. [1]University of Illinois at Chicago, Chicago, IL, [2]Advocate Aurora Health, Chicago, IL, [3]Brown University, Providence, RI, [4]Cierra Sisters, Seattle, WA, [5]The University of Arizona, Tucson, AZ, [6]The University of New Mexico, Albuquerque, NM.

Introduction: Standard economic evaluation methods may underestimate the value of health equity interventions by focusing exclusively on program costs and direct effects on participants' health. Yet, these interventions have spillover effects – wherein participants transition from being intervention recipients to becoming health advocates for their social networks. Consequently, interventions may improve the health of participants *and* other community members who are not directly connected with interventions. This study demonstrates the utility of incorporating spillover effects by comparing incremental cost-effectiveness ratios via a patient navigation intervention to promote mammography screening among African American (AA) women. Specifically, we compare the relative costs and cost-effectiveness when including mammography uptake of: (1) AA intervention participants (egos) only versus (2) AA intervention participants (egos) and their screening eligible social network members (alters). **Methods:** Our study draws from two studies: (1) an individual randomized trial to test the efficacy of patient navigation on mammography uptake (Patient Navigation in Medically Underserved Areas [PNMUA]) and (2) an observational ancillary study to test the effects of PNMUA on breast cancer survivor egos and their alters (Offering AA Survivors Increased Support [OASIS]). Overall, we used a healthcare system perspective. For 2021 cost data, we collected data from study records and expense reports. For effects data, we used: (1) medical record data for egos' mammography uptake, (2) self-report data from egos regarding their alters' mammography uptake, and (3) self-report data from alters about their own mammography uptake. We consequently computed incremental cost-effectiveness ratios (ICERs), using different data sources, to assess the impact of estimating spillover effects on economic evaluation of patient navigation. **Results:** Total cost of the intervention was $196,601. The greatest expense were breast cancer navigators' salaries and fringe rates ($126,745). In PNMUA, more navigated vs. non-navigated egos obtained biennial mammograms (45% vs. 39%). In terms of spillover effects, more navigation arm alters obtained biennial mammograms compared to alters in the non-navigated arm (ego self-report: n=1296 vs 949; alter self-report: n=1521 vs. 1195). Navigation had lower value when only incorporating participants' mammography uptake ($3,277 per each additional woman screened) versus when incorporating spillover effects ($2,027-$2,114 per each additional woman screened). **Conclusion:** Our results suggest breast cancer navigation programs may be more valuable when including spillover effects. This case study provides insight with real-world applicability into integrating spillover effects into economic evaluation. Our methods offer a new avenue for improved cost and effect estimates of health equity interventions, which may be useful for assessing future resource allocation in healthcare practice and policy.

PO-209 Overcoming challenges through an academic-community health center collaborative to conduct cancer screening, prevention, & control among Asian Americans and sustainability initatives Moon S. Chen, Jr.[1], Ian Johnson[2], Ulissa K. Smith[3], Miguel Suarez[2], Alexandra Gori[3], Kit Tam[3], Eric W. Chak[3], Julie Dang[3]. [1]UC Davis Comprehensive Cancer Center, Sacramento, CA, [2]Health and Life Organization, Sacramento, CA, [3]UC Davis, Sacramento, CA.

The purpose of this presentation is to report accomplishments of a 3-year [5/1/2018-4/30/2021] Bristol-Meyers Squibb Foundation-funded collaboration between UC Davis and the Health and Life Organization (HALO), a Federally Qualified Health Center Look-Alike in increasing cancer screenings and cancer prevention/control behaviors among Asian Americans. HALO was selected for this study becuase it is the largest health system serving Asian Americans in Sacramento Co., CA. About one-third of their patients (9000) are Asian [primarily Hmong and other SE Asains). The hypothesis we tested was based on UC Davis's prior completed research that bilingual/bicultural Hmong lay health workers significantly increased screenings for HBV and colorectal cancer screening in randomized controlled community trials among Asians who largely had limited English proficiency. Our premise was to apply this concept to a clinical setting through HALO's bilingual/bicultural medical assistants (MAs). By comparing baseline (prior to the initiation of our funding) to 3 years of collaboration, we observed an overall 13.3% increase (surpassing our 10% goal) in cancer screenings & prevention/control behaviors. The largest percentage increases were in mammography (20.3%), colorectal cancer screening (11.6%), and Pap tests (7.9%). The smallest increases were in HBV vaccination (0.5%), tobaccco cessation counseling (2.2%), and HPV vaccination (2.8%). Since this was our first collaboration, much was shared through our monthly UCD-HALO leadership meetings where adjustments were made. A major adjustment was to learn that the electronic health systems used by community health centers such as HALO were not intended for reseearch purposes. While primary care provider time was less flexible, we found that MAs who reflect the HALO patient population were very receptive to training. We provided training through 10 Saturday academies, in-person and later delivered virtually during the COVID-19 pandemic. All of the topics related to the above metrics as well as other topics such as cultural competence, resources for patients, and optimizing patient workflows. Effectiveness of these academies were documented through gains in average scores from pre-tests [58%] to post-tests [84%] and qualitative feedback. Fifity-eight participants attended. More rigorous evaluation approaches to link our efforts to the impact of our work would have been preferred, but would have needed to be more resource-intensive. However, we anticipate that the equipping of MAs in new competencies and tools we provided for patients in various languages as infographics will be the bases for sustained effectiveness. Another measure of success was that this collaborative contributed to the receipt of a major Federal grant to eliminate perinatal HBV transmission through HALO. A UC Davis You-Tube style interactive modules as refresher materials and for new MAs will be another means of sustaining impact.

PO-210 Healthcare disparities in melanoma overall survival evaluated by race/ethnicity and socioeconomic status and the impact of integrated healthcare on an insured population

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Background: The objective of this study was to quantify the influence of race/ethnicity and socioeconomic status (SES) on overall mortality within an insured population of patients diagnosed with melanoma in Southern California. Specifically, we compared outcomes between insured patients within the largest vertically integrated health care system in Southern California, Kaiser Permanente Southern California (KPSC), with insured patients diagnosed elsewhere. Methods**:** We identified adults (≥20 years old) diagnosed with Stage 0-IV melanoma from 1 January 2009 through 31 December 2014, followed through the end of 2017, from the California Cancer Registry. We compared overall mortality in those diagnosed within KPSC versus those with other private insurance (OPI). Main variables included race/ethnicity and SES based on 2010 Census data. Person-year (PY) mortality rates and 95% confidence intervals (CI) were calculated by race/ethnicity and SES. Multivariable-adjusted hazard ratios (HR) for the association between all-cause mortality and race/ethnicity and SES were estimated using Cox proportional hazards models. Results**:** A total of 14,614 adults were diagnosed with melanoma in our cohort (KPSC: n=4,701; OPI: n=9,913). The total of number of all-cause deaths was 2,456 (KPSC: n=729; OPI: n=1,727). Mortality rates by race/ethnicity within KPSC and OPI did not reveal significant disparities. The poorest patients in KPSC (lowest, lower-middle, and middle SES groups) had statistically significant decreased mortality rates compared to those in OPI. For example, in the lowest SES, those in OPI had 38.7 additional deaths per 1000 PY compared to KPSC (KPSC Rate per 1000 PY: 57.7, 95% CI: 44.9-73.1; OPI Rate per 1000 PY: 96.4, 95% CI 80.9-113.9). Multivariable models demonstrated statistically significant increased mortality risk among the lowest (HR 1.70, 95% CI 1.43-2.02), lower-middle (HR 1.47, 9% CI 1.29-1.68), middle (HR 1.36, 95% CI 1.21-1.53), and upper-middle (HR 1.19, 95% CI 1.07-1.33) SES groups when compared to the highest SES group. This increased mortality risk among lower SES groups persisted when stratifying by KPSC and OPI. Although KPSC patients had a lower mortality risk across all SES groups compared to OPI, the difference was not statistically significant. For example, among the lowest SES, those in the OPI group had an overall mortality risk 80% greater than those of the highest SES (HR 1.80; 95% CI 1.47-2.22), while those in KPSC held risk only 47% greater (HR 1.47, 95% CI 1.09-2.00). Conclusion**s:** While the existence of disparities in cancer survival are well established, our present study examined survival with respect to SES among two distinct populations of melanoma patients: insured patients within an integrated healthcare system and insured patients within a traditional model of healthcare. While racial/ethnic disparities are not observed in integrated healthcare systems such as KPSC, our findings underscore the persistence of socioeconomic disparities within an insured population, despite having access to care.

Health Economics, Outcomes, and Policy Research: Other

PO-211 2020 Impact on research productivity survey: The Geographic Management of Cancer Health Disparities Program (GMaP) regional response Carrie Norbeck, Linda Fleisher. Fox Chase Cancer Center, Philadelphia, PA.

Purpose: The Geographic Management of Cancer Health Disparities Program is a national program funded by the National Cancer Institute's Center to Reduce Cancer Health Disparities (CRCHD). The seven GMaP regions use a multipronged engagement approach to increase recruitment/retention of diverse investigators and to strengthen professional development. This survey was designed to assess if and how the events of 2020 (COVID, racial or political unrest, others) impacted current research productivity, applications for future funding, and publication submission. Methods: A REDCap survey was sent out to each of the GMaP regional listservs in October 2020 and was completed by 150 researchers by early stage (71, 50.0%) and established investigators (36, 25.4%). Half (51%) identified as a non-white race, and 17.8% identifying as Hispanic or Latino. 22.7% of respondents were from Region 4. Responses were recorded via 6 point Likert scale (No Impact, Minimal, Neutral, Significant Impact, Work Stoppage, Expanded Scope) and allowed for qualitative responses. Summary of Results for Region 4: More than half stated the pandemic created "Significant or Work Stoppage" on their current research. Only 11.8% were able to submit intended publications on time. Only 21.2% still planned to submit applications for future funding on their intended timeline. Systemic racism/social unrest was identified as Significant Impact to 50%, along with 47.1% by local/national politics. Qualitative responses provided profound examples of the difficulties researchers have experienced in 2020. Respondents indicated that pilot awards (76.7%) and research support awards (40%) are the best methods to support their career development. Recommendations: The GMaP network with its regional approach is well placed to continue to support the career development needs of their researchers. GMaP opened their trainings to virtual national audiences, and adapted travel award programs to provide smaller Research Support awards (21 awarded) and larger Pilot Awards (4 awarded). GMaP shared the stories of their members with NCI, and advocated for support. These data further inform and enhance specific GMaP program offerings, and help us better advocate for our researchers at the institutional and national level.

PO-212 Educating the next generation of cancer researchers: Evaluation of a cancer research partnership research training program Lin Zhu[1], Gargi Pal[2], Taylor Kazaoka[3], Rubia Shahbaz[2], Marsha Zibalese-Crawford[4], Sarah-Jane Dodd[2], Carolyn Y. Fang[3], Yin Tan[1], Grace X. Ma[1], Olorunseun O. Ogunwobi[2]. [1]Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, [2]Hunter College of The City University of New York, New York, NY, [3]Cancer Prevention and Control, Fox Chase Cancer Center, Temple University Health System, Philadelphia, PA, [4]School of Social Work, College of Public Health, Temple University, Philadelphia, PA.

Background: The Temple University Fox Chase Cancer Center and Hunter College Cancer Health Disparity Partnership (TUFCCC/HC Cancer Partnership) is a collaborative effort to develop a regional comprehensive collaborative cancer health equity research infrastructure in Pennsylvania, New Jersey and New York City (PNN) Region and to establish rigorous and sustainable cancer research, education, and outreach programs at both institutions. One key component of the training efforts of this Partnership is the annual Summer Cancer Research Institute (SCRI), an 8-week intensive summer program that includes hands-on research training in laboratories or research centers under the mentorship of established investigators supplemented with cancer seminars, skill-building workshops, journal clubs, social activities, poster sessions and presentations. Methods: The goal of this study was to evaluate the recruitment process and the outcome of the first three cohorts of the SCRI. We assessed the previous recruitment and implementation process to identify successes and lessons learned. We also conducted program evaluation through pre-program and post-program evaluation, and long-term annual follow-up survey, and other formal and informal feedback among the 3 cohorts from the previous 3 years. Results: Through targeted multi-institutional recruitment strategies and by utilizing social media (e.g., Twitter, Instagram, institutional newsletters), the program received increasing numbers of applications each year, from 64 applications received in 2019, to 179 in 2020, and 345 in 2021. The number of students accepted were 10 in 2019 (admission rate 15.6%), 10 in 2020 (5.6%), and 15 in 2021 (4.3%). Among the 34 SCRI trainees, 10 (29.4%) identified as Black/African American, 6 (17.5%) as Hispanic/Latinx, 10 (29.4%) as Asian, and the rest as non-Hispanic white. Students come from a variety of majors, including biology, nutrition, biochemistry, bioengineering, public health, sociology, and medical geography. The SCRI trainees reported a high level of satisfaction with the overall SCRI program as well as the specific seminars, workshops, and journal clubs. The long-term follow-up survey data showed that among the first two cohorts (20 trainees), 4 applied to graduate or medical school, 9 completed graduate school, and 7 accepted a full-time or part-time job position. Trainees particularly enjoyed the hands-on experience in basic, translation, and population research, the skill-building workshops, and the annual symposium to gain presentation experience. Conclusion: The Partnership evaluation has identified strengths (e.g., hands-on research experience under established mentorship, multidisciplinary training) for implementing the SCRI program. Updates are being made to refine recruitment processes and adjust program components.

Health Economics, Outcomes, and Policy Research: Treatment Factors and Outcomes

PO-213 Financial implication of prostate cancer hypofractionated radiotherapy

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Background- Prostate cancer is the 2nd most common cancer in males, worldwide & not far behind lung cancer incidence. Radiation holds the potential to cure non-metastatic disease (T1b-T3a), however the old 8-week long conventional radiation treatment is too lengthy & costly for patients. Non-inferiority CHHiP trial established 4 week long hypofractionated radiation which provided a big relief to patients saving substantial cost & time. Method- From January 2020 to December 2020, I had adopted the shorter 4-week radiation regimen for all eligible prostate cancer patients (T1b-T3a N0 M0) needing radiation & the expenditure, both direct as well as indirect, was calculated. Direct cost includes cost of radiation, treatment planning & was obtained from hospital bills. Drug cost was excluded as the amount was too small & insignificant. Indirect cost includes the cost of staying in the city, food & the cost of commuting (local patients) which were obtained from each patient. Total cost during radiation was compared for both 8 week & 4-week regimen. 10 patients participated in the study. Result- Direct cost had reduced from 1750 USD to 1100 USD favoring the shorter 4-week regimen. This translates to 37% cost reduction. Indirect cost was reduced by 50% as the duration of stay reduced from 51 days (8 weeks RT) to 26 days (4 weeks RT) for patients who are from other cities. Those from local place had informed similar figure of commuting cost reduction. Overall, the total cost (direct & indirect) of radiation treatment was reduced by 40%. Conclusion- All patients were glad to know the reduced duration of radiation treatment & 40% cost saving. The time factor has not been taken into account, few patients on job were able join their workplace 4 weeks earlier.

PO-214 Cancer disparities and African American representation in clinical trials involving Accelerated Partial Breast Irradiation Therapy Ev Kakadiaris[1], Brian K Lue[1], Sherry Gu[2], Jonathan C. Tyes[3], Prasanna Alluri[1]. [1]UT Southwestern Medical Center, Dallas, TX, [2]Washington and Lee University, Lexington, VA, [3]University of Louisville School of Medicine, Louisville, KY.

Background Radiation therapy is a critical component in the multi-disciplinary care of many breast cancer patients, but traditionally, has necessitated daily treatment visits over several weeks. Accelerated partial breast irradiation (APBI) in appropriately selected patients affords clinical outcomes that rival those achieved with conventionally fractionated whole-breast radiation. In addition to exposing a smaller volume of breast to radiation, APBI also allows reduction in total number of radiation treatment fractions to 1-10. This regimen thus stands to particularly benefit minorities such as Black American patients, who suffer disproportionately from high rates of economic burden in the form of absence from work, lost wages, and transportation costs related to prolonged cancer treatments. Yet, Black Americans have been traditionally underrepresented in clinical trials, threatening the generalizability of new treatments like APBI. In this study, we evaluated the racial makeup of clinical trials evaluating ABPI and the inclusion of Black Americans in these studies. Methods We retrospectively reviewed all published manuscripts involving accelerated partial breast irradiation therapy and analyzed the demographics of their study populations. Studies reported from centers outside the United States were excluded. When race reporting was not available in the published results, this information, where available, was obtained through the NIH Clinical trials registry. Results A total of 130 APBI trials were identified by PubMed search. Out of these, 80 studies were based in the United States. A total of 20 studies investigating APBI provided demographics data, comprising 1735 total patients. Of these, 1488 patients were White (85.7%), 124 were Black (7.1%), 67 were Hispanic (3.9%), and 46 were Asian (2.7%), and 10 patients were classified as multiple or unknown (0.6%). This percentage is lower than the 2019 US Census estimate of 13.4% Black Americans. We compared these results to two APBI trials conducted at our institution investigating 5-fraction and single fraction APBI regimens. Out of a total of 104 patients treated, 17 patients (16.3%) were Black. The higher proportion of Black Americans in our trials is likely due to a unique partnership between Parkland Hospital, a county Hospital that serves a high proportion of minority patients, and UT Southwestern Medical Center, which provides access to technologically sophisticated treatments such as APBI. Conclusion Despite APBI being uniquely positioned to provide increased benefits to racial minorities, Black Americans are underrepresented in clinical trials evaluating APBI, mirroring the broader national trend in all clinical trials. Based on our institutional experience, partnership between academic medical centers, which often have access to novel treatment regimens and county hospitals, which serve a large proportion of minority patients, is needed to reduce racial disparities in clinical trial participation and to eventually narrow and eliminate the racial health disparity gap.

PO-215 Racial disparities in proton beam therapy use for newly diagnosed cancer patients in the United States Leticia M. Nogueira[1], Ahmedin Jemal[1], Jason A. Efstathiou[2], K. Robin Yabroff[1]. [1]American Cancer Society, Atlanta, GA, [2]Massachusetts General Hospital, Boston, MA.

Background: Black patients are less likely than White patients in the US to receive guideline-concordant cancer care, including radiation therapy. Proton Beam Therapy (PBT) is a potentially superior technology to photon radiotherapy for the treatment of pediatric cancers, where decreasing late effects of radiation treatment is a main concern, and in cancers where pituitary, visual, auditory, and intellectual functions might be disrupted because of radiation therapy. The aim of this study was to conduct a comprehensive evaluation of racial disparities in PBT use in the US. Methods**:** We identified 4,919,975 Black and White patients diagnosed between 2004 and 2018 in the National Cancer Database (NCDB) based on data collected from Commission on Cancer (CoC) accredited hospitals. Once a patient is diagnosed and/or treated at a CoC accredited facility, the patient is followed and all treatment is reported (including treatment received outside of the reporting facility). Therefore, NCDB captures PBT received both at CoC-accredited hospitals (59.5% of patients who received PBT in this study) and PBT received at hospitals not accredited by CoCs (40.5% of PBT patients in this study). American Society of Radiation Oncology (ASTRO) Model Policies were used to classify patients into Group 1, for which PBT is the recommended radiation therapy modality, and Group 2, for which evidence of PBT efficacy is still under investigation. Propensity score matching was used to ensure comparability of Black and White patients' clinical characteristics and regional availability of PBT. Results**:** Black cancer patients were less likely to be treated with PBT than White cancer patients with similar characteristics (Odds Ratios [OR]: 0.72; 95% Confidence Interval [CI]: 0.68, 0.76). Racial disparities were greater for Group 1 cancers (OR = 0.61; CI: 0.54, 0.69) than for Group 2 cancers (OR: 0.75; CI: 0.70, 0.81). Disparities were greatest for Group 1 cancers commonly diagnosed in children, such as central nervous system (OR: 0.54; CI: 0.46, 0.63) and rhabdomyosarcoma (OR: 0.47; CI: 0.31, 0.70). Racial disparities in PBT receipt among Group 1 cancers increased during the study period and were greatest in 2018 despite the increase in the number of facilities offering PBT from 4 to 28 during the corresponding period, **Conclusion and Relevance:** Racial disparities in PBT receipt are greatest for cancers for which PBT is the recommended radiation therapy modality. The racial disparities identified in our study suggest undertreatment of Black patients with the greatest need (e.g. children diagnosed with central nervous system cancers). Future studies are needed to identify modifiable factors contributing to the racial disparity in receipt of PBT as efforts other than increasing the number of facilities providing PBT will be needed to eliminate disparities.

Organ Site Research: Breast Cancer

PO-216 Circulating 27-hydroxycholesterol is associated with decreased breast cancer risk: The Multiethnic Cohort Study Mindy C DeRouen[1], Juan Yang[1], Yuqing li[1], Adrian A. Franke[2], Anne Tome[2], Kami White[2], Brenda Hernandez[2], Yurii Shvestov[2], V. Wendy Setiawan[3], Anna H. Wu[3], Lynne Wilkens[2], Loic Le Marchand[2], Lenora WM Loo[2], Iona Cheng[1]. [1]University of California San Francisco, San Francisco, CA, [2]University of Hawai'i Cancer Center, Honolulu, HI, [3]University of Southern California, Los Angeles, CA.

Background: Obesity is one of the most significant risk factors for breast cancer among postmenopausal women. Body fat distribution varies across racial/ethnic groups, which may partially explain the differences in breast cancer incidence across race/ethnicity. Laboratory studies have indicated that a cholesterol metabolite, 27-hydroxycholesterol (27HC), is an endogenous selective estrogen receptor modulator (SERM) and may represent an important obesity-related mechanism in breast cancer etiology. However, epidemiologic evidence for the role of 27HC in breast cancer risk is lacking, particularly in multiethnic populations. Methods: In a nested case-control study of 1,472 cases and 1.472 matched controls within the Multiethnic Cohort Study (MEC), we examined the association of circulating 27HC and lipids with breast cancer risk among African American, Japanese American, Native Hawaiian, Latino, and non-Latino White females. We conducted multivariable conditional logistic regression to assess associations of pre-diagnostic 27HC and lipids (modeled continuously on the log scale) with postmenopausal breast cancer risk adjusting for age at blood draw. Race/ethnicity stratified analyses were also conducted to assess differences in associations across racial/ethnic groups. Results: Among all females, higher levels of circulating 27HC were associated with a reduced risk of breast cancer (OR per log ng/ml: 0.71; 95% confidence interval (CI): 0.51, 0.99). Analyses stratified by race/ethnicity indicate that this association was driven by the Latino (OR: 0.39; 95% CI: 0.16, 0.93) and Japanese American (OR: 0.62; 95% CI: 0.35, 1.08) groups. Inverse associations were also observed with high-density lipoprotein and total cholesterol levels, while low-density lipoprotein levels were positively associated with breast cancer risk among all females. Conclusions: Ours is the first U.S. study to report a protective association between circulating 27HC and breast cancer risk in a multiethnic population. Interestingly, parallel analyses of a sub-cohort of healthy females in the MEC indicate inverse associations of total fat mass and percent subcutaneous fat assessed by dual X-ray absorptiometry and abdominal magnetic resonance imaging, respectively, with circulating 27HC. Ongoing analyses are evaluating joint associations of circulating 27HC, lipids, estrogens, and androgen levels with breast cancer risk. Results from this study will improve our understanding of racial/ethnic differences in breast cancer risk in relation to body fat distribution and inform prevention strategies for postmenopausal breast cancer.

PO-217 Race and metastatic behavior of breast cancer subtypes Yunan Han, Graham A. Colditz, Min Lian, Ying Liu. Washington University School of Medicine, St. Louis, MO.

Introduction: Racial/ethnic differences exist in early-stage breast cancer, but less is known about whether there are racial differences in metastatic sites of breast cancer. Thus, we examined racial/ethnic differences in metastatic behavior of de novo metastatic breast cancer (MBC). **Methods:** We identified 28,072 adult women (63.9% non-Hispanic White [NHW], 16.6% non-Hispanic Black [NHB], 7.7% non-Hispanic Asian or Pacific Islander [API], 11.8% Hispanic) diagnosed with de novo MBC in the Surveillance, Epidemiology and End Results between 2010 and 2018. Sites of distant metastasis included bone, lung, liver, and brain. Age-standardized incidence rates and incidence rate ratios (IRRs) were calculated. Logistic regressions were used to estimate the multivariable-adjusted odds ratios (ORs) and 95% confidence intervals (CIs). **Results:** NHBs had the highest incidence of MBC (13.2 per 100,000). Bone is the most common site of distant metastasis (63.1%). The risks of developing distant metastases to different sites varied by race/ethnicity. Compared with NHW women, NHB women had higher risks of bone (IRR=1.37, 95% CI 1.32-1.43), lung (IRR=1.91, 95% CI 1.80-2.03), liver (IRR=1.62, 95% CI 1.52-1.73), and brain (IRR=1.72, 95% CI 1.51-1.94) metastases. API and Hispanic women had lower risks of bone, lung, and liver metastases than NHW women, and API women also had a lower risk of brain metastasis. In women with hormone receptor-positive and HER2-negative MBC, NHBs, Hispanics, and APIs had a higher risk of lung metastasis and a lower risk of bone metastasis than NHWs after adjusting for age, year of diagnosis, marital status, tumor histology and grade. In women with hormone receptor-positive and HER2-positive MBC, NHB race was related to a higher risk of lung metastasis, and API race to a lower risk of bone metastasis. Hispanics with triple-negative MBC had a lower risk of liver metastasis than their NHW counterparts. A lower risk of liver metastasis was also observed in APIs and Hispanics with hormone receptor-negative and HER2-positive MBC than their NHW counterparts. **Conclusions:** The association of race and ethnicity with the risk of MBC differed by metastatic sites and tumor subtypes. Propensity to lung metastasis in NHB women with hormone receptor-positive MBC, Hispanics and APIs with hormone receptor-positive and HER2-negative MBC suggests the importance of preventive efforts targeting lung metastasis in these vulnerable patients.

PO-218 Body mass index, age at diagnosis, and mammography screening behaviors in women diagnosed with breast cancer in Puerto Rico Abigail E. Lantz[1], William D. Cress[1], Allison Bahr[1], Edna Gordián[1], Jaileene Perez-Morales[1], Idhaliz Flores[2], María Rojas[2]. [1]Moffitt Cancer Center, Tampa, FL, [2]Ponce Health Sciences University, Ponce, United States Territories and Minor Outlying Islands.

The breast cancer mortality rate in Puerto Rican women is higher when compared to Hispanic women in the United States, despite having similar incidence. While disparities are well documented between Non-Hispanic Blacks and Non-Hispanic Whites, Hispanic populations have not been explored as thoroughly. Previous studies have identified high Body Mass Index (BMI) as a risk factor in postmenopausal breast cancer. Breast cancer incidence tends to increase with age, but younger age of diagnosis may be related to more aggressive disease. Studies have demonstrated that mammogram and continuous breast cancer screening can reduce mortality through early detection. Our study focuses on characterizing BMI, age at diagnosis, and screening information in Puerto Rican women obtained from a patient survey administered by the Puerto Rico BioBank (PRBB). These factors may contribute to the observed disparity in breast cancer mortality in these patients. Data abstracted from the PRBB self-reported questionnaire identified 260 females who had been diagnosed with breast cancer between the ages of 25 and 86. The questionnaire includes demographic, family history, lifestyle, and cancer-related questions. BMI was calculated from the self-reported height and weight values, then classified according to the Center for Disease Control (CDC) categories: underweight (<18.5), healthy (18.5-24.9), overweight (25.0-29.9), and obese (≥30.0). Age at diagnosis and frequency of patients who reported getting annual mammograms were both recorded. Descriptive statistics were performed. According to the CDC categories of BMI, 106 respondents (41.2%) were obese, 88 (34.2%) were overweight, 58 (22.6%) were of a healthy weight, and 5 (1.9%) were underweight. This indicates that approximately 77% of the respondents had a BMI outside of the healthy range. The average BMI of 28.8 and median BMI of 28.4 both fall within the overweight category, and the population standard deviation was 5.9. The mean age at diagnosis among our cohort was 56.78 years. The percentage of women who reported having a mammogram annually was 81%. Our data suggests that Puerto Rican women have a high rate of screening using mammograms and have a high BMI. This study suggests that the distribution in age in Puerto Rican women are in-line with national averages. Further examination of breast cancer among Puerto Rican women is needed to establish consistent risk factors and mitigate any health disparities confirmed among this population of breast cancer patients.

PO-219 The implications of genetic ancestry and allostatic load on clinical outcomes in the ECOG-ACRIN adjuvant breast cancer trial E5103 Samilia Obeng-Gyasi[1], Anne ONeill[2], Kathy D. Miller[3], Bryan P. Schneider[3], Ann H. Patridge[4], Lava R. Timsina[5], George W. Sledge[6], Lynne Wagner[7], Ruth C. Carlos[8]. [1]The Ohio State University, Columbus, OH, [2]Dana Farber Cancer Institute – ECOG-ACRIN Biostatistics Center, Boston, MA, [3]Indiana University Melvin and Bren Simon Cancer Center, Indianapolis, IN, [4]Dana-Farber Harvard Cancer Center, Boston, MA, [5]Indiana University School of Medicine, Indianapolis, IN, [6]Stanford Cancer Institute Palo Alto, Stanford, CA, [7]Wake Forest University Health sciences, Winston Salem, NC, [8]University of Michigan Comprehensive Cancer Center, Ann Arbor, MI.

Introduction: Elevated allostatic load (AL) has been associated with poor tumor prognostic features in Black breast cancer patients and worse disease specific and overall survival among cancer patients. To date, there are no studies evaluating the relationship between genetic ancestry, allostatic load and clinical trial endpoints such as completion of chemotherapy per protocol or overall survival. Prior evaluations of the ECOG-ACRIN adjuvant breast cancer trial E5103 suggests African ancestry is associated with a worse invasive disease-free survival and lower odds of chemotherapy completion. The objective of this study is to evaluate the association of genetic ancestry and AL with trial completion per protocol and with overall survival among patients in E5103. Methods**:** ECOG-ACRIN E5103 was a clinical trial that compared doxorubicin and cyclophosphamide (AC) for four cycles, followed by 12 weeks of weekly paclitaxel with placebo (Arm A) to the same chemotherapy with either concurrent bevacizumab (Arm B) or with concurrent plus sequential bevacizumab (Arm C) among women with node positive or high-risk node negative HER2 negative disease. Genetic ancestry groups of African ancestry (AA), European ancestry (EA) and other ancestry (OA) were determined using genome-wide single nucleotide polymorphisms. AL, at trial entry, was comprised of the biomarkers body mass index, systolic blood pressure, diastolic blood pressure, creatinine, IL6, IL10, and TNF alpha. To calculate AL, patients were awarded a point if their biomarker value was above the 75 percentile of the study sample. Logistic regression and Cox-Proportional Hazard models (odds ratio(OR) and hazard ratio (HR) estimates with corresponding 95% confidence intervals (CI)) were used to assess association with chemotherapy completion and with overall mortality. Estimates for AL were adjusted for genetic ancestry. Results**:** There were 348 patients in the study. The majority of the sample was of EA (EA 80%, AA 10%, OA 10%). Median (range) of AL was 2(0-6). Patients of AA (2.1(1.3)) and EA (1.88(1.4)) had a higher mean (SD) AL score compared to OA patients (0.91(1.1). On adjusted analysis, a 1 unit increased in AL was associated with a 15% reduction in the odds of completing chemotherapy per protocol (OR 0.85, 95% CI 0.72-0.99). Additionally, a 1 unit increase in AL was associated with a 14% increase in the hazard of death (HR 1.14, 95%CI 1.02-1.29). There was no association between ancestry and chemotherapy completion (AA OR 0.95, 95%CI 0.47-1.93; OA 1.82, 95%CI 0.78-4.23; ref EA) or survival (AA HR 1.40, 95% CI 0.85-2.31), OA 0.89 (0.46-1.73; ref EA). Moreover, there was no interaction between AL and ancestry. Conclusion**:** Among patients enrolled in E5103, AL appeared to be a better predictor of chemotherapy completion and overall survival than genetic ancestry. These results suggest life course exposure to chronic stress has implication in clinical outcomes even within the context of equivalent access to and quality of care.

PO-220 Associations of timing of Medicaid enrollment with stage at diagnosis, treatment delays, and mortality in women with breast cancer Evaline Xie[1], Graham A. Colditz[1], Min Lian[1], Tracy Greever-Rice[2], Chester Schmaltz[3], Jill Lucht[2], Ying Liu[1]. [1]Washington University School of Medicine, St. Louis, MO, [2]University of Missouri, Columbia, MO, [3]University of Missouri School of Medicine, Columbia, MO.

Patients insured by Medicaid present with more late-stage breast cancer and poorer survival than privately insured patients. Delayed coverage may contribute to these disparities, since, in many states, diagnoses of cancer and other illnesses influence Medicaid eligibility. Prior studies have linked post-diagnosis Medicaid coverage with lower rates of screening mammography and greater risk of late-stage cancer, but less is known about its impacts on risks of breast cancer treatment delays and mortality. In this study, we examined the relations of timing of Medicaid enrollment in Missouri to breast cancer stage at diagnosis, treatment delays, and mortality. Using Medicaid administrative claims linked to the Missouri Cancer Registry, we identified 4,583 women ages 18 to 65 who were enrolled in Medicaid and diagnosed with breast cancer between 2007 and 2016. We used logistic regression to estimate the odds ratio (OR) of late-stage diagnosis for pre-diagnosis (≥30 days before diagnosis) versus post-diagnosis (within 30 days before diagnosis or later) enrollment, adjusting for age, race/ethnicity, marital status, and ten census tract-level socioeconomic variables. We performed similar regression to analyze odds of treatment delay, further adjusting for tumor characteristics. Cox proportional hazards models were used to estimate the hazard ratio (HR) of breast cancer-specific mortality for pre- versus post-diagnosis enrollment, sequentially adjusting for sociodemographic factors, tumor characteristics, and treatment. Timing of Medicaid enrollment was also defined using two other cutoffs, 90 days and 1 year. Patients enrolled in Medicaid ≥30 days before diagnosis were significantly less likely to be diagnosed at a late stage compared to those who enrolled in Medicaid after diagnosis (OR=0.69, 95% CI=0.60-0.79). This result persisted using 90-day (OR=0.64, 95% CI=0.56-0.74) and 1-year thresholds (OR=0.55, 95% CI=0.47-0.65). We did not observe any significant difference in the likelihood of treatment delays between the two groups using the 30-day (OR=0.93, 95% CI=0.80-1.10), 90-day (OR=1.00, 95% CI=0.85-1.18) or 1-year thresholds (OR=0.93, 95% CI=0.77-1.12). After adjustment for sociodemographic factors, there was no significant difference in the risk of breast cancer mortality for patients enrolled in Medicaid ≥30 days pre-diagnosis relative to patients enrolled post-diagnosis (HR=0.98, 95% CI=0.83-1.14). The same model, however, showed a lower risk of mortality for patients enrolled in Medicaid before diagnosis when using 90 days (HR=0.85, 95% CI=0.72-0.999) or 1 year (HR=0.79, 95% CI=0.66-0.96) as the threshold. These findings suggest that women who enroll in Medicaid earlier may benefit from earlier diagnoses, but only longer-term enrollment may have survival benefits. Timing of Medicaid enrollment does not appear to play a role in timely initiation of breast cancer treatment.

Organ Site Research: Colorectal Cancer

PO-221 Racial differences in frequently mutated protein-coding genes correlates with survival, invasion and metastasis in colorectal cancer Babajide Oluwaseun Ajayi[1], Anuoluwapo Adejoke Adeshina[2]. [1]Ajayi Crowther University, Oyo, Nigeria, [2]All Saints University School of Medicine, Roseau, Dominica.

Colorectal cancer (CRC) is the third leading cause of cancer-related death in the United States. CRC is caused by mutation in oncogenes, tumor suppressor genes, and genes associated with metastasis and invasion. Understanding mutational signatures in CRC will provide an insight into a specific developmental pathway and pave the way for targeted therapy. Thus, preventing disparity in CRC treatment among racial and ethnic groups. This study aimed to determine the distinct and commonly mutated protein-coding genes of CRC in Whites, African-American and Asian and to evaluate their correlation with survival, invasion and metastasis in CRC. Method: The Cancer Genome Atlas Research Network (TCGA), March, 2021 database on the genomic data commons data portal was queried for frequently mutated protein coding genes. The search was carried out on male and female (ages 34 to 90) colorectal cancer cases in Whites, African-Americans and Asians. The protein coding genes queried are APC, TP53, KRAS, PIK3CA, FAT4, KMT2D, RNF213, ARIDIA, BRAF, TET2, ATM, ZFHX3, FAT1, AMER1, NCOR2, FBXW7, SMAD4, TCFTL2, MYH9, CREBBP, KMT2C, CTNNB1, NRG1, ARAD1B, RNF 43, NF 1, MLLT 4, NIN, KDR, EP 300, PDGFRH, RHOH, ZNF521, MED12, GRIN2A, MECOM and RPL5. Racial differences in protein coding genes in CRC were evaluated using cluster and radar analysis and correlation study for CRC survival, invasion and metastasis pathway were carried using the Pearson correlation with NCSS statistical software. Results: Mutation in APC, TP53, KRAS, PIK3CA, FAT4 and TET-2 with high correlation with inflammation, cell death and survival were common for Whites, African Americans and Asians. African Americans showed distinctive mutation in KMT2C, CTNNB1, NRG1, ARAD1B, RNF 43, NF 1 and MLLT 4 which shows highly positive correlation with proliferation, epithelial mesenchymal transition, adhesion and metastasis. Mutations in NIN, KDR, EP 300, PDGFRH, RHOH, ZNF521, MED12, GRIN2A, MECOM and RPL5 which correlated with cell proliferation and apoptosis was specific for Asians whereas Whites show specific mutation for ARIDIA, TCFTL2 and MYH9 that correlated with chromatin remodeling, hormone function, and cell adhesion. The only mutated gene associated with Black and Asian alone was RNF 43 while Asian and Whites shared mutation in BRAF, ATM and SMAD4. Furthermore, a high level of similarity in mutation was observed for RNF 43, ZFHX3, FAT1, AMER1, FBXW7 and CREBBP. In Conclusion, the racial differences in pathway-based analysis of protein coding genes mutated in colorectal cancer have provided an emerging biomarkers for targeted therapies and chemoprevention of colorectal cancer, thus providing a solution to racial and ethnic disparities associated with cancer treatment and prevention.

PO-222 Reduced socioeconomic status disparity in colon cancer mortality in an insured population treated in an integrated healthcare system Vikram Attaluri, Robert M. Cooper, Reina Haque, Jay Patel, Joan J. Ryoo, David P. Wu, Joanie WL Chung. Kaiser Permanente, Los Angeles, CA.

Objectives: Lower socioeconomic status (SES), among other factors, presents a barrier to healthcare delivery and is associated with worse health outcomes. Integrated healthcare systems (IHS) in which barriers to care are minimized would be ideal settings to identify factors associated with mortality disparities. The aim of this study was to compare outcomes of colon cancer cases diagnosed at one of the largest IHS in California, Kaiser Permanente Southern California (KPSC), to other private insurance (OPI) to determine how SES influence differences in mortality. Methods: This retrospective cohort study included all insured adults in Southern California diagnosed with colon cancer between 2009 and 2014 using data from the California Cancer Registry (CCR). The main outcome was all-cause (overall) mortality, and subjects were followed through December 31, 2017. Person-year mortality rates were calculated for the two groups, KPSC and OPI. Multivariate adjusted hazard ratios were calculated for the association between SES and overall mortality within each group. Results: A total of 16,646 patients were diagnosed with colon cancer in Southern California, 4552 patients (27.3 %) within KPSC and 12,094 patients (72.3%) in OPI. 5937 deaths occurred during the follow-up period; 1428 (24.1%) deaths within KPSC, 4509 (75.9%) deaths in non-KPSC. Mortality rates per 1000 year follow-up with 95% confidence interval revealed a lower overall rate of 103.8 (98.5 – 109.3) in KPSC compared to 139.3 (135.2 – 143.4.) in OPI. Compared to the highest SES group, lower SES was not significantly associated with mortality in the KPSC population, even after adjusting for race/ethnicity and other factors (lowest SES HR 1.13 95% CI 0.93-1.38). However, in OPI patients, lower SES was significantly associated with higher HR with the greatest disparity in the lower-middle (HR 1.27 95% CI 1.15-1.40) and lowest (HR 1.26 95% CI 1.13-1.40) SES groups. Conclusions: Comparing mortality rates in an integrated health system such as KPSC to OPI hospitals revealed that lower SES was associated with worse outcomes within the OPI group. However, within KPSC no association was found between SES and overall mortality in patients with colon cancers. Systems that optimize care coordination for all patients may reduce disparities for the most at risk patients.

PO-223 Examining racial differences in metastatic site and mortality among de novo stage IV colorectal cancer Sakshi M. Dhar, Yunan Han, Adetunji Toriola. Washington University School of Medicine, St. Louis, MO.

Background: Racial disparities persist in colorectal cancer (CRC) incidence and survival despite advances in screening and therapeutic options. While the liver and lung are often described as common sites for CRC metastasis, the effect of race and ethnicity on the presentation of metastases remains largely unexplored. In this study, we investigate the racial differences in metastatic patterns of de novo stage IV CRC and associate these patterns with racial differences in CRC mortality. Methods: This retrospective cohort study used 18 Surveillance, Epidemiology and End Results (SEER) registries with data from 2010-2017 to identify 49,654 patients diagnosed with de novo metastatic, stage IV CRC. We evaluated the pattern of bone, lung, liver and brain metastases by race and ethnicity. Using multi-variate logistic regression, we obtained adjusted odds ratios (aOR) to estimate the association between metastatic pattern and race and ethnicity. We assessed the adjusted hazard ratios (aHR) for CRC-specific mortality and all-cause mortality by race and ethnicity using Cox proportional hazards regression models. Results: Of 49,654 patients, 63.5% were non-Hispanic White (NHW), 14.81% were NHB, and 12.6% were Hispanic. Majority of metastases were within the liver (72.3%) and lung (24.7%). The odds of metastasis to the liver was 1.13 times higher (95% CI, 1.06-1.20) and the odds of metastasis to lung was 1.19 times higher (95% CI, 1.09-1.23) in NHB than NHW patients. The odds of metastasis at any site was 1.19 times higher in NHB than NHW patients (95% CI, 1.10-1.28). The odds of metastasis to multiple sites was 1.16 times higher than to a single site for a NHB patient (95% CI, 1.09- 1.24). NHB patients had a higher adjusted hazard ratio of CRC-specific mortality when compared to NHW patients, overall (aHR 1.15, 95% CI 1.12-1.19); and when looking specifically at metastasis to the lung (aHR 1.10, 95% CI 1.04-1.16) and the liver (aHR 1.17, 95% CI 1.13-1.21). NHB had a 14% increased risk of mortality with metastases to multiple sites (aHR 1.14, 95% CI 1.07-1.121). Conclusion: In this retrospective cohort study, NHB patients presented more frequently with metastases at diagnosis and had higher odds of multiple metastases at diagnosis than their NHW counterparts, placing these patients at a higher risk of mortality. This study quantifies the ongoing severity of racial disparity that persists despite advances in CRC diagnostics and therapeutics. Targeted effort is needed at the prevention, screening and therapy levels, to create equity and improve CRC outcomes for the NHB patient population.

PO-224 Disproportional representation of racial and ethnic minorities in colorectal cancer clinical trials Kelly M. Herremans[1], Andrea N. Riner[1], Katherine Y. Tossas[2], Shreya Raman[2], Stephen P. Sharp[2], Jose G. Trevino[2]. [1]University of Florida College of Medicine, Gainesville, FL, [2]Virginia Commonwealth University, Richmond, VA.

Introduction: Despite overall decreasing rates of colorectal cancer, significant disparities in mortality disproportionately impact racial and ethnic minorities. Ancestral differences in tumor biology may affect how patients respond to cancer therapeutics, potentially impacting treatment efficacy. Underrepresentation in clinical trials may perpetuate disparities in colorectal cancer in racial and ethnic minorities. We aim to determine the representation of racial and ethnic minority patients in colorectal cancer clinical trials and to explore how reporting and representation has changed over time. Methods**:** A database analysis was performed of ClinicalTrials.gov from 2008-2021 of all colorectal, colon and rectal cancers. Trials were excluded if results were not reported, studies were performed outside the US or in other cancer types. Representation was determined using an enrollment fraction (EF), the proportion of trial participants adjusted for prevalence of colorectal cancer for each racial and ethnic subgroup. Wilcoxon rank sum and Kruskal-Wallis tests were used to determine whether the distribution of EF ratios among subgroup trials differed from 1. Results**:** 255 colorectal cancer clinical trials were analyzed, including 253,135 participants. Overall, gender was reported 98.8% of the time, whereas race was reported in 44.7% of trials and ethnicity was reported in 29.4% of trials. Though data reporting on race and ethnicity have improved over time, rates of reporting remain poor in 2021 (race 68.2%, ethnicity 45.5%). Black (EF 0.7), Asian (EF 0.3), American Indian and Alaskan Native (EF 0.0) and Hispanic (EF 0.4) patients remain underrepresented when compared to US rates of colorectal cancer ($p<0.0001$). Conclusion**s:** Non-White and Hispanic patients with colorectal cancer are underrepresented in colorectal cancer clinical trials. Though reporting of patient race and ethnicity continue to increase, there are opportunities for further improvement. Equitable representation of racial and ethnic minorities in colorectal cancer clinical trials facilitates the understanding of biologic responses to cancer therapeutics and has the potential to improve cancer health disparities.

PO-225 Patterns of colorectal cancer screening in the US: Analysis of the 2019 National Health Interview Survey Humberto R. Nieves-Jimenez, Isabela M. Bumanlag, Joseph Abi Jaoude, Ethan B. Ludmir, Cullen M. Taniguchi. The University of Texas MD Anderson Cancer Center, Houston, TX.

Introduction: Colorectal cancer (CRC) is the third most common cancer in the United States and, while there is growing conscience towards it, screening is still not widely adopted. **Methodology:** We used data from the 2019 National Health Interview Survey, which is a cross-sectional study that included 31,997 participants. We focused on the colorectal cancer screening module, and particularly on questions related to participants having ever had a colonoscopy (COL) or sigmoidoscopy (SIG). We then performed bivariate and multivariable analyses to assess the association between participants' variables and having had a COL or SIG. **Results:** In total, 22,025 participants answered the CRC screening module, and 13,383 participants (60.8%) had done a previous COL/SIG. Participants' sex was not associated with differences in the use of COL/SIG for CRC screening (OR=1.0, P=0.89). When assessing race, Hispanics (OR=0.9, P=0.03) and Asians (OR=0.7, P<0.001) had less odds for undergoing COL or SIG compared to Whites. In the education scope, participants with a college degree (63.2%), some college (62.8%), and high school graduates (58.6%) had undergone more COL or SIG than those with no school or incomplete high school (52.2%). Participants born in the U.S. had more COL or SIG performed than those who were not born in the U.S. (63.6% vs. 45.5%, respectively, P<0.05). Moreover, participants who do not have a usual place for healthcare underwent less COL/SIG for CRC screening (OR=0.3, P<0.001). When assessing insurance, participants with a private or military health insurance were at higher odds for having a COL or SIG, as opposed to any public insurance or no insurance at all (OR=0.8, 0.4, respectively; P<0.001 for both). On multivariable analysis, race, education, nativity in the U.S., insurance, and age were all independently associated with differences in the use of COL/SIG. **Conclusions:** Colonoscopy and sigmoidoscopy are widely used for CRC screening, however, differences in patterns of use still exist among various U.S. populations.

PO-226 Gene expression levels correlation to colon cancer disparities amongst African and Caucasian American men Darryl A. Sams, Dana R. Marshall. Meharry Medical College, Nashville, TN.

Colorectal cancer (CRC) is the third most common cancer, for both incidence and mortality, in the United States 1 Although incidence and mortality are decreasing for all races and ethnicities in the U.S., African American (AA) males continue to disproportionately bear the burden of this disease. Socioeconomic status (SES) accounts for some of this disparity as AAs, like many underserved populations, are impacted by low socioeconomic status. Individuals with the lowest SES are 40% more likely to be diagnosed with CRC than those with the highest SES. However, SES doesn't account for all of this disparity. Significant differences in the transcriptomes of AA and Caucasian American (CA) CRC tumors have been reported (UNC reference). Publicly available databases house large numbers of previously analyzed and published studies that can be analyzed again on the background of accumulated knowledge of genes and pathways and provide new insights into the biology of those tumors that may reveal new targets for therapy. With this idea in mind, GSE28000, stored in the NCBI GEO database, was identified for further analysis. The transcriptomes had been characterized using the Agilent-014850 Whole Human Genome Microarray 4x44K G4112F platform. The transcriptomes for 24 AA males and 16 CA males were compared using the Biostatistical analysis performed using GEO2R. This resulted in the identification of 2150 differentially expressed, annotated, genes ($p \leq 0.05$). The differentially expressed genes were uploaded into Webgestalt and an over-representation analysis for diseases was performed using the OMIM database. A statistically significant (Benjamini & Hochberg FDR $p \leq 0.05$) group of four genes associated with CRC was identified. These genes, with log2 differential expression and p-value respectively, were PIK3CA (-0.36861932), FGFR3 (-0.83181818), DCC (0.32934659), and SRC (0.37958239). A positive log difference indicates higher expression in the tumors of AA patients. Although these data are intriguing, the inability to generalize these results from this single study were clear, so we sought to validate these results in other publicly available databases. These validation efforts are ongoing but the difficulty in drawing strong conclusions about this outcome is in the underrepresentation of AA patients in cohorts and clinical trials. African American males' high incidence and mortality rate in CRC and their low presence in clinical trials embellishes the lack of racial equity in clinical trials. A study by the Mayo Clinic in 2013 pointed out of 14,232 CRC trials enrolled, only 746 were African American (11,850 CA). These inequitable results press for the need of an increase in African Americans and other disproportionately affected groups through the cooperation amongst researchers, doctors, minorities, and cancer institutes.

PO-227 Role of IL-1β pathway in colon cancer progression and its therapeutic implications in African American colon cancer cell lines Marzia Spagnardi[1], Jenny Paredes[2], Jone Garai[3], Jovanny Zabaleta[3], Jennie Williams[4], Laura Martello-Rooney[1]. [1]SUNY Downstate Health Sciences University, Brooklyn, NY, [2]Memorial Sloan Kettering Cancer Center, New York, NY, [3]Louisiana State University Health Sciences Center, New Orleans, LA, [4]Stony Brook University, Stony Brook, NY.

Background: Colorectal cancer (CRC) is the third most common cancer and third cause of cancer-related death among African Americans (AA) in the US. When compared to Caucasian Americans (CA), AA patients present with higher incidence and mortality rates for CRC. Recent findings indicate that they have reduced response to the standard of care chemotherapeutic agent 5-Fluorouracil (5-FU) as well as lower frequency of MSI tumors, making them also less likely to respond to conventional immunotherapies. Previous results from human genomic analyses suggest that certain differences seen in AA patients might be due to a decreased antitumor immune response as well as an increased expression of genes involved in inflammatory processes, such as Interleukin-1β (IL-1β). Therefore, we aimed to investigate the role of IL-1β in promoting cell proliferation, cell migration, 5-FU resistance and activation of specific inflammatory pathways in novel AA colon cancer cell lines, and how these responses would compare to well established CA colon cancer cell lines. Methods Our approach includes using MTS colorimetric assay and Transwell assay to examine the effects of IL-1β treatment on cell proliferation and migration. We performed Western Blot analysis to detect expression of phosphoproteins following treatment with IL-1β. We also investigated how IL-1β affects 5-FU resistance in AA and CA colon cancer cell lines in terms of cell viability. Finally, we tested the ability of IL-1 Receptor antagonist (IL-1Ra) to inhibit the effects of IL-1β on cell proliferation, protein expression, and 5-FU response. Results Our MTS assay results indicated that cell proliferation in response to IL-1β differs between the AA and the CA colon cancer cell lines, with the AA colon cancer cells being more responsive. Whereas, the migration rate is increased after stimulation with IL-1β for both AA and CA colon cancer cell lines. Protein expression of Phospho-IkB-alpha is increased in AA but not CA colon cancer cell lines following IL-1β treatment, while Phospho-JNK expression was different between the cell lines following treatment. Importantly, our results show that 5-FU efficacy is decreased in the presence of IL-1β for both AA and CA colon cancer cell lines and that treating the cells with IL-1Ra appeared to reestablish 5-FU cell killing effect. IL-1Ra also suppresses the effects of IL-1β on cell proliferation and protein expression. Conclusion**s** Taken together, our results demonstrated a differential response to IL-1β for the AA colon cancer cell lines, suggesting a probable role played by the cytokine in driving inflammation-related cancer progression and reveals a possible new target to exploit in immunotherapy for this population.

PO-228 Racial disparities and the impact on recurrence and survival in non-metastatic colon cancer patients undergoing colectomy at a comprehensive cancer center Hannah M. Thompson, Jonathan B. Yuval, Anisha Luthra, Fan Wu, Tolulope Iwayemi, Iris H. Wei, Emmanouil P. Pappou, J. Joshua Smith, Garrett M. Nash, Julio Garcia-Aguilar, Francisco Sanchez-Vega. Memorial Sloan Kettering Cancer Center, New York, NY.

Introduction/Purpose: Colorectal cancer has worse outcomes among Black patients; however, few studies have evaluated differences in recurrence rates after surgery. Our goal was to compare recurrence between Black and white patients with colon cancer treated at a comprehensive cancer center with a standardized quality of care. Methods**:** A retrospective review of Black and white patients with Stage 0-III colon cancer undergoing surgical resection from 2006-2018 was conducted. Patients with neoadjuvant therapy, adjuvant radiation, and missing median family income or body mass index data were excluded. Demographic and clinical data were collected and compared between the groups. Median family income was estimated using patients' zip codes and Census data. Freedom from Recurrence (FFR) was the primary endpoint with an event defined as colon cancer recurrence. A Kaplan-Meier curve evaluated differences between the racial groups with a log-rank test to assess significance. A multivariable analysis using Cox proportional hazards was conducted, and a *p* value of <0.05 was considered significant. **Results:** Two thousand and sixty-one patients were included with 1912 white (93%) and 149 (7%) Black patients. Black patients had a median age of 61 compared with 65 in the white cohort (p=0.003) and had a higher median BMI prior to colectomy (p=0.01). Most had right-sided tumors in both groups (58% for Black and 50% for white patients; *p*=0.13). About 8% of Black patients had Medicaid insurance compared with 2% of white patients (*p*=<0.005), and Black patients had a lower estimated median family income (*p*=<0.005). On surgical pathology, more Black patients had node-positive disease (44% for Black and 33% for white patients; *p*=0.009) and received adjuvant chemotherapy (48% for Black and 37% for white patients; *p*=0.006). More Black patients underwent open colectomies (39% and 28% respectively, *p*=0.02). To assess resection quality, 5 white and 0 Black patients had positive margins, and the median total lymph node count was 25 for Black versus 23 for white patients (*p*=0.04). Few patients in each group had a colectomy with less than 12 lymph nodes resected (1% for Black and 4% for white patients; *p*=0.17). The survival analysis showed that white patients had a higher FFR compared to Black patients (*p*=0.005). However, only T4 classification (hazard ratio 2.03, confidence interval 1.52-2.71; *p*=<0.001) and node-positive disease (hazard ratio 2.88, confidence interval 2.20-3.79; *p*=<0.001) correlated with lower FFR on multivariable analysis. Race was not significantly correlated (hazard ratio of 1.47, confidence interval 0.97-2.23; *p*=0.07). Conclusion**:** We found significant differences in clinical and tumor characteristics between Black and white colon cancer patients who underwent resection consistent with more advanced presentation in Black patients. While Black patients were found to have a lower FFR, after controlling for other factors, Black and white patients had similar stage specific survival when treated at this comprehensive cancer center.

Organ Site Research: Gynecological Cancers

PO-229 Racial/ethnic differences in tumor characteristics among endometrial cancer patients in an equal-access healthcare population Daniel Desmond[1], Zhaohui Arter[2], Jeffrey Berenberg[3], Melissa Merritt[4]. [1]Walter Reed National Military Medical Center, Bethesda, MD, [2]University of California, Irvine Medical Center, Irvine, CA, [3]Tripler Army Medical Center, Honolulu, HI, [4]University of Hawaii, Honolulu, HI.

Introduction: Endometrial cancer is the most prevalent gynecologic malignancy. Compared with White women, endometrial cancer incidence is 30% lower in Black women yet mortality is 80% higher. In retrospective review of young women, [MM1] Black women (<50 years old) presented with more advanced clinical stage and more aggressive histologic subtypes. Multivariable analysis adjusting for these factors showed that risk of mortality[MM2] is 19% higher in Black women than their White counterparts. Native Hawaiian/Pacific Islander race has also been associated with worse survival when compared to their White counterparts. In this retrospective review of endometrial cancer patients treated within the Military Health System we assessed whether there were racial/ethnic disparities in tumor characteristics [MM3] in a system that provides equal access to healthcare and treatment. Methods: The study population included women diagnosed with endometrial cancer among US Department of Defense beneficiaries reported in the Automated Central Tumor Registry (ACTUR) database between 2001-2018. We evaluate differences in tumor characteristics by self-reported racial/ethnic group using the Chi-square test or Fisher test for small sample sizes (a two tailed $P<0.05$ was considered statistically significant). Results: After excluding women who had non-invasive tumors, non-epithelial histology and those who were not represented in the five major racial/ethnic groups for this study, the study population included 2574 women diagnosed with invasive endometrial cancer (including 1729 Non-Hispanic White[ZA4] , 318 Asian, 286 Black, 140 Pacific Islander and 101 Hispanic White women). We observed differences in histology, stage and grade by racial/ethnic group ($P<0.001$). Specifically, comparing age-standardized endometrial tumor characteristics by racial/ethnic groups we observed that Black women had a lower proportion of endometrioid histology (56%) as compared with other racial/ethnic groups (≥70.6% endometrioid). Black, Hispanic and Pacific Islander women had a higher proportion of distant stage and poorly differentiated (grade 3-4) disease (≥8.9% distant stage; ≥30.5% poorly differentiated) versus (≤5.7% distant stage; ≤23.8% poorly differentiated) in White and Asian women. Conclusions: Endometrial cancer is common and population-wide screening is not recommended which makes it a good case-study for the value of access to care when patients identify concerning symptoms (bleeding, spotting). In our analysis of endometrial cancer cases in an equal-access healthcare environment, there appear to be racial/ethnic disparities among Black, Hispanic and Pacific Islander women. Our review affirms prior data showing more aggressive histology, grade and stage at diagnosis. Further studies will focus on whether these patterns persist among women with endometrioid histology tumors. The views expressed in this abstract are those of the author and do not reflect the official policy of the Department of Army/ Navy/Air Force, Department of Defense, or U.S. Government.

PO-230 Racial differences in the adoption of opportunistic salpingectomy for ovarian cancer prevention in the United States Pritesh S. Karia[1], Yongmei Huang[2], Parisa Tehranifar[1], Kala Visvanathan[3], Jason D. Wright[2], Jeanine M. Genkinger[1]. [1]Columbia University Mailman School of Public Health, New York, NY, [2]Columbia University Irving Medical Center, New York, NY, [3]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Introduction: Opportunistic salpingectomy (OS), the removal of the fallopian tubes during benign gynecologic surgery, has been rapidly adopted by clinicians in the U.S. as a strategy for ovarian cancer prevention. However, little is known about racial differences in OS adoption. As with other medical innovations, surgical innovations in gynecology may be adopted differentially across racial groups, exacerbating disparities in care quality. We examined racial differences in OS adoption in a population-based sample of inpatient and outpatient surgeries. Methods: A cohort of 809,911 women aged 18-50 years undergoing hysterectomy with ovarian conservation or surgical sterilization from 2011-2018 was identified using the Premier Healthcare Database, a large geographically diverse all-payer insurance claims database including over 600 acute care hospitals across the U.S. OS adoption was examined by race/ethnicity (non-Hispanic white [NHW], non-Hispanic Black [NHB], Hispanic, other) using multivariable-adjusted log-binomial regression models accounting for hospital-level clustering. Models included a race/ethnicity by year of surgery (2011-2013 [before guideline] vs. 2014-2018 [after guideline]) interaction term to test whether racial differences in OS adoption changed with the release of national guidelines supporting OS use. Results: From 2011-2018, 104,276 hysterectomy and OS (NHW: 60.1%, NHB: 18.8%, Hispanic: 11.4%, other: 9.7%) and 28,015 OS for sterilization (NHW: 65.4%, NHB: 10.0%, Hispanic: 10.6%, other: 14.0%) were performed. The proportion of benign hysterectomy procedures involving OS increased from 6.4% in 2011 to 62.3% in 2018, and the proportion of sterilization procedures involving OS increased from 0.7% in 2011 to 19.1% in 2018. After adjusting for demographic, clinical, procedural, and hospital/provider characteristics, NHB (risk ratio [RR]: 0.97; 95% CI: 0.95-0.99) and Hispanic women (RR: 0.84; 95% CI: 0.77-0.92) were significantly less likely to undergo hysterectomy and OS than NHW women. A significant interaction between race/ethnicity and year of surgery was noted in NHBs compared to NHWs, with a lower likelihood of hysterectomy and OS in NHBs undergoing surgery before but not after national guideline release ($RR_{2011\text{-}2013}$: 0.82; 95% CI: 0.75-0.89; $RR_{2014\text{-}2018}$: 0.99; 95% CI: 0.96-1.01). Results were similar in stratified analyses by hysterectomy route (abdominal, laparoscopic, vaginal). NHBs were also significantly less likely to undergo OS for sterilization than NHWs (RR: 0.84; 95% CI: 0.81-0.88), with no differences by year of surgery. Conclusion**s**: Although OS for ovarian cancer prevention has been rapidly adopted into clinical practice in the U.S., our findings suggest that its adoption has not been equitable across racial groups. NHB and Hispanic women are less likely to undergo OS than NHW women even after adjusting for demographic, clinical, procedural, and hospital/provider characteristics. If these differences in OS adoption persist, disparities in ovarian cancer incidence may worsen in the future.

PO-231 Exploring social vulnerability in locally advanced cervical cancer patients undergoing brachytherapy irradiation Lindsey A. McAlarnen, Melanie Sona, Kristin Tischer, Christina Small, Meena Bedi, Beth Erickson, Elizabeth E. Hopp. Medical College of Wisconsin, Milwaukee, WI.

Racial and ethnic disparities in access to care and treatment of cervical cancer exist. Despite being the standard of care, brachytherapy as an essential component of definitive irradiation is not successfully completed by all patients with locally advanced cervical cancer. Milwaukee, WI, is a city known for segregation and there is a profound gap in access to care as women continue to be diagnosed with advanced cancer of the cervix, a disease that can be detected early and now even prevented with the HPV vaccine. Using geocoding, the relationship between patients' geography, demographic factors, and diagnosis of cervical cancer was examined. By querying a cohort discovery tool, data was obtained from 66 patients with locally advanced cervical cancer from 2016 to 2021 who received brachytherapy as a part of their treatment. Patients' census tract numbers were matched to social vulnerability indices from the Centers for Disease Control's (CDC) Social Vulnerability Index (SVI). The SVI rankings range from least vulnerable, 0, to most vulnerable, 1, for four themes: socioeconomic status, household composition and disability, minority status and language, and housing type and transportation. Results were analyzed using the Kruskal-Wallis rank sum test and Fisher's exact test. Seventy-one percent of patients included were Caucasian, 21 % African American, 4.5% Hispanic, and 1.5% Asian, and 1.5% American India/Alaska Native. The median SVI value when comparing patients to all census tracts in the United States was 0.39 (range 0.0001-0.9907) in this population. The socioeconomic status theme was most correlated with the overall US themes (Spearman correlation 0.927). Median SVI values suggested that Asian patients were most vulnerable with an SVI of 0.96, followed by African American 0.86, Hispanic 0.53, American Indian or Alaska Native 0.30, and Caucasian 0.29 ($p = 0.005$). Asian patients were most vulnerable in socioeconomic status with an SVI of 0.93, in minority status and language with an SVI of 0.90, and in housing and transportation with an SVI of 0.97. African American patients were most vulnerable in household composition and disability with an SVI of 0.78. Three of the four theme ranking variables showed significant differences based on race/ethnicity, with the exception of housing and transportation ($p = 0.2$). We identified a clear discrepancy in social vulnerability among minority patients with cervical cancer. Further investigation of the factors contributing to disparities among cervical cancer patients will help appropriately allocate resources and ensure that these patients receive optimal treatment leading to improved outcomes.

PO-232 Racial differences in the tumor immune landscape and survival of high-grade serous ovarian carcinoma Lauren C Peres[1], Christelle Colin-Leitzinger[1], Sweta Sinha[1], Jeffrey R. Marks[2], Jose R. Conejo-Garcia[1], Anthony J. Alberg[3], Elisa V. Bandera[4], Andrew Berchuck[2], Melissa L. Bondy[5], Brock C. Christensen[6], Michele L. Cote[7], Jennifer A. Doherty[8], Patricia G. Moorman[2], Carlos Moran Segura[1], Jonathan V. Nguyen[1], Edward S. Peters[9], Ann G. Schwartz[7], Paul D. Terry[10], Christopher M. Wilson[1], Brooke L. Fridley[1], Joellen M. Schildkraut[11]. [1]H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, [2]Duke University Medical Center, Durham, NC, [3]University of South Carolina, Columbia, SC, [4]Rutgers Cancer Institute of New Jersey, New Brunswick, NJ, [5]Stanford University, Palo Alto, CA, [6]Dartmouth College Geisel School of Medicine, Hanover, NH, [7]Wayne State University, Karmanos Cancer Institute, Detroit, MI, [8]Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, [9]Louisiana State University Health Sciences Center School of Public Health, New Orleans, LA, [10]University of Tennessee Medical Center, Knoxville, TN, [11]Emory University, Atlanta, GA.

A survival benefit has been consistently observed for tumor infiltrating lymphocytes (TILs) among ovarian cancer patients; however, prior studies consist of predominantly white women and little work has been conducted in racially diverse cohorts. Here, we investigate racial differences in the tumor immune landscape and survival among African-American (AA) and white women with high-grade serous ovarian carcinoma (HGSOC), the most common histotype of ovarian cancer. Leveraging two population-based case-control studies of ovarian cancer, the African-American Cancer Epidemiology Study and the North Carolina Ovarian Cancer Study, treatment-naïve AA women with HGSOC were matched to white women with HGSOC by stage and age. Multiplex immunofluorescence staining was performed on formalin-fixed paraffin-embedded whole tissue sections to measure TILs (CD3+) and T-cell subsets, cytotoxic (CD3+CD8+) and regulatory (CD3+FoxP3+) T-cells. Image analysis was completed on three regions of interest (ROI) selected from the intratumoral region. We categorized immune cell abundance within the tumor, stroma, and overall as <1% and ≥1% positive cells. Multivariable Cox proportional hazard regression models were used to examine the association between immune cell abundance and survival overall and by race. Among 121 AA and 121 white women with HGSOC, more than half (56%) had a higher TIL infiltrate overall, while 33% and 11% had higher levels of cytotoxic and regulatory T-cells, respectively. No differences in immune cell abundance were observed by race. Mean follow-up time was 4.3 ± 5.2 years, and 72% of the women are deceased. Higher levels of TILs and cytotoxic T-cells were associated with better outcomes overall (hazard ratio [HR]=0.68, 95% confidence interval [CI]=0.53, 0.88 and HR=0.59, 95% CI=0.44, 0.80, respectively) and these associations were similar irrespective of tumor/stroma. No association with survival was observed for T-regulatory cells overall and in the tumor; however, improved survival was noted for higher levels of T-regulatory cells in the stroma (HR=0.69, 95% CI=0.49, 0.96). Associations with survival among white women were consistent with the overall findings, but among AA women, all associations were attenuated and not statistically significant. For example, white women with higher overall TILs had a 42% lower risk of all-cause mortality (HR=0.58, 95% CI=0.41, 0.82), whereas the association among AA women was weaker and not statistically significant (HR=0.79, 95% CI=0.54, 1.17). Adjusting for frontline treatment did not substantively impact these findings. Our results add to the existing evidence that a robust TIL infiltrate confers a survival advantage among women with HGSOC; however, AA women may not experience the same survival benefit as white women

with HGSOC. An external replication in a larger cohort of ovarian cancer patients and additional investigation, particularly further characterization of the T-cells (e.g., exhaustion, activation) and their co-localization with other prognostically relevant immune cells, is warranted.

PO-233 Effect of *Lactobacillus* on tumor growth and radiosensitivity Laura P. Reguero-Cadilla[1], Ann Klopp[2]. [1]University of Puerto Rico, San Juan, [2]University of Texas MD Anderson Cancer Center, Houston, TX.

Cervical cancer is the most common HPV-associated cancer as it is diagnosed in more than half a million women a year. It specially affects low and middle-income countries. In terms of treatment options, microbiome may be a key element in achieving the desired effect of radiation treatment in cervical cancer. The objective here is to evaluate the effect of *Lactobacillus iners* on tumor growth and cell response to radiation therapy. A previous test cohort identified that poor responders had an abundance of the *Lactobacillus* genus in their microbiome, while early/exceptional responders had other microorganisms such as *Porphyromonas* augmented. Moreover, whole genome shot gun sequencing (WGS) demonstrated that *Lactobacillus iners* is the most common species of *Lactobacillus* in cervical samples of poor responders and is absent in exceptional responders. Based on these findings, we propose that *Lactobacillus iners* creates a microenvironment which supports tumor growth and facilitates resistance to radiation therapy. A clonogenics assay using SiHa, HeLa and CaSki cell lines with three bacterial supernatants at different radiation doses was performed. While another facet of our research was comparing tumor growth in C57 mice receiving *Lactobacillus iners* suspension and those not receiving it. In terms of the clonogenics assay: *L. crispatus* and *L. iners* supernatants may increase radiosensitivity of SiHa, HeLa, and CaSki cell lines. Cell survival may also be affected by nutrients in bacterial broths. In terms of the mice's tumors analyzed: no significant differences in tumor growth were found between the control and treatment groups. *L. crispatus* cohort showed tumor regression, which correlates with higher populations of innate immune cells. Further clonogenic and in vivo experiments are supported to obtain more precise results that could eventually be applied in radiation oncology treatments.

Organ Site Research: Lung Cancer

PO-235 Changes in low-dose CT lung cancer screening patterns post-COVID-19

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Purpose: Nationally, only 23% of lung cancer cases are diagnosed at an early stage and on top of that Black Americans with lung cancer are 16% less likely to be diagnosed early. If everyone currently eligible were screened, close to 48,000 lives could be saved. Interestingly, pre-COVID-19 17% of the individuals getting screened for lung cancer were Black, and post-COVID-19 36% are Black. This study aims to explore potential reasons for this sudden increase in low-dose CT lung cancer screenings in Black patients by examining variables in the electronic health record and by interviewing pundits in clinical oncology practice. Methods: 416 deidentified electronic health records were collected from a data repository at the Medical College of Wisconsin. We analyzed low-dose CT screening for lung cancer among Black and white patients pre- and post-COVID-19 (4 cohorts). The post-COVID-19 cohorts looked at screening from 1/1/2020 – 7/8/2021, compared to a proportionate time frame pre-COVID-19 (1/1/2018 – 7/8/2019). Because of low numbers of other racial/ethnic backgrounds (Asian, Hispanic, Pacific Islander, etc.), only Black and white patients were examined in this study. Variables examined include insurance status, marital status, age, COVID-19 testing or diagnosis, gender, employment status, comorbidities (cardiovascular disease, chronic obstructive pulmonary disease, diabetes and hypertension), and lung cancer diagnosis. Results: Employment status, lung cancer diagnosis, and gender were all significantly different between Black and white cohorts pre-COVID-19. Post-COVID-19, similar differences are seen in employment status, while patterns in lung cancer diagnosis, gender, and insurance status are contradictory. Black patients pre-COVID-19 had a higher incidence of being men and a lower incidence of lung cancer diagnosis. On the contrary, post-COVID-19 Black patients have a higher incidence of being women and lung cancer diagnosis, and additionally a higher incidence of Medicare use. Despite the drastic differences in healthcare before and after COVID-19, COVID-19 testing and diagnosis did not appear to be linked to increased lung cancer screenings for Black patients. However, in conversations with thoracic surgeons and community health workers, we learned of significant screening efforts within Black populations due to grants funded during the COVID-19 pandemic. Conclusions: In this study, insurance status was the strongest difference between the pre- and post-COVID-19 Black cohorts. In a conversation with thoracic surgeons, we learned that a major initiative was launched post-COVID-19 that increased insurance access for Black populations. Increasing access to healthcare appears to be a promising first step in eradicating lung cancer disparities in Black populations. So, this research could serve as a guidepost to provide policymakers, researchers and healthcare providers, as well as patients and families, with data that pinpoints where future resources should be aimed in the effort to end lung cancer and its corresponding health disparities.

PO-236 Examining racial disparities in lung cancer stage of diagnosis among low-income adults living in the southeastern U.S. Jennifer Richmond[1], Megan Hollister[2], Cato M. Milder[2], Ann G. Schwartz[3], Jeffrey D. Blume[2], Melinda C. Aldrich[1]. [1]Vanderbilt University Medical Center, Nashville, TN, [2]Vanderbilt University, Nashville, TN, [3]Karmanos Cancer Institute, Wayne State University, Detroit, MI.

Purpose: Black Americans experience poorer lung cancer survival than White Americans. Racial disparities in stage at diagnosis may contribute to these survival differences, but few studies have explored factors leading to racial disparities in lung cancer stage at diagnosis. We aimed to identify multilevel factors contributing to racial disparities in stage of lung cancer presentation. **Methods:** Using data from the Southern Community Cohort Study (SCCS), we examined factors associated with distant stage among adults diagnosed with incident lung cancer. SCCS participants were prospectively enrolled, primarily from community health centers between 2002 and 2009 across a 12-state area. Incident cancers were identified by linkage with state cancer registries through end of follow-up in 2019. Self-reported social, behavioral, and medical history information were ascertained at baseline via questionnaire. Cumulative exposure smoking histories were identified using the most recent follow-up questionnaires. Residential addresses and National Cancer Institute Comprehensive Cancer Center locations were geocoded, and residential addresses were linked to census data. Logistic and multinomial regression models were used to identify factors predictive of distant stage diagnosis. Penalized regression was used to shrink the predictor space of these models when necessary. Findings were replicated in an independent population. **Results:** Among 1,672 incident SCCS lung cancer cases (35% White, 61% Black, and 3% other self-reported race), a greater percentage of Black participants than White participants were diagnosed with distant stage lung cancer (56.4% vs 49.4%, respectively). Overall, Black participants had greater odds of distant vs local stage compared to White participants (odds ratio (OR) = 1.28, 95% confidence interval (CI): 1.05-1.58). Greater area deprivation was also associated with distant lung cancer stage (OR = 1.55, 95% CI: 1.17-2.04). After controlling for individual and area-level factors, there was no significant difference in the odds of distant stage disease for Black participants compared to White participants (OR = 1.03, 95% CI: 0.80-1.33). Significant interactions between race and area deprivation index were not observed. However, greater residential distance from a comprehensive cancer center was significantly associated with increased odds of distant stage disease in the final model (OR = 1.04, 95% CI: 1.00-1.08). No significant differences were observed in the odds of distant stage lung cancer among Black and White participants in the independent population. **Conclusions:** A greater percentage of Black participants were diagnosed with distant stage lung cancer; however, this disparity dissipated after adjusting for individual and area-level factors. Our findings suggest racial disparities in lung cancer stage at diagnosis may be ameliorated with modifiable factors, such as patient access to high quality cancer centers.

Prevention Research: Other

PO-238 Implementing a culturally-appropriate biospecimen collection protocol during the COVID-19 pandemic to address cervical cancer disparities among Native American women Skyler Bordeaux[1], Elisa Martinez[2], Pawel Laniewski[2], Natalie Metz[3], Verity Quioz[3], Donna Peace[3], Gregory Caporaso[1], Melissa Herbst-Kralovetz[2], Naomi Lee[1]. [1]Northern Arizona University, Flagstaff, AZ, [2]University of Arizona, Phoenix, AZ, [3]Native Americans for Community Action, Flagstaff, AZ.

Background: Native American women experience twice the rate and mortality of cervical cancer compared to non-Hispanic white women. This cervical cancer disparity is primarily attributed to a lack of screening and unequal access to healthcare. While infection with high-risk HPV genotypes is a well-established risk factor for cervical cancer, there are likely other factors within the local microenvironment that contribute to cervical carcinogenesis. Therefore, the goal of the pilot project is to address the role of the vaginal microbiome (VMB) and inflammation in cervical cancer pathogenesis among Native American women. In 2019, we partnered with the Native Americans for Community Action (NACA) clinic to implement a culturally-appropriate biospecimen protocol. Unfortunately, the COVID-19 pandemic caused NACA and many clinics nation-wide to limit in-patient services or transition to 100% telehealth. As such, preventative care such as breast and cervical cancer screenings were not conducted during the annual well women's exam. Another hurdle in our pilot project included the resignation of the trained nurse in consenting, enrollment, collection and storage at NACA. Therefore, we needed to quickly adapt to accommodate the clinic's COVID-19 restrictions and train a new nurse on the biospecimen collection protocol. **Methods:** Adjustments to the protocol included vaginal self-collection rather than physician collection of samples. We also provided new clinic staff a "virtual in-service training" to review all required documents (recruitment, consenting, sample collection, gift cards, specimen storage, etc.). Recruitment was slow during the early stage of the COVID-19 vaccine roll out. Therefore, we developed culturally tailored recruitment flyers that were distributed over social media. In addition, we developed a culturally appropriate video on the significance of the well women's exam through collaboration with the NACA clinic and researchers at the partnership for Native American Cancer Prevention (NACP) that will be disseminated in the upcoming weeks. All amendments were approved by the clinic leadership and appropriate institutional review boards (IRBs). Results**:** As COVID-19 restrictions lifted, the NACA staff was prepared to immediately begin recruitment. Thus far, the NACA staff successfully enrolled (n=25) participants since March 2020 with survey data entered into REDCap. With continued recruitment efforts and launch of the video, we aim to have at least 50% of participants enrolled by Fall 2021. Survey data analyses are in-progress with expected completion by Spring 2022. Conclusion**:** In summary, the continued efforts by the NACA staff and research team resulted in successful recruitment for the pilot study during the COVID-19 pandemic. This study will set the foundation to evaluate the role of the VMB and HPV-mediated cancer in Native American women.

PO-239 Patient and provider experiences with an incidentally diagnosed cancer precursor: A qualitative study Maira A. Castaneda-Avila, Kathleen M. Mazor, Kate Lapane, Mara M. Epstein. University of Massachusetts Medical School, Worcester, MA.

Background: Monoclonal gammopathy of undetermined significance (MGUS) is a prevalent, yet incidentally diagnosed precursor to multiple myeloma. We sought to gather foundational knowledge about the experiences of patients and healthcare providers during the process of diagnosing MGUS. Methods**:** We conducted semi-structured qualitative interviews. We recruited 14 patients using ResearchMatch and Facebook, and eight local healthcare providers. Interviews were analyzed using thematic analysis. Results**:** We identified three themes focused on the process of receiving or giving an MGUS diagnosis, relating to: (1) providers' explanations, (2) patients' understanding, and (3) the response to diagnosis. Providers reported that they explained MGUS using similar language for all patients, regardless of literacy level or other factors. Providers also indicated the challenges of explaining MGUS to non-English speaking patients using an interpreter. Although all patients were able to offer some description of MGUS in their own words, several patients reported they really did not understand what this diagnosis means. Providers acknowledged that an MGUS diagnosis may lead some patients to experience anxiety. Providers also reported that the referral to a hematologist-oncologist could be inherently stressful for some patients and make them worried about having cancer. Patients reported varied responses to receiving an MGUS diagnosis ranging from relief to anxiety about MGUS progression to multiple myeloma. Conclusion**:** We observed that providers tend to use consistent language when explaining an MGUS diagnosis to patients. Patients diagnosed with MGUS have a basic understanding of their condition, yet some patients feel anxiety around the diagnosis, which may affect other aspects of their lives. For underserved populations, providers may need to use interpreters to ensure all patients understand their condition. These findings are an important first step in understanding patients' experiences as they are diagnosed with MGUS.

PO-241 Cancer burden in a population of Hispanic cohort of persons living with HIV: 1992-2017 Pranav Menon[1], Angel Mauricio Mayor[2]. [1]Tulane University School of Public Health and Tropical Medicine, New Orleans, LA, [2]Universidad Central de Caribe, Bayamon.

Background: HIV-associated immune suppression has been linked to an increased risk of certain cancers; this risk maybe higher among Hispanics patients living with HIV (PLWH). The purpose of this study is to better understand the burden of cancer in minority PLWH, particularly those residing in Puerto Rico. Methods**:** Data from the Puerto Rican Retrovirus Research Center Cohort, matched with the Puerto Rican Cancer and Morality Databases were used to evaluate the cancer burden among Hispanic PLWH between January 1992 to December 2019. Fisher and chi square analysis were conducted to test associations of the neoplasm with gender, HIV risk factors, cancer risk factors anti-retroviral therapies (ART), and death, using SAS 9.4. Results**:** A total of 4,665 PLWH were evaluated with a mean age at enrollment of 38.43 ± 9.63, 71.60% male, 66.92% were 31-50, 69.52% smoked tobacco, 48.47% consumed alcohol, 48.30% were IV drug users, 28.40% reported men sex with men. At enrollment, 37.45% had a CD4 count < 200 cells (immunological AIDS), 46.23% received ART and 29.71% combination ART (cART). A total of 346 (7.42%) were diagnosed with some type of cancer, where 41.82% were AIDS defining malignancies. [Kaposi's sarcoma: 16.72%, Non-Hodgkin's Lymphoma: 15.73%, and Cervical Adenocarcinoma: 9.42%)] and the rest (53.18%) were non-AIDS defining cancers, [prostate (6.69%), lung (4.86%), Hodgkin's Lymphoma (3.94%), Liver (3.34%)]. Cancers were more prevalent in PLWH who are older, with CD4 count < 200, receive CART, and consumed alcohol. Morality in PLWH with cancer (62.4%) was higher than in those without cancer (53.8%). Cancer mortality was more prevalent in cases who were men, who had not received cART at enrollment, those who drink alcohol, or smoked tobacco. **Discussion:** Gaining an in depth understanding regarding the burden of cancer in minority PLWH is essential in mitigating adverse outcomes. Our findings indicate higher use of cART in PLWH with cancer, in line with the incremental increase of chronic conditions among this population after the availability of ART. There are significant differences in demographic information and risk factors exposure between HIV patients with cancer and those without. We also find that, beside the HIV risk factor, the classical cancer risks are affecting this vulnerable population. Consequently, further studies need to be done to get further information that will help to design tailored prevention strategies directed to PLWH.

PO-242 Pacific Island Partnership for Cancer Health Equity Neal A. Palafox[1], Rachael T. Leon Guerrero[2], Brenda Y. Hernandez[1], Margaret Hattori-Uchima[2], Hali R. Robinett[1]. [1]University of Hawaii Cancer Center, Honolulu, HI, [2]University of Guam, Mangilao, Guam.

The Pacific Island Partnership for Cancer Health Equity (PIPCHE) aims to develop cancer and cancer health disparities (CHD) research at the University of Guam (UOG) and the University of Hawai‘i Cancer Center (UHCC), focusing on Pacific Island (PI) populations; collaborate with community organizations that work with underrepresented PI populations to promote cancer health equity and enhance opportunities for research training and workforce development; implement evidence-based and culturally-relevant public health interventions and cancer prevention and control strategies with and within underrepresented communities; expand scientific collaboration among PIPCHE members and research faculty at UOG and UHCC, with an emphasis on Early Stage Investigators (ESI) of PI ancestry; and sustain, strengthen, and continuously evaluate the Partnership’s activities. An infrastructure comprised of 4 principal investigators, over 30 multidisciplinary faculty, administrative staff, and external and internal reviewers, backed by institutional and NCI support, has supported 18 years of research, training, and outreach designed to reduce CHD and advance health equity among PI in Guam (GU), Hawai‘i (HI), and the U.S. Associated Pacific Islands (USAPI). Since 2009, PIPCHE has funded 26 research projects addressing cancer research priorities of regional and global relevance, including breast, cervical and liver cancers as well as Areca (betel) nut chewing, practiced by 600 million users worldwide and associated with oral pre/carcinoma. Over 100 peer-reviewed manuscripts have been published, over 100 abstracts presented, and since 2015, 234 grants secured. To address the underrepresentation of PI in biomedical sciences, the Partnership has supported, trained, and mentored 69 graduate students including 21 undergraduates, 37 master’s students (5 of whom went on to pursue a PhD), and 11 students endeavoring towards a doctoral degree. Two PhD graduates are now members of UOG’s faculty, conducting CHD research in GU. In addition, ESIs at UOG and UHCC receive mentorship and career development; since 2015, 14 ESIs have received support. Outreach projects have explored community-based participatory approaches to cancer prevention; efforts currently focus on advancing HPV vaccination and colorectal cancer screening, and cultural competency training for health professionals serving PI in GU and HI. Outreach activities have contributed to the introduction and passage of significant cancer prevention and control legislation in Guam and Saipan. Dedicated leadership and longstanding collaborations have led to the development and sustainability of Guam’s Cancer Registry and the first NCI Community Oncology Research Program in Guam. In conclusion, the PIPCHE has significantly increased PI-focused cancer and CHD research at UOG and UHCC, underrepresented PI students are pursuing careers in cancer research, and communities are engaged in research, training and outreach to advance cancer health equity in HI, GU and the USAPI. Supported by NCI grants U54CA143727 and U54CA143728.

Prevention Research: Prevention Behaviors

PO-244 Association between sexual naivety and human papillomavirus (HPV) vaccination initiation and completion Eric Adjei Boakye[1], Stacey L. McKinney[2], Maria C. Franca[2], Kelli D. Whittington[2], Valerie E. Boyer[2], Minjee Lee[1], Richard C. McKinnies[2], Sandra K. Collins[2]. [1]Southern Illinois University School of Medicine, Springfield, IL, [2]Southern Illinois University, Carbondale, IL.

Background: Human papillomavirus (HPV) accounts for about 35,000 HPV-associated cancers per year. In the United States, a gender-neutral HPV vaccine was recommended by the Advisory Committee on Immunization Practices in 2011 with the primary goal of preventing HPV-associated cancers. Although the HPV vaccine is safe and effective, vaccine uptake is low especially in young adult population. College students comprise the age-group with the highest risk of HPV infection. The HPV vaccines are thought to be most effective before initiation of sexual activity. However, there is a dearth of information on the association between HPV vaccine uptake and sexual activity among college students. This study examined if sexual naivety was associated with HPV vaccination uptake (initiation and completion) among university students. Methods**:** A cross-sectional study was conducted between February and May 2021 among students at a Midwestern University. Sexual naivety was assessed with these questions: *"Have you ever had vaginal sexual intercourse?", and "Have you ever had oral sex*?" Responses were categorized as "no oral or vaginal sex", "had oral or vaginal sex", or "had oral and vaginal sex". The outcome variable was HPV vaccination uptake; initiation was defined as receipt of ≥1 dose, and completion as receipt of ≥3 doses. Multivariable logistic regression models estimated the association between sexual naivety and vaccine uptake, adjusting for age, gender, race, relationship status, academic level, and rural-urban status. Results: Approximately 18% of students reported being sexually naïve. Overall, 45.5% had initiated the HPV vaccination, and 16.5% had completed the vaccination. After adjusting for covariates, compared to students who reported being sexually naïve, those that had ever had oral and vaginal sex were more likely to have initiated (aOR=2.18, 95% CI: 1.41–3.39) the HPV vaccinations; however, no difference was observed for completion. Other factors associated with lower odds of HPV vaccination initiation included younger age (aOR=0.90, 95% CI: 0.85–0.95), male sex (aOR=0.33, 95% CI: 0.23–0.45), rural residence (aOR=0.67, 95% CI: 0.47–0.96), and freshman/sophomore academic level (aOR=0.55, 95% CI: 0.31–0.95). Only gender was associated with vaccination completion where male students were 74% less likely to have completed the series compared to female students. Conclusion**s:** We show that 1-in-5 students were sexually naïve, and that 4-in-10 had initiated the HPV vaccination but only 16% had completed the series. Sexual naivety was an independent predictor of HPV vaccine initiation, with sexually naïve students less likely to have initiated the vaccination. Since sexually naïve students may benefit the most from receiving the HPV vaccination, targeted interventions should be implemented towards this population to help increase vaccination rates and prevent HPV-associated diseases.

PO-245 Perspectives of Hispanic/Latino patients with non-alcoholic fatty liver disease Natalia I. Heredia[1], Sylvia Ayieko[1], Lorna H. McNeill[2], Jessica P. Hwang[2], Amelia Averyt[3], Maria E. Fernandez[1]. [1]The University of Texas Health Science Center at Houston, School of Public Health, Houston, TX, [2]The University of Texas MD Anderson Cancer Center, Houston, TX, [3]Legacy Community Health, Houston, TX.

Introduction. Hispanic/Latino (heretofore Hispanic) adults have twice the incidence of liver cancer as Non-Hispanic Whites adults. Non-alcoholic fatty liver disease (NAFLD) is a major contributor to the upward trend in liver cancer incidence and other adverse outcomes, especially among Hispanic adults. The cornerstone of treatment for NAFLD includes weight loss through regular physical activity and healthy eating. There is little current research on the perspectives of Hispanic patients with NAFLD as it relates to their condition and behavior change. Research in this area is needed to inform the design of culturally appropriate and disease-specific interventions for this population. The purpose of this study was to explore the perspectives of Hispanic patients with NAFLD on their diagnosis and management of the condition. Methods**.** We conducted in-depth qualitative interviews using a semi-structured interview guide with a sample of 12 Hispanic women diagnosed with NAFLD to understand their knowledge, perceptions, and experiences with NAFLD. Interviews were conducted via phone in Spanish and consent was obtained to record the interviews. The interviews were then transcribed and translated to English for analysis. We conducted thematic analysis, using Atlas.ti 8 to support qualitative analyses. Results. Participants were from the greater Houston, TX area with an average of 47 years and median time of diagnosis was 3 years prior to the interview. Women were diagnosed with NAFLD by their primary care physicians who referred them for imaging and/or consultation with liver specialists to confirm the diagnosis. Most women neither disclosed nor discussed their NAFLD diagnosis with others, because they were uncomfortable doing so or were concerned family members would worry about them. Even though doctors were the main source of information for NAFLD background and management, some participants sought additional knowledge on their own from the Internet. Women had a general understanding that NAFLD is associated with lifestyle, although some attributed it to genetics and family history. Most participants tried eating healthy but struggled to balance that with their own and their families' dietary and taste preferences, noting especially the difficulty of avoiding foods pervasive in their cuisine (e.g. rice, tortillas) and exposure to readily-available junk food less. They also tried to participate in physical activity, but encountered various barriers, such as tiredness and lack of motivation. Participants also conveyed that psychological factors such as stress and depression impacted their management of NAFLD. Conclusion**s**. Our results suggest that Hispanic women struggle with barriers to NAFLD management and desire more information about and support for NAFLD management. Strategies to address psychological and emotional factors associated with NAFLD should also be incorporated into future programs. These findings provide culturally relevant insights that will be key to adapting an evidence-based intervention for Hispanic adults with NAFLD.

Prevention Research: Screening and Early Detection

PO-246 Correlates of HPV test history among African American and Sub-Saharan African immigrant women Adebola Adegboyega, Amanda Wiggins, Lovoria B. Williams, Mark Dignan. University of Kentucky, Lexington, KY.

Background: Human Papillomavirus (HPV) is the causative agent in nearly all cases of cervical cancer. Cervical cancer is preventable and treatable if detected early through regular screening. While Pap testing is a traditionally accepted screening option, HPV testing offers improved assurance of low cancer risk and reliable identification of cervical precancer and cancer. However, HPV testing is a relatively new testing option and remains underused. Black women, including Sub-Saharan African immigrants, have higher risk for cervical cancer incidence, mortality rates, and later stage of diagnosis for cervical cancer. The purpose of this study was to examine predictors of ever having had an HPV test among African American and Sub-Saharan African immigrant women. Methods**:** We conducted a cross-sectional 85-item survey with self-described African American or Sub-Saharan African immigrant women recruited from the community in a medium size city in the Southeastern US. Data included demographics, HPV and HPV testing knowledge, and HPV testing history. Logistic regression evaluated predictors of ever having had an HPV test. Results**:** The average age of the 91 women was 38.2 years (SD = 12.6) and almost two-thirds (65%) were African immigrants. The majority (84%) had ever had a Pap test and more than one-third (36%) had ever had a HPV test. Women were correct on less than half of the HPV knowledge 16-item scale (M = 7.1, SD = 4.7) and HPV testing knowledge was low, with women answering an average of less than two out of five items correctly (M = 1.8, SD = 1.5). Younger age (p=.004), higher education (p=.015), and higher HPV testing knowledge (p=.007) were significant predictors of having had an HPV test. Every one-year increase in age was associated with a 7% decrease in having had an HPV test (OR=.93, 95% CI = 0.88-0.98), while every one-level increase in education was associated with a 2-fold increase (OR=2.1, 95% CI=1.15-3.69). Every one-item increase in HPV testing knowledge was associated with an over two-fold increase in having had an HPV test (OR=2.1, 95% CI = 1.2-3.6). Conclusion**s:** To ensure prompt diagnosis, follow up, and treatment, health care providers must stay abreast of updated screening guidelines and implement them. Future research should prioritize increasing knowledge and HPV testing among older women and those with lower educational attainment. c

PO-247 Is colorectal cancer screening in West Africa worthwhile? A prospective multi-institutional study of 2,330 average-risk Nigerians using fecal immunochemical testing (FIT) Olusegun I. Alatise[1], Anna J. Dare[2], Patrick A. Akinyemi[3], Fatima B. Abdulkareem[4], Samuel A. Olatoke[5], Gregg C. Knapp[6], Peter T. Kingham[2]. [1]Obafemi Awolowo University, Ile Ife, Nigeria, [2]Memorial Sloan Kettering Cancer Center, New York, NY, [3]African Research Group for Oncology, Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, Nigeria, [4]Lagos University Teaching Hospital, Lagos, Nigeria, [5]University of Ilorin Teaching Hospital, Ilorin, Nigeria, [6]Dalhousie University, Halifax, Nova Scotia, Canada.

Objective: The estimated incidence of CRC is rising in many African countries. In Nigeria, it is the fourth most common cause of cancer death. More than half of CRC patients in Nigeria present with metastatic disease. Early detection and screening for CRC is a goal of the Nigerian National Cancer Control Plan. This study assessed the performance of the fecal immunochemical test (FIT) as a CRC screening modality in an average-risk population in Nigeria. Methods**:** A population-based, cross-sectional study of FIT-based CRC screening was undertaken. Asymptomatic average-risk participants aged 45-75 years in three states in Southwest Nigeria were screened using a qualitative (50ng/mL) FIT test. Participants were invited to enroll using age- and sex-stratified convenience sampling following community outreach. Participants with positive test results underwent colonoscopy and the positive predictive value (PPV) of FIT-based CRC screening for CRC and advanced adenomas (tubulovillous, villous or high grade dysplasia) was calculated. Information on demographics, cancer knowledge, and acceptability of the FIT test and colonoscopy were also collected. Results: Between January-April 2021, 2330 participants in 3 states (Osun, Kwara, Lagos) were enrolled in the study. The median age was 57 years. 68% had at least secondary level education. Participants were evenly spread across wealth quintiles. Baseline knowledge of CRC symptoms among participants was low, especially outside of Lagos. The test return rate was 90.6%, and FIT positivity rate was 20.5% overall (n=432); 11.2% in Lagos, 20.4% in Osun, and 27.8% in Kwara states. Among the FIT positive patients who completed colonoscopy (n=285; 66.0%), the positive predictive value (PPV) for invasive adenocarcinoma was 1.1%, and for advanced adenoma was 1.8%.[KTP1] [AD2] The acceptability of fecal-based CRC screening among participants was very high. Conclusion**s:** CRC screening with qualitative FIT testing in Southwest Nigeria is feasible and acceptable to average-risk asymptomatic participants. The high false-positive rates and low PPV for advanced neoplasia, however, suggest it is not an optimal screening tool in this environment, particularly given the health resources required for endoscopic evaluation.

PO-248 A UK-based pilot cervical screening clinic tailored to trans men and non-binary people Alison M. Berner[1], Tara Suchak[2], Aedan Wolton[3], Jacob Bayliss[4], Katue Craven[5], Imogen Pinnell[6], Ricki Ostrov[7], John Burchill[7]. [1]Tavistock and Portman NHS Foundation Trust, London, United Kingdom, [2]Chelsea & Westminster Hospitals NHS Trust, London, United Kingdom, [3]Chelsea and Westminster Hospitals NHS Trust, London, United Kingdom, [4]Switchboard, Brighton, United Kingdom, [5]LGBT Foundation, Manchester, United Kingdom, [6]Jo's Cervical Cancer Trust, London, United Kingdom, [7]RM Partners West London Cancer Alliance, London, United Kingdom.

Trans men and non-binary people experience numerous barriers to accessing cervical screening, including dysphoria related to the procedure, anticipated or experienced stigma and discrimination, lack of provider knowledge and exclusion from routine recall systems. As a result, this population are less likely to attend regularly and a recent UK study showed that the majority prefer to access screening via a trans-specific sexual health service. This pilot sought to trial a weekly dedicated cervical screening clinic for trans men and non-binary people to gauge acceptability and to explore how best to promote the service. Organisations with the expertise of working with this population in the UK collaborated on the project. A communications plan was developed which included promotion of the project to local area stakeholders. A promotional video was produced as well as three patient testimonials from trans people who had attended for screening. The social media campaign comprised initial promotional material on six platforms with post-hoc analysis and a second stage using the two most popular platforms. The clinic commenced in October 2019 within an existing trans-specific sexual health service in London, UK. It was staffed by healthcare professionals with training and experience in performing cervical screening for trans people, including sensitive communication and techniques to facilitate a more comfortable procedure. Appointments could be accessed via a dedicated booking email and telephone number. Patients were asked to complete an evaluation after the procedure. From October 2019, nine people were screened prior to the outbreak of Covid-19 in March 2020. The project was suspended immediately after the first social media campaign launched, having had over 40,000 views over 10 days. In July 2020 the project recommenced, and the second social media campaign ran on Facebook and Twitter for 14 days, with over 50,000 views. A targeted email advertising the service was sent to eligible patients currently under the Gender Identity Clinic London in August 2020 and the service advertised via their website. Between July and February 2021, 35 trans men were screened in the clinic, despite another lockdown. Participant surveys from 20 attendees showed 100% positive feedback. The majority of respondents stated that if the service was unavailable, they would not have attended cervical screening (12/20 respondents). However, when asked if their GP could provide a similar service, nine respondents stated that they would attend (9/20 respondents). This pilot suggests that bespoke cervical screening clinics for trans men and non-binary people are highly acceptable, and support patients to engage with screening who otherwise would not have done so. Patients may benefit from such clinics embedded within services across several healthcare settings, in order to maximise access. Targeted promotion via social media is effective and may encourage screening beyond the service being advertised but should be concentrated on platforms most accessed by the community.

PO-249 Prostate screening & patient knowledge on PSA testing among males: Analysis of the 2019 NHIS Isabela M. Bumanlag, Humberto R. Nieves-Jimenez, Joseph Abi Jaoude, Ethan B. Ludmir, Cullen M. Taniguchi[1]. [1]The University of Texas MD Anderson Cancer Center, Houston, TX.

Intro: Prostate cancer, one of the most common cancers for males, continues to have non-standardized screening with Prostate Specific Antigen (PSA) due to the potential risks and uncertainties that PSA screening can pose. **Methods:** The purpose of this study is to investigate the knowledge base of participants regarding the advantages and disadvantages of PSA screening. Using the 2019 National Health Interview Survey, we performed descriptive statistics on participant demographics and prostate screening questions. Bivariate and multivariable logistic regression was utilized to highlight variables that were associated with whether or not a doctor explained to a participant the advantages and disadvantages of PSA testing. **Results:** Overall, we gathered answers from 10,165 respondents aged 40 years or older, from a total of 31,997 participants in the 2019 NHIS survey. Nearly half of respondents (5004, 49.2%) reported that they had undergone a PSA test in the past and 38.6% of respondents reported that a doctor had discussed the advantages of a PSA test. On the other hand, only 25.8% reported that a doctor had discussed possible disadvantages of PSA testing. Our stratified analyses found that Asians were less likely to report that a doctor had discussed the advantages of a PSA test (OR = 0.59, $P < 0.05$). We also found that the higher the educational status of a participant, the more likely a participant would report that a doctor talked about the advantages of a PSA test (high school graduates, OR = 1.83, $P<0.05$; college degrees, OR = 2.48, $P < 0.05$). Those without any form of health insurance coverage were less likely to be told about the advantages of PSA testing (OR = 0.60, $P< 0.05$). Similar values in each of these covariates were also found to be statistically significant when participants were asked if a doctor had talked to them about the disadvantages of a PSA test. **Conclusions:** We found disparities of prostate cancer screening education based on social factors, which reinforce concerns of disparate access of information provided by physicians on the advantages and disadvantages of a PSA testing. Our findings support a call for the improvement of adequate patient-doctor discussions that fully address the risks and benefits of PSA testing.

PO-250 Impact of age, race, and family history on COVID-19 related changes in breast cancer screening among the Boston Mammography Cohort Study Naiyu Chen[1], David Cheng[2], Mollie Barnard[3], Natalie C. DuPre[4], Rulla M. Tamimi[5], Erica T. Warner[2]. [1]Harvard T.H. Chan School of Public Health, Boston, MA, [2]Massachusetts General Hospital, Boston, MA, [3]Huntsman Cancer Institute, Salt Lake City, UT, [4]University of Louisville, Louisville, KY, [5]Weill Cornell Medicine, New York, NY.

The COVID-19 pandemic has placed an unprecedented burden on the healthcare system, disrupting routine care including breast cancer screening. We used data from 2392 women without a history of breast cancer enrolled in the Boston Mammography Cohort Study (BMCS) to investigate whether subgroups defined by age, race, or family history of breast cancer: 1) experienced greater declines in screening or diagnostic imaging during the lockdown; or 2) had slower rebound during reopening. In this interrupted time series analysis, we used Poisson regression with robust standard errors to model expected monthly rates of breast cancer screening and diagnostic imaging from January 2019 through December 2020. We defined the pre-COVID-19 period as January 1, 2019, to February 29, 2020; the lockdown period as March 1 to May 30, 2020; and the reopening period as June 1 to December 31, 2020. We examined changes in trends overall and tested for the difference in trends by age (<50 vs ≤50), race (white vs non-white), and first-degree family history of breast cancer (yes or no). The mean monthly rate of breast cancer screening in the BMCS cohort was 45 per 1000 people during the pre-COVID-19 period, 7 per 1000 people during the lockdown period, and 50 per 1000 people during the reopening period. The mean monthly rate of breast cancer diagnostic imaging was 6 per 1000 people during the pre-COVID-19 period, 3 per 1000 people during the lockdown period, and 6 per 1000 people during the reopening period. During the pre-COVID-19 period, those who are age 50 or older had 5.3% higher monthly trend in breast cancer screening rates ($p=0.005$) and 9.8% higher monthly trend in diagnostic imaging rates ($p=0.0389$). During the lockdown period, those who were age 50 or older had a lower monthly trend in breast cancer screening rates compared to those who were younger than 50 ($p<0.0001$), while those who were white and those with family history have higher monthly trends of breast cancer screening rates compared to their respective counterparts ($p<0.0001$). During the reopening phase, those who are age 50 or older have 18.5% lower monthly trend in breast cancer screening rates in comparison to those who are younger than 50 ($p=0.0008$) and those who were white have 36.2% higher monthly trend in breast cancer diagnostic procedure rates in comparison to those who are non-white ($p=0.018$). Overall, we observed a significant decline in breast cancer screening rates with the advent of the COVID-19 pandemic. For the most part, screening and diagnostic imaging rates during the reopening phase equaled or exceeded those of the pre-COVID-19 period. However, the rate of return to screening was lower in women age 50 or older and the rebound in diagnostic imaging was lower in non-white women. Careful attention must be paid as the COVID-19 recovery continues to ensure equitable resumption of care. Future work will examine other factors including insurance status, breast cancer risk scores, and geographic location.

PO-251 Cervical screening in Latinas of 20-24 years old: findings from the Brazilian cervical cancer information system Tulio L. Correa[1], Valquiria P. Garcez[1], Mariana S.T.C. Guelli[2], Carolina C. Cruz[3], Julia P. Lara[1], Matheus M.C. e Silva[1], Luana O. Rodrigues[1], Isabel C. Guglielmelli[1], Betina M Giordani[1]. [1]Federal University of Pelotas, Pelotas, Brazil, [2]Volta Redonda University Center, Volta Redonda, Brazil, [3]São Paulo State University, Botucatu, Brazil.

Introduction: The Brazilian National Cancer Institute attests that cervical cancer screening should be performed once a year in women aged 25 to 64 years, then every three years after two consecutive negative exams. However, the first sexual activity in Latinas usually occurs in late adolescence, between 15 to 19 years old. Therefore, the aim of this study was to evaluate cervical cytopathological changes with suspected malignancy and/or high potential for progression to malignancy in Brazilian women of 20 to 24 years old. Methods**:** Cross-sectional, descriptive study which evaluated cervical smears with satisfactory sampling obtained in Brazil from 2006 to 2015 using data from the national database (SISCOLO – Brazilian Cervical Cancer Information System). Suspected malignancy or high potential for progression to malignancy was composed of: high-grade indeterminate squamous cell, high-grade indeterminate glandular cell, high-grade cell of indefinite origin, high-grade intraepithelial lesion, intraepithelial lesion with micro-invasion, invasive squamous cell carcinoma, adenocarcinoma in situ, invasive adenocarcinoma, and other neoplasms. Results**:** During this time period, 86 375 132 cervical screening tests with satisfactory sampling were performed in the country, with 862,875 (1%) having abnormal results suggestive of suspected malignancy or high potential for progression to malignancy. Of the tests with abnormal results, 704,886 (82%) were from the age group of 25 to 64 years and 69,035 (8%) were from the age group of 20 to 24 years. From 2006 to 2015, there was a decrease of 53% in the total number of cervical cancer screening tests performed in Brazil. Conclusion**:** In our study, a significant percentage of the abnormal test results were from Latinas of 20 to 24 years old. The precociousness of sexual initiation and the multiplicity of sexual partners can expose women to human papillomavirus at a very early age, which may explain the findings reported.

PO-252 Impact of COVID-19 public policies on utilization on cervical cancer screening in Puerto Rico during March 15, 2020 to July 31, 2020 Axel Gierbolini-Bermúdez[1], Karen Ortiz-Ortiz[2], Jeslie M Ramos- Cartagena[3], Kalyani Sonawane[4], Vivian Colón-Lopez[1], Ashish Deshmukh[4], Ana P Ortiz[1]. [1]Medical Sciences Campus, University of Puerto Rico, San Juan, Puerto Rico, [2]University of Puerto Rico Comprehensive Cancer Center, San Juan, Puerto Rico, [3]Department of University of Puerto Rico / MD Anderson Cancer Center Partnership for Excellence in Cancer Research Program, San Juan, Puerto Rico, [4]Center for Health Services Research, UTHealth School of Public Health, Houston, TX.

Introduction: Among jurisdictions of the United States, Puerto Rico (PR) has the highest incidence of cervical cancer, and cervical cancer screening (CCS) is below 80%. Public health emergencies have an impact on people's access to health care services. We examined the impact of the public policy implemented by the government of Puerto Rico during the first 5 months of the COVID-19 pandemic in the utilization of CCS for participants of the Government's Public Health Plan. **Methodology**: This was a retrospective cohort study. A total of 40 government executive orders (issued between March 15 to July 31, 2020) were analyzed according to the level of restrictions they imposed on the population. Three periods with the greatest restrictions were identified: two of them in the government's initial response phase (March 15-30th & March 31st-April 12th) and one in the re-opening phase (July 17-July 31st). We examined the utilization of all modalities of CCS (pap test only and pap + HPV contesting). Rate ratios (RRs) were estimated to compare to CCS rates during periods of 2020 and compared to 2018-2019. Results**:** In comparison to 2019, CCS decreased during the most restricted period (March 31st-April 12th) of the response phase (RR= 0.19, 95% CI=0.15-0.24 for women 21-29 years; RR= 0.04 95% CI= 0.03-0.05 for women 30-65 years). During the re-opening phase, screening services started to rebound. However, an increase in COVID-19 cases led to another restriction (July 17-July31st), which led to a second phase of decrease in utilization of CCS (RR=0.17, 95% CI=0.13-0.21 for women 21-29 years (RR= 0.09, 95% CI=0.08-0.10 for women 30-65 years). **Conclusion:** Our results evidence how the public policy implemented as a result of the COVID-19 pandemic in Puerto Rico had a direct impact on the utilization of CCS services in this Hispanic population. Future studies should examine screening patterns and social barriers of service utilization after July 2020 in Puerto Rico.

PO-253 Overcoming barriers to colorectal cancer screening for underserved patients: Lessons from the COVID-19 pandemic Kathryn M. Glaser[1], Christina Crabtree-Ide[1], Alyssa McNulty[1], Ellis Gomez[2], Nicole Donofrio[1], Tessa Flores[1], Mary E. Reid[1]. [1]Roswell Park Comprehensive Cancer Center, Buffalo, NY, [2]Neighborhood Health Center, Buffalo, NY.

Introduction This patient navigation initiative works to address cancer health disparities by improving education and access to screening and cancer care. This initiative includes partnerships with local Federally Qualified Health Centers (FQHCs) and primary care physicians (PCPs), primarily focused on increasing colorectal cancer (CRC) screening rates among underserved populations in Western New York (WNY) who may have low health literacy. Grounded in health services research, we aimed to improve clinical care by implementing evidence-based guidelines into practice by working directly with underserved communities in our area to improve CRC screening rates at an urban FQHC. Methods Throughout the COVID-19 pandemic, our navigators pivoted to a hybrid schedule with remote access to health systems, splitting time between our cancer center and remotely at home until allowed back on-site to work at the FQHC. Colonoscopy halted in NY between March and June 2020, resulting in scheduling challenges due to significant backlogs of cancelled procedures during the shutdown and regional hold on elective procedures. Endoscopists across WNY had reduced capacity for postponed procedures, leading to the prioritization of scheduling for symptomatic patients. Therefore, navigators focused screening efforts on widely disseminating stool-based tests to patients due for average-risk CRC screening and prioritizing patients with positive screening results to coordinate colonoscopy appointments. Results Between April 2020 through March 2021, our pre-pandemic goal was to educate 550 patients and screen 300 patients. During this timeframe, navigators provided screening education to 632 patients and screened 232 patients despite significant challenges presented by the COVID-19 pandemic. With many colonoscopy procedures being cancelled and/or rescheduled, stool-based tests were widely available and became a more common choice for patients. To date, since April 2020, navigators have educated 807 patients and have navigated 306 patients to complete CRC screening. Of those 306 patients, 234 chose to complete at-home stool-based testing. In 2020, CRC screening rates remained over 50%, exceeding national FQHC targets. This was achieved through targeted patient outreach, education, and navigation, despite significant challenges with the shutdown and the COVID-19 pandemic. Conclusion**s** Stool-based tests paired with targeted outreach and education were an efficient tool for CRC screening during this challenging time. Navigators regularly cross-check records to be sure results are received by ordering physicians and properly coded for accurate data reporting. This is especially important for positive test results and timely follow up, which may lead to improved health outcomes. Moving forward, this paired approach may be an effective strategy for improving screening rates among hard-to-reach patient populations and patients facing substantial barriers to accessing routine medical care.

PO-254 Assessment of the performance of anal cytology as a screening tool for anal high-grade squamous intraepithelial lesions by extent of disease in a clinic-based sample in Puerto Rico Kandyce G. Keller[1], Jeslie M. Ramos-Cartagena, MS[2], Humberto M. Guiot[3], Cristina Munoz[4], Yolanda Rodriguez[4], Vivian Colon-Lopez[5], Ashish A. Deshmukh[6], Maribel Tirado-Gomez[5], Ana Patricia Ortiz[4]. [1]University of Michigan, Ann Arbor, MI, [2]University of Puerto Rico/MD Anderson Cancer Center Partnership for Excellence in Cancer Research Program, San Juan, Puerto Rico, [3]School of Medicine, University of Puerto Rico, Medical Sciences Campus, San Juan, Puerto Rico, [4]University of Puerto Rico Comprehensive Cancer Center, San Juan, Puerto Rico, [5]University of Puerto Rico Comprehensive Cancer Center & School of Medicine, University of Puerto Rico, Medical Sciences Campus, San Juan, Puerto Rico, [6]Center for Health Services Research, Department of Management, Policy, and Community Health, UTHealth School of Public Health, Houston, TX.

Introduction: Anal cancer is increasing in the general population of Puerto Rico. Anal cytology is currently the standardized method for screening among populations at higher risk for developing anal high-grade squamous intraepithelial lesions (HSIL), the precursor lesion of anal cancer. However, studies have shown that anal cytology alone underestimates the anal lesion grade compared to the gold standard test, high-resolution anoscopy (HRA). While studies with both anal histology and cytology confirmed results are limited, the validity of cytology as a screening test seems to improve with more extensive HSILs. We evaluated the validity of anal cytology in detecting HSIL overall and by anal HSIL extension in a clinic-based Hispanic population. **Methods:** Data from baseline visits and examination from October 2014 to April 2021 of the Anal Neoplasia Clinic at the University of Puerto Rico Comprehensive Cancer Center were analyzed. Individuals who attended the clinic were eligible if they had completed anal cytology testing, HR-HPV typing, and HRA with biopsy. During the baseline visit basic demographic and clinical characteristics were collected. Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were estimated by comparing anal cytology results with biopsy results from HRA, overall and by extent of histologically confirmed HSIL, defined as number of octants in the anal canal affected by HSIL (1 vs 2+). **Results:** Among 431 patients, 67.5% were male and the mean age was 43.57 +/- 13.27 years. Overall, 75.2% were living with HIV and 76.8% tested positive for HR-HPV. Persons diagnosed with any type of squamous intraepithelial lesion (SIL) via anal cytology and histology were 71.46% and 84.22%, respectively. In contrast, while anal HSIL was detected in only 2.09% of individuals through anal cytology, it was detected in 40.37% through biopsy-confirmed histology samples. The overall sensitivity of anal cytology compared to histology was 83.9% (95% CI: 77.6%-89%), whereas the specificity was 37% (95% CI: 31%-43.2%). Among persons with biopsy-confirmed HSIL, when comparing anal cytology to histology by HSIL extension (1 vs. 2+ octants affected) the sensitivity remained similar for both groups (83.7% vs. 84.1%), while specificity was the same with 37%. While the PPV decreased with HSIL extension (32.2% vs. 29.9%) and the NPV increased (86.4% vs. 88.0%), these indicators act as poor predictors of disease status in both groups. **Conclusion:** In this Hispanic population, anal cytology underestimates biopsy-confirmed HSIL and its performance in detected anal HSIL did not improve with HSIL extension. While future studies with larger sample sizes are needed to further validate research findings, this study emphasizes the need to continue to optimize anal cancer screening methods in high-risk populations. Determining the best way to detect and treat cellular

abnormalities will help prevent further disease progression and anal cancer development. AMC-NCI Grant #'s: UM1CA121947, 2U54CA096297-17, R25CA240120.

PO-255 Cervical cancer prevention and HPV self-sampling awareness and acceptability among women living with HIV: A qualitative investigation from the patients' and providers' perspectives Daisy Le[1], Annie Coriolan Ciceron[1], Min (Jaime) Jeong Jeon[1], Jose Bordon[2], Jeanne Jordan[1], Anne Monroe[1]. [1]George Washington University, Washington, DC, [2]Washington Health Institute, Washington, DC.

Background: Women living with HIV (WLH) bear a disproportionate risk of invasive cervical cancer due to greater incidence and longer persistence of high-risk HPV infection. Emerging strategies that involve women collecting their own cervicovaginal sample as an alternative to traditional office-based HPV screening may be a promising approach to reach women who face several obstacles to timely care, such as WLH. Little is known, however, about the facilitators and barriers to HPV self-sampling uptake that may be unique to this particularly vulnerable population. **Purpose:** This study describes their knowledge, experiences, and needs regarding cervical cancer screening, specifically HPV self-sampling, and seeks to reconcile it with the views of their providers' who have been proven to have great influences on their patients' decision-making processes. **Methods:** In this qualitative study, we recruited 10 providers and 39 WLH from the Washington DC metropolitan region to participate in semi-structured interviews and focus group discussions. Emergent themes were assessed using an inductive process, employing an open coding method. **Results:** Knowledge of cervical cancer and HPV was generally limited among WLH; and as expressed by the providers, was often fueled by proximity to someone affected by cervical cancer or personal experience. Most WLH were not familiar with HPV self-sampling: but despite some of the providers' skepticism, expressed their willingness to try it. While some providers worried that it would be an added burden, the WLH highlighted convenience, ease of use, and affordability as facilitators to the uptake of HPV self-sampling. **Conclusions:** The experiences identified herein may be used to (1) inform tailored interventions designed to increase cervical cancer prevention among under-screened WLH and (2) guide patient-centered communication strategies to improve engagement, patient satisfaction, quality of life, and health outcomes among vulnerable populations.

PO-256 Knowledge and attitudes of a sample of Latinx LGBQ population regarding cancer screening, prevention, and barriers: An exploratory study Gabriela López Toledo[1], German J. Rivera Castellar[2], Elmer Marrero[3], Marta M. Sánchez Aracil[3], Mirza J. Rivera Lugo[4]. [1]University of Puerto Rico, Medical Sciences Campus, Rio Grande, [2]Center for Evaluation a Sociomedical Research (CIES), University of Puerto Rico, Medical Sciences Campus, San Juan, Puerto Rico, [3]UPR Comprehensive Cancer Center, San Juan, Puerto Rico, [4]University of Puerto Rico, Medical Sciences Campus, San Juan, Puerto Rico.

Background The lesbian, gay, bisexual, and queer/questioning (LGBQ) population, also referred to as sexual and gender minorities (SGM), is a medically underserved and understudied population in the United States. Literature has argued that, as of recent years, there are a limited number of early cancer detection and prevention guidelines catered specifically to LGBTQ+ community, which creates a gap in access to healthcare services for this population. Furthermore, there are potential barriers that exist for LGBT people, such as discrimination from healthcare providers and other societal constraints which could further contribute to the lack of screening for cancer. The purpose of this study is to explore the knowledge, attitudes, and individual experiences of LGBQ individuals regarding cancer prevention, screening, and treatment to develop educational material that would help cater the needs of this population Methods This study consisted of a series of structured qualitative interviews facilitated as focal groups. The interview guideline contained questions regarding the domains of knowledge, attitudes, and individuals experiences on cancer screening in SGM. The recruitment process was facilitated via online flyers in social media platforms and through local community organizations that provide services for the Puerto Rican SGM population. Participants that reached out were screened for eligibility based on age and self-identified gender and sexual orientation. The focal groups have been carried out via a video teleconferencing software to limit contact with participants considering COVID-19. The interviews have been recorded and transcribed ad-verbatim for analysis purposes. Thematic analysis with open ended coding is being used to analyze the data obtained. Results A total of 8 participants completed the informed consent and proceeded to participate in the focal groups. The cervical cancer focal group consisted of 4 participants who identified as lesbian, bisexual, and non-binary women. 2 self-identified gay men of prostate cancer focal group and the colorectal cancer focal group included 3 gay men. As analysis was carried out, the following recurring themes were identified: Treatment knowledge, Treatment limitations, General recommendations regarding Healthcare services, Social limitations for Healthcare services, Experiences on Healthcare settings. Discussion Preliminary analysis exposes participants exhibited a general lack of knowledge regarding cervical, prostate, and colorectal cancer symptomatology and screening procedures. In the case of the Cervical Cancer focus group, participants agreed their general experience in healthcare settings could be improved by educating healthcare providers on being more inclusive with the LGBTQ community and adjusting the healthcare setting to be less heterocentric. The participants in the focal groups for Prostate Cancer and Colorectal Cancer, on the other hand, stated that the approach should be directed towards educating the LGTTQ+ community on cancer symptomatology and cancer screening practices.

PO-257 Prevalence and correlates of false-positive results in screening mammography among uninsured women in a community outreach program Rasmi G. Nair[1], Simon J. Craddock Lee[1], Hong Zhu[1], Firouzeh K. Arjmandi[1], Emily Berry[2], Keith E. Argenbright[1], Jasmin A. Tiro[1], Celette S Skinner[1]. [1]UT Southwestern Medical Center, Dallas, TX, [2]Moncrief Cancer Institute, Fort Worth, TX.

Introduction: False-positive mammographic screening results are one of the most important harms of breast cancer screening, and their prevalence in the insured population range from 8.7% to 16.3% during the first screening encounter. However, false-positive results have been rarely investigated among uninsured minority women screened through community outreach programs. For this study, we analyzed data from the Breast Screening and Patient Navigation (BSPAN) program participants with an aim to report prevalence and assess correlates of false-positive results in screening mammograms, stratified by age. Methods*:* BSPAN, created by Moncrief Cancer Institute, contracts with the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) and uses a hub-and-spoke model to provide patient navigation and no-cost breast cancer screening and diagnostic services to under- and uninsured predominantly minority women in North Texas. We defined false-positive result as a positive screening mammogram (BI-RADS 0, 3, 4 or 5) followed by a negative diagnostic mammogram (BI-RADS 1, 2 or 3) or a negative biopsy within 9 months of the screen. We used multivariable logistic regression to assess associations of demographic and clinical covariates with false positive results for each age group (40-49 years and 50-64 years, which coincides with age eligibility for NBCCEDP). Results*:* BSPAN provided screening services to 21,022 women between 2012 and 2019. Prevalence of false-positive results in these women was 11.8% in the 40-49 age group and 9.6% in the 50-64 age group. Multivariable logistic regression demonstrated that, in the 40-49 age group, women who were non-menopausal, did not use hormone replacement therapy, and had prior mammograms had higher odds of false-positive results than those who were menopausal, used hormone replacement therapy and had no prior mammograms, respectively. In the 50-64 age group, women with a prior diagnostic mammogram had higher odds of false-positive results than those without a prior diagnostic mammogram. *Discussion:* This study establishes contemporary evidence regarding prevalence and correlates of false-positive rates in the unique BSPAN population, where women were predominantly Hispanic, under- and uninsured receiving no-cost screening and diagnostic services through a real-world outreach program. Our findings demonstrate that uninsured women who receive no-cost mammograms are similar to insured women in two aspects: prevalence of false-positive rates in our study is comparable to those among insured population, and we found higher false positive rates among younger women, compared to older women. *Impact:* Equitable screening outcomes in underserved population emphasizes the need for efforts to reduce false-positive screening rates among uninsured women served through community outreach programs.

PO-258 Disparities in eligibility for low-dose CT (LDCT) lung cancer screening among a multiethnic population S. Lani Park[1], Kyla Yamashita[2], Lenora Loo[1], Daniel Stram[3], Yurii Shvetsov[1], Loic Le Marchand[1]. [1]University of Hawaii Cancer Center, Honolulu, HI, [2]University of Washington, Seattle, WA, [3]University of Southern California, Los Angeles, CA.

Introduction: African Americans and Native Hawaiians have a higher risk of lung cancer and greater mortality rate than other racial/ethnic groups in the US. The guidelines for lung cancer screening by low-dose CT scan were derived from clinical trial data conducted primarily in white men. In 2021, to address the underlying ethnic/racial disparities in eligibility for lung cancer screening the United States Preventive Services Task Force (USPSTF) updated the 2013 guidelines from 55-80 years of age, current or former smokers (quit ≤15 years) with a 30 pack-year smoking history to include ever smokers ≥50 years of age and with a ≥20 pack-year history. We hypothesize that the disparities in eligibility across race/ethnicity will remain due to the greater age-specific risk and lower pack-years among African Americans and Native Hawaiians. Methods: We used the Multiethnic Cohort study (MEC) data to examine ineligibility to both USPSTF guidelines by sex and race/ethnicity among 1,761 incident lung cancer cases diagnosed within 7 years of study entry. This analysis included African and Japanese Americans, Latino, Native Hawaiians and whites. Smoking history was collected by a self-administered questionnaire at cohort entry. The difference in proportion of ineligible for each group compared to whites were assessed. Results: Among the 1,042 men and 719 women with incident lung cancer, under the 2013 guidelines, 54% of men and 70% of women would have been ineligible for lung cancer screening. Under the 2021 guidelines, 41% of men and 59% of women would have been eligible. For the 2013 guidelines, in men, the disparity was highest in Latinos (19% difference compared to whites), followed by Native Hawaiians (18%), and African (17%) and Japanese (9%) Americans. In women, the disparity was highest in African Americans (33%), followed by Latinas (25%), Japanese Americans (25%), and Native Hawaiians (13%). While an additional ~12% of overall lung cancer cases would have been eligible for screening using the updated guidelines, the disparity in eligibility compared to whites for each racial/ethnic group remained similar (range: 9% in Japanese American men to 33% in African American women). Eleven percent of men and 28% of women would have been ineligible for never smoking. Among ineligible ever smokers, more non-whites than whites were ineligible due to the 20 pack-year threshold (men: 77% vs 64% and women: 90% vs 76%). Also, while an overall 8% of both men and women would have been ineligible due to the age threshold, >20% of Native Hawaiian cases were ineligible due to age. Conclusion**s:** Our findings demonstrate that despite the lower thresholds in the smoking history and age criteria in the updated USPSTF guidelines, racial/ethnic disparities in lung cancer screening eligibility remains. Reasons for these differences include a lower smoking pack-year history and greater age-specific risk among ever smokers, and a higher proportion of never smoker lung cancer cases. Additional analyses with cumulative smoking history are in progress.

PO-259 The impact of genetic ancestry and lifestyle factors on the risk of colorectal adenoma and adenocarcinoma in a Brazilian screening population Jun Porto[1], Adeylson G. Ribeiro[1], Lucas Henrique Viza[1], Laura W. Musselwhite[2], Thais Talarico[1], Maraisa Costa[1], Denise C. Rocha[1], Marco Antonio Oliveira[1], Jose Humberto T.G. Fregnani[1], Edmundo Mauad[1], Rui M. Reis[1], Dawn Provenzale[2], Denise P. Guimaraes[1]. [1]Barretos Cancer Hospital, Barretos, Brazil, [2]Duke University Medical Center, Durham, NC.

Background: Colorectal cancer (CRC) is the second most common cancer in Brazil. The Barretos Cancer Hospital (BCH) implemented a Fecal immunochemical test-based (FIT)-CRC screening program. Risk factors of the screening population and the prevalence of baseline colorectal neoplasia are important features for guiding a CRC screening strategy. This study aims to measure screening outcomes of the BCH program and associate with sociodemographic risk factors and genetic ancestry. **Methods:** This cross-sectional analysis included consecutive subjects between 50 and 65 years from the BCH (first round) CRC screening program. A REDCap database was built to track participants and measure clinical outcomes (adenoma, advanced adenoma (AA), and cancer). The ancestry components were analyzed using a multiplex PCR of 46 ancestry informative markers, based on insertion-deletion polymorphisms. A binary logistic regression model was used to examine the associations between sociodemographic factors and screening outcomes. **Results:** From Nov 2017 to Mar 2020, 2946 asymptomatic individuals were enrolled, being 83.0% females with a mean age of 57.1 ± 4.5 years, mainly from São Paulo State (79.1%). Self-reported skin color revealed 56.8% white, 36.6% brown, 5.8% black, and 0.7% yellow, and 69.9% had less than a high school diploma. The genetic ancestry revealed a mean proportion of 67.9% for European ancestry, 17.0% for African, 7.3% for East Asian, and 7.8% for Native American. A significant association was found between genetic ancestry proportions and self-reported skin colors ($p<0.001$). Current and former smokers comprised 41.9% of participants, 31.2% were alcohol drinkers, 73.3% reported exercise < 3x/week, and 71.9% had a BMI > 25kg/m². Of the 2946 participants, 80.7% completed and returned FIT kits. The inadequate FIT rate was 2.0%, and the positivity rate was 6.2%. The follow-up colonoscopy compliance rate was 90.5%, and the cecal intubation was successful in 99.0%. The PPV was 64.1% (86/134) for adenoma 20.1% (27/134) for AA, and 3.7% (5/134) for CRC. The five cancer patients had stage I (40.0%) or II (60.0%). The male gender (OR=2.94, 95% CI 1.06-8.17), BMI > 25kg/m² ≤ 30kg/m² (OR=5.40, 95% CI 1.42-20.52), alcohol consumption (OR=3.86, 95% CI 1.38-10.78), fried foods' consumption (OR=2.82, 95% CI 1.02-7.78) were associated to AA. Non-white skin color (OR=2.83, 95% CI 1.11-7.17), BMI > 25kg/m² ≤ 30kg/m² (OR=3.54, 95% CI 1.21-10.30), and eggs/milk consumption (OR=5.25, 95% CI 1.32-20.80) were associated to early adenoma. No association was found between genetic ancestry and screening outcomes. **Conclusions:** CRC detected in early stages corroborates the role of screening programs to increase the rate of early diagnosis. Further, lifestyle risk factors linked to colorectal cancer were significantly associated with the presence of a high and low-risk colorectal precursor lesion. Overall, our results in an admixed population can contribute to delineating preventive strategies and a targeted CRC screening program to improve CRC prevention and control in Brazil.

PO-260 Screening of Brazilian underserved workers exposed to asbestos in loco with a mobile low dose computed tomography Rodrigo Sampaio[1], Leonardo Almeida[1], Larissa Ferreira[1], Maraisa Costa[1], Ana Oliveira[1], Bruna Carvalho[1], Mauro Cardoso[1], Fabiana Vazquez[1], Henrique Silveira[1], Laércio Castilho-Neto[1], Fernanda Giannasi Fernanda Giannasi[2], Rui Reis[1]. [1]Barretos Cancer Hospital, Barretos, Brazil, [2]ABREA, Sao Paulo, Brazil.

Occupational exposure to asbestos is strongly associated with pleural and pulmonary fibrosis, lung cancer, and malignant mesothelioma. Although many countries, including Brazil, have recently banned the extraction and usage of asbestos, cases of pulmonary fibrosis and asbestos-related malignancy are still expected to increase, due to the long latency period of disease development. A proper response to this scenario primarily requires awareness and structured surveillance, but also access to screening and diagnostic methods in healthcare, restrict and unequally available in Brazil. Recent evidence suggests that Low Dose Computed Tomography (LDCT) may be an effective tool to screen malignancy in asbestos-exposed workers. Here we describe an initiative to improve screening with a mobile LDCT unit in an underserved population of workers of a former asbestos manufacture factory at Pedro Leopoldo, city, Minas Gerais state, Brazil. In partnership with ABREA (*Associação Brasileira dos Expostos ao Amianto*) workers with a history of direct or indirect asbestos exposure were included in September 2019, regardless of the exposure duration or respiratory symptoms, to whom an LDCT examination was offered. Thoracic radiologists searched for pleural plaques or nodules, pleural effusion, fibrosis-related findings, and lung nodules, and a structured report was filled in. Pulmonary nodules were managed according to Lung-Rads-1.1. Necessary supplementary investigations were referred to a tertiary oncological center, in which the malignancies were also to be treated. Two hundred and three men and twenty women underwent LDCT screening, the median age of 57 years, 89% directly engaged in asbestos manufacturing. Pleural plaques or nodules were identified in 19% of individuals, with a median exposure time of 13,5 years. Five individuals had moderate or marked signs of pulmonary fibrosis, and one was diagnosed with low-stage pulmonary adenocarcinoma, none of which were suspected under usual care. Although political interference had precluded full attendance of participants, proper treatment was guaranteed with the aid of the Labor Prosecutor Office. The mobile LDCT unit was successful in enhancing screening and awareness of this exposed and underserved population.

PO-262 Interventions designed to increase the uptake of lung cancer screening and implications for populations experiencing the greatest burden of lung cancer disparities: A scoping study Ambreen Sayani[1], Muhanad Ahmed Ali[1], Pooja Dey[1], Ann Marie Corrado[1], Carolyn Ziegler[2], Alex Sadler[1], Christina Williams[1], Aisha Lofters[1]. [1]Women's College Hospital, Toronto, ON, Canada, [2]Unity Health Toronto, Toronto, ON, Canada.

Background: Lung cancer screening (LCS) with low-dose CT can reduce mortality due to lung cancer by detecting early-stage tumours that are amenable to treatment. Participation in LCS programs however has not been equally distributed among at-risk groups, such that populations with the highest burden of lung cancer risk (through the social patterning of smoking behaviour) and lowest levels of healthcare utilization (through care which is structurally inaccessible) can experience a widening in healthcare disparities as a result of LCS interventions. **Approach:** We sought to inform equitable access to LCS by illuminating knowledge and implementation gaps in current interventions designed to increase the uptake of LCS. To do this, we conducted a scoping study using the Arksey and O'Malley methodological framework. We conducted comprehensive searches for lung cancer screening promotion interventions (Ovid Medline, Embase, the Cochrane Library, CINAHL and Scopus) and included published English language peer-reviewed and grey literature published between January 2000 and 2020 that describe an intervention designed to increase the uptake of LDCT lung cancer screening in the Organization for Economic Cooperation and Development (OECD) countries. We extracted data onto a chart modified from the Template for Intervention Description and Republication (TIDieR) checklist and the Consolidated Standards of Reporting Trials. We used the Health Equity Impact Assessment (HEIA) tool to analyse the intended/unintended and positive/negative outcomes of the interventions for populations experiencing the greatest disparities. **Results**: Our search yielded 2681 articles. We included 22 peer review articles dated from January 2000 to January 2020. Interventions occured primarily in the USA, Europe and Canada. We used the 'Patient Centered Access to Healthcare' conceptual framework by Khanassov et al 2016 to synthesize our findings. Three main themes summarise current interventions designed to increase the uptake of LCS : (i) a focus on individuals and their ability to engage with the healthcare system; (ii) inadequate targeting of populations experiencing greatest disparities and (iii) a lack of conceptual underpinning in the design of interventions so that the social patterning of lung cancer risk and ability to access care is ignored. **Conclusion**: LCS interventions must take into consideration the disproportionate burden of lung cancer risk in populations experiencing social disadvantage. Designing interventions that are cognisant of the social distribution of risk and targeted to support the uptake in high-risk populations can prevent an inadvertent widening of health disparities.

PO-263 Racial equity and oral cancer: Exploring the relationship between dentist supply and the Black-White disparity in late stage diagnosis Jason Semprini. University of Iowa, Iowa City, IA.

Background: Oral cancer is one of the most common cancers for Black men in America, and a leading cause of cancer mortality. Like many other cancers, survival in Black adults lags behind Non-Hispanic White adults. One explanation for the mortality and survival gap may be due to the propensity for Black adults to be diagnosed at later stages. The prognosis for early stage oral cancer can be quite positive. Despite inconsistent screening reccomendations, dental professionals have established oral cancer screening as a standard of care for all comprehensive evaluations. However, in addition to the lack of access to dental coverage, limited availability of dental professionals may be, in part, driving the disparity in late stage diagnoses for Black Americans. **Objective**: This study aims to estimate the relationship between the Black-White disparity in late stage oral cancer diagnoses and the supply of dentists. **Methodology**: Data for this study comes from the Center for Disease Control (CDC) Wonder portal and the Agency for Healthcare Research and Quality (AHRQ) provider dataset. To develop a measure of Black-White disparity in late stage oral cancer diagnoses, first, the proportion of late stage diagnoses of all oral cancer diagnoses were obtained for both Non-Hispanic Black and Non-Hispanic White adults for years 2011-2015. Data was aggregated to Health Servica Area level and restricted to states in the Southeast. The outcome of interest was derived by the difference between the Non-Hispanic Black proportion of late stage diagnoses and the Non-Hispanic White proportion. This exploratory study utilized a linear regression model to estimate the relationship between this difference and the supply of dental professionals per capita in each paired Health Service Area (HSA). **Results**: The mean proportion of late stage diagnoses were 70.8% and 61.9% for Non-Hispanic Black and Non-Hispanic White adults, respectively. The mean difference in late stage diagnoses, at the HSA level, was approximately 8.0%. This differnce, appeared to decline as the per capita supply of dentists increased (Est = -0.03, $p < 0.05$). Putting this association in context, to reduce the Black-White disparity in late stage diagnoses by 1-percentage point, 33 dentists per 100,000 population must be added to the HSA. **Conclusion**: Greater availability to dental professionals may play an important role in reducing racial disparities in oral cancer. Still, this exploratory work is only the begining for inferring a causal relationhip between increasing dental supply and decreasing differences in late stage oral cancer diagnoses. Even under the assumption of causality, policies aiming to increase dental supply in shortage areas must ensure equitable and just access for Black communities.

PO-264 Impact of health navigation program on healthy lifestyle and cancer screening in population with significant social determinants of health (SDOH) barriers

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Objective: Assess consumer experience and health impact among under-resourced individuals who were enrolled into longitudinal navigation to address social determinants of health (SDOH) needs and health goals related to cancer primary and secondary prevention. Background: The Yale Cancer Disparities Firewall Project is a multi-tiered initiative to address the social determinants of health (SDOH) and other challenges that prevent at-risk communities from receiving the full benefit of the many available cancer prevention and cancer screening options. A community-facing health navigation program, staffed by community members who have received extensive multidisciplinary training is a central component of this program. Methods: Of the 61 currently enrolled individuals (all of whom are either African American / Black or Hispanic/Latinx), we collected questionnaire data from 24 individuals (39% response rate). In general, participants are enrolled for a minimum of 1 year, but most have been followed for 2 years. Respondents were similar to non-respondents with respect to race (60% were Black/African American vs 61.2%, respectively) and age (mean = 44.8 vs 47.2 years, respectively). Respondents were more likely to be female (85% vs 71.4%, p =.009), Hispanic/Latinx (35% vs 42%), but significantly less likely to be foreign-born (15% vs 26.5 %, p = .021). We assessed satisfaction with assigned navigator(s), uptake of referred services, knowledge gained, health behavior change, and self-rated health (SRH). Results: Per self-report, 79.2% of participants agreed and a further 12.5% somewhat agreed that they were overall satisfied with their experience with the health navigation program. Importantly, two-thirds (66.7%) agreed and a further 20.8% somewhat agreed that they changed their behavior to improve their health and well-being because of the program. Of the 5 health focused services offered, the most commonly reported uptake was physical activity (87.5%), followed by learning how to eat healthier and losing weight. Additionally, one third (33.3%) of participants received assistance with reducing or stopping smoking. In terms of secondary prevention, 62.5% of clients received assistance with cancer screening. Of the 5 SDOH focused services offered, the most common was assistance with finding food to eat (66.7%) followed by assistance with paying utilities (45.8%), a shift from the priority needs at baseline (40% needing food assistance, and 35% with housing concerns), presumably reflecting the additional strains associated with the COVID-19 pandemic. Conclusions: Against the backdrop of COVID-19, these findings suggest that addressing SDOH barriers through individual navigation is an important add-on service when facilitating access to services to maintain healthy lifestyle and adhere to cancer screening guidelines. Although this was a pilot program, we foresee the opportunity to utilize trained non-clinical navigators and/or community health workers and to promote cancer prevention in at risk communities.

PO-265 The intersection of sexual orientation with race and ethnicity in cervical cancer screening: Results from the National Health Interview Survey Ashley E. Stenzel, Gabriela Bustamante, Courtney Sarkin, Katherine Harripersaud, Patricia Jewett, Deanna Teoh, Rachel I. Vogel. University of Minnesota, Minneapolis, MN.

Objectives: Cervical cancer screening is recommended for those with a cervix aged 21-65, with specific timelines dependent on individual risk. Persons belonging to sexual minority (SM) groups may experience greater risk factors for cancer while also being less likely to participate in cancer screening. We compared cervical cancer screening rates by sexual orientation, as well as intersectional analyses with race/ethnicity. Methods: Data from the NHIS years 2015 and 2018, were used to examine cervical cancer screening disparities. Biologic females without history of hysterectomy, ages 21-65 years, who reported sexual orientation and Pap testing history were included. Demographic, health, and cervical cancer screening characteristics were examined using descriptive statistics. Multivariable logistic regression models explored Pap testing rates by sexual orientation alone and with race/ethnicity (non-Hispanic (NH) white, NH Black, Hispanic), adjusting for age, partner status, education, health insurance, and poverty status. Results: SM participants (N=874) were younger, less likely to be living with a partner, had lower income, were less likely to have a medical clinic they go to for regular care, and more likely to delay their medical care due to costs, when compared to heterosexual counterparts (N=17,733). SM persons had significantly reduced odds of ever undergoing Pap testing (OR: 0.57, CI: 0.44-0.74) when compared to heterosexual persons. When considering the intersection of sexual orientation and race/ethnicity, heterosexual Hispanic, SM NH white, and SM Hispanic participants all had reduced odds of ever undergoing Pap testing when compared to NH white heterosexual participants. There were no significant differences observed between heterosexual and SM participants of NH Black or white identities. Conclusion**s**: Participants identifying as SM were significantly less likely to have ever undergone a Pap test when compared to heterosexual participants. When stratifying by race/ethnicity, disparities remained for most participants identifying as SM. These results demonstrate a need for continued effort to increase Pap testing among the SM community. Further research is needed to further examine roles of systemic discrimination and other key drivers of these disparities.

PO-266 Rural-Urban differences in breast and colorectal cancer screening among United States females: 2014-2019 Nicholas Theodoropoulos[1], Hui Xie[2], Qian Wang[1], Yannan Li[1]. [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Zilber School of Public Health, University of Wisconsin, Milwaukee, WI.

Background: Previous literature has revealed rural residents lagged behind their urban counterparts in colorectal cancer (CRC) and breast cancer screening. Between 2013 and 2017, 64 rural hospitals closed, which was double the amount in the preceding 5 years and consisted of 3% of all rural hospitals. Rural residents reported having to skip diagnostic imaging and preventative care due to local hospital closures. In light of continued rural hospital closures, this study aimed to further examine the trends and correlates of breast and colorectal cancer screening among females aged 50-74. Methods: This cross-sectional study analyzed the nationally representative datasets from the Behavioral Risk Factor Surveillance System (BRFSS) data available between 2014-2019. Focusing on females aged 50-74, we evaluated prevalence of breast and colorectal cancer screening overall and by urban-rural locations using multivariate logistic regression, adjusting for confounders including demographic, socioeconomic and behavioral factors. **Results**: This study included 255,737 urban and 127,810 rural residents. In total, urban areas have higher rates of breast (79.85% vs.74.97%; $p<0.001$) and colorectal (75.31% vs. 68.82%; $p<0.001$) cancer screenings. Between 2014 and 2019 the urban-rural difference in mammography has reduced with no significant difference between urban and rural residents in 2019 (82.78% vs 81.59%; p=0.710). A similar trend was seen in colonoscopy use however the difference remains significant in 2019 (81.20% urban vs 76.92% rural; p=0.046). Colorectal and breast cancer screening was associated with residential areas, race/ethnicity, and sexual orientation after adjusting for age, education, income, marital status, general health, checkup, health insurance, medical cost, smoking status, and binge drinking. Rural females were almost 10% less likely to have mammogram screening than urban counterparts (p<0.001). Non-Hispanic blacks (NHB), Asian, and Hispanic were 1.84, 1.22, and 1.36 times more likely to have mammogram screenings compared to their non-Hispanic white (NHW) peers respectively (p<0.001, p=0.011, <0.001). In addition, bisexual females were 24% less likely to have a mammogram than heterosexual/straight-identified females (p=0.003). In regard to colonoscopy, rural females were 16% less likely to have a colonoscopy than urban females (p<0.001). NHB were 1.3 times more likely to have a screening colonoscopy compared to their NHW peers (p<0.001). Lesbians were 1.3 times more likely to have a colonoscopy than heterosexuals (p<0.001). **Conclusions**: Disparities remain in CRC and breast cancer screening between urban and rural females. Our findings underline the importance of improving health access and cancer prevention in rural female Americans, a population characterized by a lower socioeconomic status, poor health literacy and lack of health access. Tailored geographic-based cancer prevention programs should be considered in addressing these disparities.

PO-267 Demographic and psychosocial predictors of regular chronic hepatitis B monitoring among Asian Americans Lin Zhu[1], Wenyue Lu[1], Sarit Golub[2], Yin Tan[1], Ming-Chin Yeh[2], Minhhuyen T. Nguyen[3], Elizabeth Handorf[3], Grace X. Ma[1]. [1]Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, [2]Hunter College, City University of New York, New York, NY, [3]Hunter College, City University of New York, New York, NY, [3]Fox Chase Cancer Center, Temple University Health System, Philadelphia, PA.

Background: Asian Americans are 8-13 times more likely to develop liver cancer caused by chronic hepatitis B (CHB) and experience a 60% higher death rate than non-Hispanic whites. Doctor visitation for CHB monitoring every six months is effective to prevent liver cancer. **Methods:** This study utilized the baseline data from an ongoing randomized controlled clinical trial aimed at improving long-term adherence to CHB monitoring and treatment. The goal was to examine the association of sociodemographic and psychosocial factors with having a doctor's visit for their CHB in the past 12-months. Eligible Asian American CHB patients were recruited from the Greater Philadelphia Area and New York City. Multivariable logistic regression was conducted to test the associations. **Results:** The analysis sample consists of 240 participants, among which 74% did not have a college degree, 46% had lower than $20,000 annual household income, 72% had limited English proficiency. Multivariable logistic regression showed that a higher hepatitis B (HBV) knowledge score (OR = 1.24, $p < 0.01$) and having a regular physician (OR = 3.45, $p < .05$) were significantly associated with a higher chance of having visited a doctor in the past 6 months for their CHB management. Having health insurance (OR = 4.63, $p < .05$), a higher knowledge score (OR = 1.29, $p < .01$), and a higher CHB management motivation score (OR = 1.12, $p < .001$) were associated with a higher chance of having blood work done in the past 6 months; Vietnamese ethnicity (vs Chinese) and having a college degree (vs not) were associated with a lower chance of testing. **Conclusion:** Our study found that both sociodemographic and psychosocial factors had significant impacts on CHB management, suggesting that addressing barriers to health care and improving CHB patients' psychosocial status would be effective intervention strategies to promote CHB management and liver cancer prevention among vulnerable Asian Americans with CHB.

PO-268 Investigating patient barriers to low-dose computed tomography lung cancer screenings among the African American population Alexander Nguyen, Lin Zhu, Ra'Ann Merceir, Grace X. Ma, Cherie P. Erkmen. Lewis Katz School of Medicine, Temple University, Philadelphia, PA.

Background: Lung cancer remains the leading cause of cancer death in the United States. Lung cancer screening (LCS) with Low-Dose Computerized Tomography (LDCT) has been found to reduce lung cancer mortality up to 26% and all-cause mortality by 7%. Yet, uptake of LCS is less than 4% among those eligible. African Americans (AAs) have the highest cancer mortality rate and are also more likely to die of lung cancer compared to whites. Furthermore, little research has been done to understand this groups in terms of their knowledge, awareness, and perceptions related to LCS, and the potential barriers or facilitators to LCS. Guided by the Health Believe Models, this study aims to examine the demographic, behavioral, and psychosocial profiles related to LCS in AAs, and identify the predictors to the uptake of LCS with LDCT. **Methods:** We have recruited 200 AA patients eligible for LDCT for a case-control cohort (100 AAs who have completed a LDCT screening and 100 who did not) through the electric medical record of a safety-net hospital. We are currently conducting online and telephone surveys to collect information on participants' personal and family history, health literacy, beliefs, psychosocial factors, patient-provider relationship, knowledge of lung cancer, perception of screening and potential care cost, transportation barriers, and racial discrimination. **Results:** We will conduct descriptive analysis of the sociodemographic characteristics and the modifiable lifestyle behaviors of the participants separately for those who completed LDCT and those who did not. We will then conduct bivariate analysis (chi-square and t-test) to compare various psychosocial and health-related factors by LDCT completion status. Finally, we will conduct binary logistic regression to examine the association between the predictors and LDCT completion. **Conclusion:** The findings of this study will provide critical empirical evidence on the psychosocial facilitators and barriers to LDCT uptake among AAs, a vulnerable and medically underserved population. The facilitators and barriers identified in this study will be used to design both clinic-based and community-based behavioral intervention studies to promote LDCT uptake among eligible AAs.

Prevention Research: Vaccines and Immunoprevention

PO-269 Awareness of the link between human papillomavirus (HPV) and HPV-associated cancers among university students Eric Adjei Boakye[1], Maria C. Franca[2], Valerie E. Boyer[2], Minjee Lee[1], Kelli D. Whittington[2], Stacey L. McKinney[2], Sandra K. Collins[2], Richard C. McKinnies[2]. [1]Southern Illinois University School of Medicine, Springfield, IL, [2]Southern Illinois University, Carbondale, IL.

Background: Human papillomavirus (HPV) is associated with virtually all cases of cervical, 90% of anal, 69% of vaginal, 60% of oropharyngeal, 51% of vulvar, and 40% of penile cancers. The Advisory Committee on Immunization Practices recommends routine HPV vaccination for adolescents between 11 and 12 years, and catch-up vaccination is also recommended for both males and females aged 13-26 years. College students not only fall in the age group at high risk for HPV infection but are also of childbearing age; thus, their awareness not only affects current vaccination rates but also those of the next generation. Therefore, understanding college students' awareness of the causal link between HPV and HPV-associated cancers is of great significance for the promotion of HPV vaccine uptake. The objectives of the study were to 1) describe the level of awareness of the link between HPV and HPV-associated cancers; and 2) identify factors associated with awareness. **Methods**: This was a cross-sectional study at a public Midwestern university. A previously validated questionnaire was distributed online to all students at the university from February to May 2021. The outcomes of interest were student's awareness that HPV causes certain cancers (anal, vaginal, oropharyngeal, vulvar, and penile). Students were asked if they knew whether HPV was causally link with those cancers, with response options 'yes', 'no' and 'don't know'. Students who answered yes were categorized as aware and those who answered 'no' and 'don't know' were categorized as unaware. Five multivariable logistic regression models estimated the association between age, gender, race, relationship status, academic level, rural-urban status, sexual naivety; and awareness of the link between HPV and HPV-associated cancers. **Results:** A total of 862 students were included in the study. Approximately 34% were aware HPV causes anal, 39% were aware HPV cause oral, 38% were aware HPV cause penile, 53% were aware HPV cause vaginal, and 40% were aware HPV cause vulvar cancers. In multivariable analyses, males were less likely to be aware that HPV cause vaginal (aOR=0.42, 95% CI: 0.30–0.59), or vulvar cancers (aOR=0.54, 95% CI: 0.38–0.77) compared to females. Compared with sexually naïve students, those who had have oral and vaginal sex were more likely to be aware that HPV cause anal (aOR=1.98, 95% CI: 1.17–3.34), penile (aOR=1.82, 95% CI: 1.11–2.97), vaginal (aOR=1.81, 95% CI: 1.14–2.88), or vulvar (aOR=2.05, 95% CI: 1.24–3.40) cancers. **Conclusion:** Overall awareness of the link between HPV and HPV-associated cancers were low, with roughly 4-in-10 students having awareness, except vaginal where half of students had awareness of the link. This underscores the need for more tailored interventions to increase knowledge about HPV and its association with cancer. Increasing students' levels of awareness may impact HPV vaccine uptake.

PO-270 Evaluation of attitudes, beliefs and influences and their impact on HPV vaccination rates among minority health science students Katya M. Marcia[1], John M. Allen[2]. [1]University of Central Florida, Orlando, FL, [2]University of Florida, Orlando, FL.

Introduction: Human Papillomavirus (HPV) is the most common sexually transmitted disease. The contraction of HPV is associated with the development of several different types of cancers, including anal, cervical, and oropharyngeal cancers. These cancers have proven to impact Black and Hispanic women disproportionately across the United States, suffering from high rates of HPV infection and high incidence of cervical cancer. Despite knowledge of this risk, HPV vaccination rates remain low among minority women. Personal beliefs and access surrounding HPV vaccination may be contributors to these disparities. This survey aims to study the motivations behind the choice to receive HPV vaccination among health science students. Health science students are the target for this study as they are uniquely situated as the future providers of their communities. If the study is able to gauge how they feel about HPV vaccination, then the scientific community can target interventions to impact change beginning with the providers themselves. Females specifically were chosen as they are the primary targets of HPV vaccination. HPV vaccination rates among female health science students are a secondary result. **Methods**: A 37-item electronic survey was sent out to female health science students at the University of Florida which include the schools of Dentistry, Medicine, Nursing, Pharmacy, Public Health, and Veterinary Science. The online survey was then distributed in July of 2021 through Qualtrics. The survey evaluated previous HPV knowledge, motivations for or against HPV vaccination, and beliefs surrounding HPV vaccination. **Results**: The survey was delivered and distributed in July of 2021. In this study there are four different types of questions analyzed to gather information on previous HPV knowledge, attitudes, beliefs and external influences. Results will be categorized and compared based on race/ethnicity. By analyzing these groups there is an opportunity to understand how one's racial or ethnic background can affect their medical decisions in health science students and the recommendations they give to others. Results are pending. **Conclusion**: This being the first study of its kind warrants further investigation as health science students are trusted individuals of the medical community. If these students are against HPV vaccination, then medical schools could target interventions to teach students about racial disparities in HPV infection and vaccination recommendation. So, when given the opportunity as a provider these students can recommend vaccination to their patients. These results are indicative of knowledge gaps and attitudes within the younger generations of the medical community.

PO-271 Racial and ethnic disparities in human papillomavirus (HPV) vaccine uptake among adults aged 27-45 years in the United States Nosayaba Osazuwa-Peters[1], Natalie Rincon[2], Kelsey Rae McDowell[3], Tiarney Ritchwood[1], Eric Adjei Boakye[4]. [1]Duke University School of Medicine, Durham, NC, [2]Duke University, Durham, NC, [3]University of North Carolina-Chapel Hill, Chapel Hill, NC, [4]Southern Illinois University School of Medicine, Springfield, IL.

Background: More than 36,000 new cases of human papillomavirus (HPV)-associated cancers are diagnosed annually in the United States, with racial/ethnic differences observed in incidence and mortality. HPV vaccination is a means of primary prevention against HPV-associated cancers, and in 2018, the Food and Drug Administration expanded age of eligibility for the HPV vaccine to 27-45 years. However, no study has examined differences in vaccine uptake based on race/ethnicity since the expansion of age of eligibility. **Objective:** To characterize racial/ethnic differences in HPV vaccine uptake among eligible adults aged 27-45 years in the United States, and identify socioeconomic factors associated with differential vaccine uptake. **Methods:** We analyzed nationally representative, cross-sectional data from the 2019 National Health Interview Survey (n = 9,440). Outcome of interest was HPV vaccine uptake, defined as receipt of at ≥ 1 dose of the vaccine. Main independent variable was race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, non-Hispanic other). Other covariates included age, sex, marital status, highest level of education, annual income, insurance status, having a usual place of care, and geographic region of residence. Weighted, multivariable logistic regression model estimated odds of HPV vaccine uptake based on race/ethnicity, while adjusting for other covariates. **Results**: Majority of respondents were non-Hispanic whites (60.7%). Vaccine uptake rate was only 15.5%. In the unadjusted analysis, there were associations between HPV vaccine uptake and race/ethnicity, sex, marital status, education, income, insurance, place of care, and geography ($p < 0.001$). After adjusting for covariates, significant racial/ethnic differences in HPV vaccine uptake persisted. Compared to non-Hispanic whites, non-Hispanic blacks were 36% (aOR = 1.36; 95% CI 1.09, 1.70) more likely to receive the HPV vaccine. However, Hispanics were 27% less likely than non-Hispanic whites to receive the HPV vaccine (aOR = 0.73; 95% CI 0.58, 0.92). Additionally, individuals who did not have a usual place of care had lower odds of vaccine uptake (aOR = 0.72; 95% CI 0.57, 0.93), as were those with lower educational levels (high school aOR = 0.62; 95% CI 0.50, 0.78; some college aOR = 0.83; 95% CI 0.70, 0.98), compared to college graduates or more. Compared to participants residing in the South, those in the West were more likely to receive the vaccine (aOR = 1.49; 95% CI 1.24, 1.80); and females had over three times the odds of receiving the vaccine (aOR = 3.58; 95% CI 3.03, 4.23) than males. **Conclusions:** Only 1-in-6 adults between 27 and 45 years in the United States have received at least one dose of the HPV vaccine, and Hispanics are significantly less likely to do so, as are individuals without a usual place of care. Given the importance of the vaccine in cancer prevention, it is critical that these disparities be mitigated.

PO-272 Factors associated with HPV vaccine uptake: Insights from those who receive the flu shot Philip P. Ratnasamy, Anees Chagpar. Yale University School of Medicine, New Haven, CT.

Introduction: While vaccine hesitancy is well-known, it remains unclear what factors influence individuals to obtain some vaccinations but not others. In the US, influenza vaccination rates are much higher than HPV vaccination rates. We sought to determine, among individuals who receive the influenza vaccine, factors that influence the uptake of HPV vaccination. Methods**:** The National Health Interview Survey (NHIS) is the largest source of health information for Americans and is designed to represent the entire civilian non-institutionalized US population. We utilized the 2018 NHIS to determine the proportion of the population who received HPV vaccination, influenza vaccination, or both. Further, amongst those who took the flu shot (and therefore were not vaccine-hesitant), we evaluated factors that influenced HPV vaccination. **Results**: There were 16,958 people, representing 184,361,526 in the population, between the ages of 18-64 who responded to questions as to whether they had ever received the HPV vaccine and whether they had received the influenza vaccine within the past year. 54.79% of these individuals had received neither vaccine, 32.42% received the flu shot but not HPV vaccination, and 5.76% received both vaccinations. Among those who received the flu shot in the past year, females (19.13% vs. 9.78% for males, $p<0.001$), those who were married (36.61% vs. 9.43% for singles, $p<0.001$), and those with high English proficiency (15.52% vs. 2.34% and 6.44% for those who spoke English "not well" and "not at all," respectively, $p<0.001$) were more likely to report having ever received an HPV vaccine. Race ($p=0.029$) and education level ($p=0.002$) also influenced HPV uptake in this population; family income relative to the federal poverty level was of borderline significance ($p=0.0623$). Region of residence in the US ($p=0.116$), health insurance status ($p=0.127$), and years living in the US ($p=0.281$) were not significant. On multivariate analysis, individuals who were female (OR: 2.78 vs. male; 95% CI: 2.25-3.43, $p<0.001$), spoke English well (OR: 7.50 vs. not well; 95% CI: (2.45-22.96, $p=0.002$), and were married (OR: 6.61; 95% CI: 5.33-8.19, $p<0.001$) were more likely to get the HPV vaccination; education and income relative to poverty were not significant in the model. In addition, after controlling for other factors, Black individuals (OR: 0.72; 95% CI: 0.52-0.98) and those who identified as "Other" race (OR: 0.36; 95% CI: 0.15-0.88) were less likely to get the HPV vaccination compared to Whites ($p=0.010$). **Conclusions:** Over 50% of individuals in the US report never receiving the HPV vaccine and not receiving the flu shot within the past year. Only 15% of the nearly 40% of individuals who had taken a flu shot within the past year also reported having received the HPV vaccine. People who are male, single, with low English proficiency, and/or who identify as Black or Other race may be a group of non-vaccine hesitant individuals who may be amenable to taking the HPV vaccine if appropriately targeted for the same.

Behavioral and Social Science: Community-based Participatory Research

PO-273 Spatial and descriptive analysis of smoke and vape shop locations focusing on a cancer center neighboring catchment area Kimlin Ashing, Cary Presant, Sophia Yeung, Jonjon Macalintal, Brian Tiep, Argelia Sandoval, Dan Raz, Ravi Salgia, Loretta Erhunmwunsee, Arya Amini, Amar Merla, Heather Graves, Steven Rosen. City of Hope, Duarte, CA.

Background: Tobacco products cause about 1 in 5 deaths premature deaths each year. §Cancer patient survival increases approximately 30% with effective tobacco cessation intervention. Tobacco use post cancer can disrupt treatment plans including surgery delay, negatively affect treatment response, and the benefits of quitting are well-documented including accelerated healing and improved quality of life and well-being.Racial and ethnic minorities are adversely targeted by tobacco industry resulting in high tobacco use and tobacco related disease burden. With increased retailing of both tobacco and electronic nicotine delivery systems (ENDS) products, cancer centers such as City of Hope are prioritizing tobacco and ENDS control. **Method:** The cancer center expanded the current cessation program by: 1. Building a robust Patient EHR Tobacco Registry capturing tobacco use/exposure of cancer patients; 2. Establishing sustainable IT facilitated clinical workflow for timely and comprehensive tobacco use assessment with accompanying cessation intervention for both high-risk recent quitters and current tobacco users and facilitate basic, behavioral and clinical studies. We conducted formative geospatial analyses of dedicated smoke and vape shops linked to neighborhood demographic characteristics. The objective of the study was to analyze local data on smoke and vaping shop locations by age, socio-economic status, and racial/ethnic group. Our geospatial analysis used aggregate data from the U.S. Census, Google Maps, and Yelp. Geospatial maps were created using ArcGIS Pro with American Community Survey and U.S. Census 2010. The distributions of exclusive tobacco and vaping shop locations data were overlaid with data from the U.S. Census 2010 to generate maps of the relative geographic distributions of shops across varying area demographic characteristics. **Results:** In the COH network that includes community clinical sites, there are variations in tobacco use by geographic regions showed that a higher concentration of exclusive smoke and vaping shops were in areas with a higher concentration of ethnic minorities and lower income and lower status neighborhoods. **Conclusion:** Tobacco use is influenced by societal determinants of health (SDH) with minoritized populations having greater exposure to tobacco products that brings greater smoking rates. Tobacco cessation is a quality care issue, and a health equity and justice issue. Allocations of resources must account for the metrics of tobacco use and be responsive to both patient characteristics and community factors. Tobacco control services and research for cancer patients ought to be conducted in partnership with cancer care team. A multidisciplinary research can provide multilevel data accounting for the intersection of SDH and community level factors (e.g. density of tobacco retail, environmental exposure) with biological factors. Cancer Centers' sustainable tobacco control must involve community engagement, team science, clinical and care coordination and policy action