1ST ANNUAL SPEECH REGIONAL CANCER HEALTH DISPARITY CONFERENCE

Temple University
Lewis Katz School of Medicine
3500 North Broad Street
Philadelphia PA, 19140

THURSDAY MAY 30TH, 2019
8:30AM-3:30PM

SPEECH
Synergistic Partnership for Enhancing Equity in Cancer Health

TEMPLE UNIVERSITY
Lewis Katz School of Medicine

FOX CHASE CANCER CENTER
TEMPLE HEALTH

HUNTER
The City University of New York

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SPEECH
Synergistic Partnership for Enhancing Equity in Cancer Health

AGENDA

8:30-9:00 AM MERB Commons	**Conference Registration** Light breakfast
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10:00-12:00 PM MERB Commons	**Poster Presentations**
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1:30-2:30 PM Room 233	**Internal Advisory Committee Meeting (Closed)**
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1:30-2:30 PM	Post-Doc/Junior Faculty Level (undergrad/grad welcome)
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General Session

Welcome Remarks:
Larry R. Kaiser, MD, FACS
Michele Masucci, PhD

Overview of TUFCCC/HC Partnership:
Grace X. Ma, PhD
Olorunseun Ogunwobi, MD, PhD

Keynote Speaker:
Amelie G. Ramirez, DrPH

NCI Welcome:
Sandra San Miguel, MS, DrPH(c)

Conference Welcome Message

Dear Students, Colleagues and Associates,

On behalf of the Synergistic Partnership for Enhancing Equity in Cancer Health (SPEECH), we would like to welcome you to the 1st SPEECH Regional Cancer Health Disparity Conference.

The U54 funded partnership between Temple University/Fox Chase Cancer Center and Hunter College (TUFCCC/HC) was established with the purpose of reducing cancer health disparities among minority populations in the Pennsylvania- New Jersey- New York City (PNN) region, while encouraging diversity in the field of cancer research by training and mentoring students from underrepresented backgrounds.

We are delighted to be hosting this first conference in Philadelphia. Our goal is to offer a professional space for students, investigators and researchers to learn about the ongoing work and opportunities in cancer research. The conference includes a general session opening, poster presentations, a networking lunch session and a National Cancer Institute Career Development Workshop.

We hope this event provides valuable opportunities in academic and career development. We look forward to seeing you at the program sessions.

Sincerely,

Grace X. Ma, PhD
Associate Dean for Health Disparities
Director of the Center for Asian Health
Laura H. Carnell Professor and Professor in Clinical Sciences
SPEECH Contact Principal Investigator
Lewis Katz School of Medicine, Temple University

Olorunseun Ogunwobi, MD, PhD
Associate Professor, Department of Biological Sciences
Director of the Center for Cancer Health Disparities Research
SPEECH Contact Principal Investigator
Hunter College, City University of New York

About SPEECH

The Synergistic Partnership for Enhancing Equity in Cancer Health (SPEECH) is a comprehensive regional cancer health disparity partnership between Temple University/Fox Chase Cancer Center and Hunter College (TUFCCC/HC), the U54 grant funded by the National Cancer Institute. TUFCCC/HC Cancer Health Disparity Partnership was developed as a collaborative effort to develop a regional comprehensive cancer health equity research infrastructure in the Pennsylvania, New Jersey, and New York City Regions. Our goal is to establish rigorous and sustainable research, education and outreach programs at all the institutions in order to address cancer health disparities and train underrepresented minorities to become leaders in cancer research.

Despite advances in cancer treatment and research, there are significant cancer health disparities in undeserved African, Asian-Pacific, and Hispanic American populations. The mission of the TUFCCC/HC Cancer Partnership is to reduce cancer health disparities among under-served health disparity populations and address critical national needs of career development in cancer research among underrepresented junior investigators and students.

The TUFCCC/HC Cancer Health Disparity Partnership consists of five cores:

1) Administrative Core, led by Grace X. Ma, PhD, Jean-Pierre Issa, MD, Olorunseun O. Ogunwobi, MD, PhD, and Joel Erblich, PhD, MPH

2) Research Education Core, led by Carolyn Y. Fang, PhD and Olorunseun O. Ogunwobi, MD, PhD

3) Planning and Evaluation Core, led by Michael Halpern, MD, PhD, MPH and Sarah-Jane Dodd, PhD

4) Community Outreach Core, led by Yin Tan, MD, MPH, Ming-Chin Yeh, PhD, and Marilyn A. Fraser, MD

5) Biostatistics and Bioinformatics Core, led by Eric Ross, PhD and Konstantinos Krampis, PhD

The TUFCCC/HC Cancer Health Disparity Partnership has three research projects:

1) Liver Cancer Long-Term Adherence to Monitoring/Treatment in Underserved Asian Americans with Chronic HBV, led by Grace X. Ma, PhD and Sarit A. Golub, PhD. ESIs: Nestor Esnaola, MD, MPH and Chibuzo Enemchukwu, MD

2) Nicotine Dependence and Lung Cancer Genetics in African Americans, led by Camille Ragin, PhD, MPH and Joel Erblich, PhD

3) Epigenetic Factors and the Microbiome in Disparities in Colon Cancer Outcomes, led by Carmen Sapienza, PhD, Jean-Pierre Issa, MD, and Frida Kleiman, PhD

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http://www.speechregionalpartnership.org/

General Session Speakers

Larry R. Kaiser, MD, FACS

Larry R. Kaiser, MD, FACS, The Lewis Katz Dean at the School of Medicine Senior Executive Vice President for Health Affairs, Temple University President and CEO, Temple University Health System, Professor, Thoracic Medicine and Surgery

An internationally renowned academic executive, thoracic surgeon, researcher and author, Larry R. Kaiser, MD, FACS is CEO of Temple University Health System, Senior Executive Vice President for Health Affairs, and Dean of the Lewis Katz School of Medicine at Temple University.

Prior to joining Temple, he was President of UTHealth, the University of Texas Health Science Center at Houston, where he was responsible for six schools, more than 10,000 faculty and trainees, and a 900-member physician practice. A graduate of Tulane University School of Medicine, Dr. Kaiser completed his internship and residency in General Surgery as well as a fellowship in Surgical Oncology at the University of California, Los Angeles (UCLA). He then completed a residency in cardiovascular surgery and thoracic surgery at the University of Toronto. Following that, Dr. Kaiser moved to New York to join the thoracic surgery staff at Memorial Sloan-Kettering Cancer Center, serving also as Assistant Professor of Surgery at Cornell University Medical College. He was then recruited to Washington University School of Medicine in St. Louis, where he was promoted to Associate Professor of Surgery.

In 1991, Dr. Kaiser was recruited to the University of Pennsylvania, where he held a succession of positions, including Associate Professor of Surgery, Chief of General Thoracic Surgery, Founder and Director of Penn's Lung Transplantation Program, and Director of its Center for Lung Cancers and Related Disorders. In 1995, he was promoted to Professor of Surgery at Penn, and in 1996 was named the Eldridge Eliason Professor of Surgery, the first individual to hold that chair. In 2001, following a national search, Penn named him the John Rhea Barton Professor and Chairman of the Department Surgery. He also served as the University Health System's surgeon-in-chief. In 2008, Dr. Kaiser was selected as the President of the University of Texas Health Science Center at Houston, where he served until he was recruited to Temple University to head the Health Science enterprise.

Dr. Kaiser's research and clinical interests include lung cancer, malignant mesothelioma and mediastinal tumors. He is the author or co-author of 14 books and over 250 original papers, and is a current or past editorial board member of the Annals of Surgery, the American Journal of Surgery, the Journal of Thoracic and Cardiovascular Surgery, and a half dozen other journals. Dr. Kaiser has served in a number of leadership capacities for professional societies and associations, and has been a director of the American Board of Surgery and the American Board of Thoracic Surgery. In 2004, he was elected to the Institute of Medicine of the National Academy of Sciences. His recent honors include citations in Castle Connolly's America's Top Doctors® for Cancer 6th edition, Who's Who in the World, and Philadelphia magazine's "Top Docs," among others.

General Session Speakers

Michele Masucci, PhD

Michele Masucci, Ph.D., Vice President for Research and Professor of Geography and Urban Studies at Temple University

In her role as the Vice President for Research, she oversees the research enterprise operations for the University, including research strategic, government, and development initiatives; technology transfer and business development operations; research integrity and compliance; grant administration; and research technical support. She has led the planning, implementation and oversight for a university-wide strategic initiative to expand research and innovation. This effort has resulted in a sustained increase in external funding in the areas of Traumatic Brain Injury, Environmental Change, Materials Research, Big Data Research and Analytics, and Science Innovation. Dr. Masucci founded and continues to direct a research center called the Information Technology and Society Research Group, initiated at Temple in 2002.

Throughout Dr. Masucci's tenure in academia, her work has examined how barriers to accessing information resources broadly and geographic information technologies specifically are interrelated with community development and environmental quality problems, including accessing health, education, and social services. Her research projects supported the development of a university-community partnership program with organizations that address human rights issues, community and environmental planning organizations in the Southeastern U.S. and in Brazil involved in water quality monitoring and assessment, and with informal educational settings on integrating information technology curricula through educational programs aimed at advancing knowledge of to develop information resources. She has been awarded funding from a number of funding agencies and foundations, including: the National Science Foundation, the Pennsylvania Department of Health, U.S. Department of Agriculture, U.S. Department of State, U.S. Department of Commerce – EDA, the John S. and James L. Knight Foundation, the Blackstone Charitable Foundation, the Doris Duke Foundation, the William Penn Foundation, and the Philadelphia Youth Network. Dr. Masucci has been named as the Vice Chair of the Federal Demonstration Partnership, where she leads the Pipelines Initiative that aims to address the research administration challenges associated with expanding access to STEM careers for women and underrepresented minorities. She is also Temple's representative to the Government University Industry Research Round Table (GUIRR) of the National Academies. She serves as a member of the Board of Directors of Oak Ridge Affiliated Universities, the Board of Directors for the Ben Franklin Technology Development Authority of the Commonwealth of Pennsylvania, the Scientific Advisory Board and Board of Directors of the University City Science Center in Philadelphia, and the Pennsylvania Health Advisory Committee.

General Session Speakers

Grace X. Ma, PhD

Dr. Grace X. Ma, Associate Dean for Health Disparities, Director for Center for Asian Health, Laura H. Carnell Professor in Clinical Sciences, Lewis Katz School of Medicine of Temple University, Primary Member at Fox Chase Cancer Center, Temple University Health Systems

Grace X. Ma, PhD is the founding director of Temple University Center for Asian Health (CAH), established in 2000, which is one of the first in the nation dedicated to reducing cancer health disparities funded by NCI/NIH. In partnership with Asian community leaders, she co-founded the first Asian Community Cancer Coalition in the U.S. eastern Region. As a nationally recognized behavioral health scientist, Dr. Ma's research focuses on health disparities, cancer prevention, early detection, patient navigation, treatment adherence and access/quality of healthcare in underserved Asian Pacific Americans, African American and disparity populations. Her pioneering health disparity studies using community-based participatory and patient-centered approach are cited extensively. Over the past 23 years, Dr. Ma has received continuous funding awards from the National Institutes of Health. As the PI of NIH/NCI-funded Health Disparity Center grants (U54s, U01s) since 2000, Dr. Ma has led regional networks of cancer health disparity research, education/training and community engagement. She has directed more than 90 intervention or observational longitudinal research studies, including large-scale randomized intervention trials, implementation and dissemination studies at worksites, community health centers, primary care clinics, community-based organizations and churches (NIH-funded R01s, R24s). She was PI for CDC-funded project, Racial and Ethnic Approaches to Community Health (REACH)" and PI for PCORI funded A Comparative Trial of Improving Care for Underserved Asian Americans Infected with HBV. Dr. Ma is the MPI for Unpacking Mechanisms of Disparities for HIV-related Hypertension in African Am and Asian Pacific Am MSM (RO1, NIH/NIMHD). Dr. Ma also conducted a number of studies focusing on multilevel risk factors and viral related diseases, evidence-based interventions for improving screening, vaccination, disease management, medication adherence, quality of life and continuum of care in underserved Asian Pacific Americans and African American populations. She is an author of 5 books, over 165 peer-reviewed publications and delivered over 600 professional presentations at regional, national and international conferences. She has trained and mentored over 180 minority trainees,that created a pipeline of diverse researchers to conduct health disparity research in underserved ethnic populations and communities. Dr. Ma serves on numerous scientific advisory boards and NIH study sections, NIMHD-NIH national Health Disparity Science Vision Advisory Panel. She serves on national and state health disparity advisory boards and an active member of numerous Public Health association, American Association for Cancer Research, journal editorial boards. Dr. Ma, a recognized visionary leader, has received numerous distinguished awards from NIH, academic institutions, scientific associations, and community organizations.

General Session Speakers

Olorunseun Ogunwobi, MD, PhD

Dr. Olorunseun O. Ogunwobi, Associate Professor of Biological Sciences at Hunter College of The City University of New York, Director of the Center for Cancer Health Disparities Research

Dr. Olorunseun Ogunwobi obtained a medical degree from the University of Ibadan, Nigeria, a master's degree in biomedicine from the University of Hull, United Kingdom, a master's degree in clinical and translational science from the University of Florida, Gainesville, USA, and a PhD in molecular medicine from the University of East Anglia, Norwich, United Kingdom.

He is the founding Director of the Hunter College Center for Cancer Health Disparities Research, Associate Professor of Biological Sciences at Hunter College of The City University of New York, and a member of faculty in the Biology and Biochemistry PhD programs at The Graduate Center of The City University of New York.

Dr. Ogunwobi is a translational cancer biologist whose work focuses on molecular mechanisms of progression of solid organ cancers with established racial disparities, such as hepatocellular carcinoma, pancreatic cancer, colon cancer, and prostate cancer. His laboratory has established novel circulating tumor cell models in hepatocellular carcinoma, and prostate cancer that are being used progressively to elucidate molecular mechanisms underlying the role of circulating tumor cells in cancer metastasis. They have also discovered that genetic alterations of oxytocin and the oxytocin receptor in some patients with pancreatic cancer and hepatocellular carcinoma significantly correlate with poor survival outcomes. And they are now investigating the molecular mechanisms of action of oxytocin/oxytocin receptor signaling in pancreatic cancer and hepatocellular carcinoma. A major focus of Dr. Ogunwobi's laboratory are studies elucidating the role of non-coding RNAs derived from the PVT1 gene locus in the development and progression of prostate cancer. His work has been funded by the NIH, New York State, Carnegie Corporation of New York, and the NSF, among others.

Dr. Ogunwobi is a Contact Principal Investigator of the Synergistic Partnership for Enhancing Equity in Cancer Health (SPEECH) funded by a U54 grant from the National Cancer Institute. An author of numerous peer-reviewed research articles, Dr. Ogunwobi has also been issued three United States patents for biotechnology inventions with potential clinical applications in cancer.

General Session Speakers

Amelie G. Ramirez, DrPH

Dr. Amelie G. Ramirez, Professor and Interim Chair of Epidemiology and Biostatistics, Director of the Institute for Health Promotion Research at UT Health San Antonio

Amelie G. Ramirez, DrPH, is an internationally recognized health disparities researcher at UT Health San Antonio. She has 30 years of experience conducting behavioral and communications projects to reduce cancer, increase screening rates and clinical trial participation, prove the efficacy of patient navigation for cancer patients, prevent tobacco use, and improve healthy lifestyles among U.S. Latinos.

Dr. Ramirez currently directs the Salud America! national multimedia program to empower its vast network of 250,000 community leaders to drive healthy policy and system changes to promote health equity and support for Latino families (www.salud-america.org and @SaludAmerica on social media). Dr. Ramirez also directs Quitxt, a bilingual tobacco-cessation service for young Latino adults using mobile-phone text messages; the service yielded a strong 21% quit rate among enrollees at follow-up. She also has trained/mentored 250+ Latinos in health fields, and leads the Éxito! training program to help master's-level students and professionals pursue a doctoral degree and cancer research career.

Dr. Ramirez is a Susan G. Komen Scholar and is on the scientific advisory board for LIVESTRONG. Her recognitions include: 2007 election to the National Academy of Medicine; 2011 White House "Champion of Change"; 2014 APHA Everett M. Rogers Public Health Communication Award; and 2018 Icons in Healthcare Award from CentroMed. In Texas, Dr. Ramirez is on the San Antonio Mayor's Fitness Council and is President of The Academy of Medicine, Engineering and Science of Texas. Dr. Ramirez, a native of Laredo, Texas, earned MPH and DrPH degrees from UT Health Science Center at the Houston School of Public Health.

General Session Speakers

Sandra L. San Miguel, MS, DrPH(c)

Sandra L. San Miguel, MS, DrPH(c), Program Director in the Integrated Networks Branch of the National Cancer Institute's Center to Reduce Cancer Health Disparities (CRCHD)

Ms. San Miguel contributes to the grants management of the National Outreach Network program and also provides technical and scientific expertise while co-leading various U-54-Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE).

Ms. San Miguel has over 22 years of experience in public health. Her expertise is in population health - developing/adapting, implementing, and evaluating evidence-based, culturally sensitive, multilingual behavioral cancer interventions to decrease health disparities among racially/ethnically diverse populations within the U.S. and among underserved populations globally. Prior to joining NCI, San Miguel served in academia, holding faculty positions at the Dept. of Medicine - Epidemiology & Biostatistics at UT Health San Antonio and at the Dept. of Biology and International Studies at Trinity University.

Sandra L. San Miguel is pursuing her doctorate degree in Public Health with an emphasis on global health epidemiology at the University of Illinois in Chicago. She received her M.S. in counseling psychology from Our Lady of the Lake University and a B.S. in Biology/B.A. in psychology from the University of the Incarnate Word in San Antonio, Texas.

General Session Speakers

H. Nelson Aguila, D.V.M. - Deputy Director NCI/CRCHD
Dr. Aguila is Deputy Director of the NCI's Center to Reduce Cancer Health Disparities. In this capacity, he represents the Center in various working groups across NCI and NIH, coordinates the day-to-day functions of the Center, and manages of CRCHD's Partnership to Advance Cancer Health Equity program. Previously, Dr. Aguila served as Chief of CRCHD's Diversity Training Branch. Before coming to NIH, Dr. Aguila worked at the Food and Drug Administration as a Reviewer Toxicologist at the Center for Veterinary Medicine. Earlier in his career, he held senior research scientist positions in neuropathology at the University of Miami and later in cancer gene therapy at Aventis-Gencell. Dr. Aguila earned his Doctor of Veterinary Medicine degree at Austral University in Chile and trained as a neurobiologist at The University of Texas Southwestern Medical Center, Dallas.

Emmanuel A. Taylor, M.Sc., Dr.P.H. – Health Scientist Administrator, NCI/CRCHD
Dr. Taylor provides leadership for program evaluation of all cancer disparities related programs within the NCI's Center to Reduce Cancer Health Disparities (CRCHD). He provides technical and scientific expertise and guidance to staff and grantees in the use of program evaluation techniques, performance measurement, community-based participatory research (CBPR), and translational research methodologies in relation to cancer prevention and control interventions in minority and medically underserved populations. He serves also as a Program Director for NCI-funded disparities research and research training programs.
Dr. Taylor has over 30 years of experience in public health program planning, implementation, and evaluation at local/community, national, and international levels. Prior to joining CRCHD, Dr. Taylor was President and CEO of Health Information Management Associates (HIMA), Inc., as well as the Chief Epidemiologist and Director of health informatics, research and program evaluation at HIMA, Inc. He was an Associate Professor of Public Health at the Morgan State University, and Senior Epidemiologist for Minority Health at the Centers for Disease Control and Prevention (CDC).
Dr. Taylor earned a doctorate in International Health/Epidemiology from the Tulane University School of Public Health and Tropical Medicine, with a specialty in the application of epidemiological methods for planning and evaluation of public health programs; a M.Sc. in Health Education and Communications, and a B.S. in Pre-med/Biology from the University of Southern Mississippi.

NCI Training Navigation Presenters

Hana Odeh, PhD

Dr. Hana Odeh, Program Director at the National Cancer Institute's Center to Reduce Cancer Health Disparities

Hana Odeh is a Program Director in the NCI's Center to Reduce Cancer Health Disparities (CRCHD) since 2016. In this role, Dr. Odeh's primary responsibility is Training Navigation for CRCHD. As the Training Navigator, Dr. Odeh works closely with scholars to identify the appropriate CURE funding opportunity tailored to their career stage and introduces them to the relevant CURE program director managing the funding opportunity of interest. She is also the point of contact for connecting scholars to the Geographic Management of Cancer Health Disparities Program (GMaP). Additionally, Dr. Odeh works closely with Continuing Umbrella of Research Experiences (CURE) program staff, program directors across the NCI/NIH, and with the GMaP regional coordinators to identify and develop career development opportunities and programmatic initiatives to advance workforce diversity.

Dr. Odeh has both programmatic and project management experience at the NIH. Dr. Odeh provided experimental design and project management support for the NCI Biorepositories and Biospecimen Research Branch. Prior to working at the NCI, Dr. Odeh has served in the National Heart, Lung, and Blood Institute's Office of the Scientific Director within the intramural program where she developed and implemented comprehensive new guidelines for the review and promotion of all staff scientists, biologists and principle investigators. Dr. Odeh has also worked with the Promotion and Tenure committee to review all staff scientist appointments, promotions, and tenure conversion applications. As an advocate of teaching and educational outreach, Dr. Odeh has taught and/or mentored many undergraduates and graduate students, as well as working with several academic organizations, committees, and educational outreach groups.

Dr. Odeh received her Ph.D. in Cell and Developmental Biology at the University of Michigan and completed her postdoctoral studies in the molecular analysis of breast and prostate cancer at Michigan.

NCI Training Navigation Presenters

Mary Ann S. Van Duyn, Ph.D., M.P.H.

Mary Ann S. Van Duyn, Ph.D., M.P.H.—Associate Deputy Director for Integration, CRCHD, NCI

Dr. Van Duyn is Associate Deputy Director for Integration at NCI's Center to Reduce Cancer Health Disparities. In this capacity, she provides leadership, working with extramural staff, for the integration of NCI-supported disparities research and diversity training across NCI, and within the disparities research and outreach communities through the Center's network-based initiatives. She also leads CRCHD's efforts in knowledge transfer and exchange through active dissemination of information, products, and evidence-based programs for cancer health disparities reduction to the public and scientific communities. Before joining NIH, Dr. Van Duyn's work focused on the development, implementation, and assessment of cancer prevention programs for diverse and underserved populations, and on the development of information delivery systems at community, national, and international levels. She received a B.S. from Cornell University, an M.P.H. from the Johns Hopkins University Bloomberg School of Public Health, and a Ph.D. in population and behavioral sciences from the University of Maryland, College Park. Her training also includes a clinical care and delivery-focused internship from the Harvard-affiliated Brigham and Women's Hospital. Dr. Van Duyn is the author of more than 25 articles published in the scientific literature, and has presented her work both nationally and internationally.

1ST ANNUAL SPEECH REGIONAL CANCER HEALTH DISPARITY CONFERENCE ABSTRACTS

Poster #1

Colorectal Cancer Related Knowledge associated with Healthy Lifestyle Behaviors among Low-Income Vietnamese Americans in the Greater Philadelphia Metropolitan Area

Minsun Lee, PhD,[1] Lin Zhu, PhD,[1] Jin-Hyeok Nam[1], Cicely K. Johnson, PhD,[3] Carolyn Fang, PhD,[1] Grace X. Ma, PhD[1,2]

[1] Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA
[2] Department of Clinical Sciences, Lewis Katz School of Medicine, Temple University, Philadelphia, PA
[3] Hunter College, City University of New York, New York City, NY

Colorectal cancer (CRC) is the second most commonly diagnosed cancer and the third highest cause of mortality in Vietnamese Americans. Lifestyle behaviors including diet, physical activity, smoking, and drinking have been documented to increase the risk for CRC. However, engagement with health behaviors and adherence to lifestyle guidelines to prevent CRC is not optimal. We recruited 804 Vietnamese Americans aged 50 or order from 20 community-based organizations (CBOs) in the greater Philadelphia metropolitan area. Lifestyle behaviors were measured as a composite score of smoking, drinking, diet, and physical activity. Measures for independent variables included knowledge on CRC risks and screening, cancer related health beliefs, CRC screening self-efficacy, and CRC related social norm. Descriptive analysis, t-test (for categorical IVs) and correlation analysis (for continuous IVs) were first conducted to select the variables to be included in the multiple regression analysis. On a bivariate (t-test and correlation) analysis, gender, income, knowledge on CRC risk factors, beliefs that getting cancer is determined by the fate, and two CRC-related social norms were associated with composite score of lifestyle behaviors. Multiple regression analysis showed that being female and having greater knowledge on CRC risk factors are significant predictors of healthy lifestyle behaviors controlling for other variables. Findings revealed sub-optimal levels of healthy lifestyle behaviors and knowledge of CRC risk factors among Vietnamese Americans. The study highlights the importance of educating knowledge about the risk factors of CRC to improve lifestyle behaviors, which may eventually contribute to preventing CRC in this population.

Acknowledgement: This research project was supported by grant U01MD010627 (PI: Grace X. Ma, PhD) funded by National Institute on Minority Health and Health Disparities (NIMHD) of National Institute of Health (NIH), and partially supported by the grant of U54 CA221704(5) funded by the National Cancer Institute (NCI) of NIH (Contact PIs: Grace X. Ma, PhD and Olorunseun O. Ogunwobi, MD, PhD). The contents of this abstract are solely the responsibility of the authors and do not necessarily represent the official views of NIMHD or the NCI, NIH

Poster #2

Gender and Racial/Ethnic Disparities in the Association between Metabolic Syndrome and Five Common Types of Cancer

Lin Zhu, PhD,[1] Wenyue Lu, ML, [1,2] Mark Weiner, PhD,[3] Konstantinos Krampis, PhD,[4] Grace X. Ma, PhD[1,3]

[1] Center for Asian Health, Lewis Katz School of Medicine, Temple University, Philadelphia, PA
[2] Department of Sociology, Temple University, Philadelphia, PA
[3] Department of Clinical Sciences, Lewis Katz School of Medicine, Temple University, Philadelphia, PA
[4] Department of Biological Sciences, Hunter College, City University of New York, New York, NY

The higher cancer burden in racial/ethnic minority populations reflects the complex interplay of biological, behavioral, and cultural factors. Increasing evidence suggests that metabolic syndrome (MetS) may be an important etiologic factor to several common types of cancer. We used data from the 2011–2016 National Health and Nutrition Examination Survey (NHANES) to define a case-control sample to examine the racial/ethnic disparities in the association of MetS and 5 common types of cancer (liver, breast, prostate, colorectal, and stomach) as well as overall cancer prevalence. We used chi-square test and binary logistic regression to examine the MetS and cancer association, by gender and cancer site separately for each racial/ethnic group. All analyses were conducted in Stata 14.From a total sample of 17,969 cases, we identified 15,463 no-cancer cases, and 1,584 cancer cases. Specifically, there are 12 liver cancer cases, 254 breast cancer cases, 254 prostate cancer cases, 16 stomach cancer cases, and 112 colorectal cancer cases. MetS was significantly associated with overall cancer prevalence among non-Hispanic white men and women, but not for the other gender-race/ethnic groups. Among non-Hispanic white women, MetS was significantly associated with liver, stomach, and colorectal cancer.
We found significant gender and racial/ethnic variations in MetS-cancer associations. The findings contribute significantly to our understanding of the epidemiology and etiology of MetS and cancer, and form the basis for subsequent externally funded proposals..

Acknowledgement: This project was partially supported by Center for Asian Health's funds (PI: Grace Ma), and TUFCCC/HC Regional Comprehensive Cancer Health Disparity Partnership, Award Number U54 CA221704(5) (Contact PIs: Grace X. Ma, PhD and Olorunseun O. Ogunwobi, MD, PhD) from the National Cancer Institute. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Cancer Institute or the National Institutes of Health.

Poster #3

Predictors of Participant-Initiated Text Messages in a Smoking Cessation Intervention for Urban, Underserved Postpartum Women

Erin K. Tagai, PhD, MPH, Suzanne M. Miller, PhD, Andrew Belfiglio, BS, Jenny Xu, BS

Fox Chase Cancer Center/Temple University Health System

Despite decreasing smoking rates among pregnant women, urban, underserved pregnant women continue to smoke at greater rates. Further, the postpartum period is a stressful time of transition. Most women who make a quit attempt during pregnancy relapse in postpartum despite the health risks for themselves and their children. Guided by the Cognitive-Social Health Information Processing model, a text-messaging intervention (TxT2Commit) was developed to prevent postpartum smoking relapse among urban, underserved. Participants were able to prompt the text message system to send a support text message when they craved a cigarette ("crave" text) or felt they may lapse ("lapse" test). Multivariable linear regression was use to identified predictors of participant-initiated text messages during the TxT2Commit feasibility testing. Participants (N=106) were predominately non-Hispanic Black (64%), had a household income less than $15,000 (71%), and had been smoking 8.6 years (SD=5.4). Participants who relapsed at 1 month sent more "crave" and "lapse" texts than those who stayed smoke free (*ps*<.05). Participants who were single, had greater education, had fewer children, or planned this pregnancy were significantly more likely to send "lapse" text messages (*ps*<.05). Additionally, participants who had lower perceived risk, self-efficacy for avoiding temptation, or used fewer methods of quitting (e.g., nicotine patches, counseling) were significantly less likely to send "lapse" text messages (*ps*<.05). However, there were not any significant predictors of number of "crave" messages sent. Understanding participants' engagement in interventions designed to prevent smoking relapse may aid the development of successful smoking cessation programs during the stressful postpartum period.

Poster #4

Barriers to lung cancer screening: Residents' perception vs In practice providers' experience

Farhan Nadeem, Simran Randhawa, Katherine Ortmeyer, Lana Schumacher, Larry Kaiser, Grace Ma, Cherie Erkmen

Temple University Hospital

Lung cancer is the leading cause of cancer deaths in United States. Lung cancer screening can decrease lung cancer death by 20%. Unfortunately, only 12% of providers are routinely screening. In our traditionally underserved population in Northern Philadelphia, failure of providers to screen for lung cancer may result in a missed opportunity to save lives, thus furthering a disparity to lung cancer care. We sought to understand if residents and practicing physicians differ in their implementation of lung cancer screening.

We hypothesize that despite differing levels of experience, all providers face the similar challenges of lung cancer screening implementation. We present data from 2018 on attitudes amongst health care providers towards lung cancer screening and the barriers that are frequently encountered. Online surveys were distributed amongst residents and physicians and 126 responded to all questions. 42% of these physicians were currently in practice. Both the groups agreed that the predominant race of patient population treated by these physicians was African American. 54% thought that > 30% (twice that of CDC estimated 15.5% prevalence of smoking) of patient population seen by both the groups actively smoked. Interestingly, 92.65% of physicians in practice (similar to 96.6% of residents) thought that at least one patient they would have seen last month would be eligible for lung cancer screening, although 38.1% of residents and 43.2% of physicians had never screened a patient. Amongst residents, 94.6% thought time constraint to be a factor when discussing/arranging lung cancer screening. Interestingly, 73.1% of physicians thought time constraint to be a barrier to lung screening and thus both groups identified it to be the single most important factor hindering lung cancer screening. This was followed by patient education, as 44.6%% of residents and 23.1% of physicians were concerned about the ability of their patients to navigate through the lung cancer screening process. Affordability and uncertainty about coverage by third party payers was identified to be a factor by 25.7% of residents and 21.2% of the providers. Most of the residents and providers thought that though most of their patient population would have not heard of screening, their patients would still be interested in knowing more about lung cancer screening. The most frequent sources of information for residents were residency didactics (85.1%) and self-motivated learning (31.1%) compared to physicians in practice, who relied mainly on self-directed learning (50%) and consensus updates/guideline by professional societies (34.6%). Both the groups preferred onsite CME lectures (residents, 64.9% vs physicians, 59.6%) to be the most preferred methodology for provider education. Though there might be subtle differences in modes of acquiring new information amongst residents versus physicians in practice, the general barriers faced by both groups in screening lung cancer are similar and both groups prefer to learn with on-site CME/lecture approach.

Poster #5

The long non-coding RNA from PVT1 exon 9 is overexpressed in prostate cancer in Black males, and induces malignant transformation, invasiveness, and castration-resistance in prostate epithelial cells

Gargi Pal and Olorunseun O. Ogunwobi

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Prostate cancer (PCa) is the most common non-skin cancer and the second leading cause of cancer-related death for men in the United States. Pca is the greatest source of cancer-related mortality in males of African ancestry. One of the most important susceptibility loci for cancer is the 8q24 human chromosomal region. The non-protein coding gene locus plasmacytoma variant translocation 1 (PVT1) is located at 8q24 and is dysregulated in different cancers. PVT1 gives rise to several alternatively spliced transcripts and microRNAs. There are at least twelve exons of PVT1, which make separate transcripts, and likely have different functions. The transcript from PVT1 exon 9 is significantly overexpressed in prostate cancer tissues in comparison to benign prostatic hyperplasia and normal prostate tissues obtained from Black males. Both transient and stable overexpression of PVT1 exon 9 induce significantly increased prostate epithelial cell proliferation, migration, and proliferating cell nuclear antigen (PCNA) expression. Conversely, silencing of PVT1 exon 9 expression significantly inhibits c-MYC and PCNA expression. Notably, implantation into mice of a novel subline of a non-tumorigenic prostate epithelial cell line stably overexpressing PVT1 exon 9 results in the formation of malignant tumors with features characteristic of aggressive Pca. Further, PVT1 exon 9 overexpression significantly induces castration-resistance. Consequently, PVT1 exon 9 expression is important for prostate cancer initiation and progression, and PVT1 exon 9 may be a therapeutic target in PCa. Consequently, PVT1 exon 9 may have potential diagnostic and therapeutic applications in prostate cancer in Black males.

Poster #6

Magnetic Nanocage Carriers for organ-specific Gene/Drug Delivery to Health Disparity-relevant Cancers

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Recently, we developed a new iron oxide nanoparticle that posses specific size (<15nm) and shape (cage) for drug delivery systems as the cavity can hold and protect drugs and RNAs/DNAs. In vivo study showed that iron oxide nanocages (IO-NCages) has a trace amount of accumulation in liver as compared with other nanoparticle carriers in different shapes, and tumor sites accumulated IO-NCages in %ID 10.67%, one of the highest among nanoparticle-based carriers. Since IO-NCages are superparamagnetic, the biodistribution among organs can accurately quantified by MRI/QSM, and the release could be triggered by hyperthermia. Organ-specific targeting could be accomplished by conjugating proteins and the particle stiffness, learned and engineered from the organ-specific targeting exosomes, another aspect of our expertise, not discussed in this poster.

Poster #7

Putting the PINCH on Cancer Cell Survival

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Pennsylvania has one of the highest rates of cancer in the United States, coming in third behind Kentucky and Delaware (CDC). African Americans have the highest rate of new diagnoses and highest cancer death rates among race/ethnic groups assessed (National Cancer Institute, https://www.cancer.gov/). Glioma accounts for 80% of malignant tumors and for approximately 30% of CNS tumors. Despite treatment efforts including surgery, radiation and chemotherapy, the recurrence rate is high and median survival for patients with glioblastoma is less than 15 months. The incidence of glioma and 1-year and 5-year survival rates after diagnosis vary significantly by race/ethnicity, with non-Hispanic Caucasians having higher incidence and lower survival rates compared to individuals of other racial/ethnic groups. Thus, improved therapeutic approaches are needed to delay progression and prevent recurrence of gliomas. In this context, numerous new approaches to deliver therapeutic agents to the tumor site and to include adjuvant treatments to supplement current surgical resection, radiation and chemotherapy are being heavily investigated. Our research addresses one such potential adjuvant therapeutic approach by investigating a protein called PINCH that is a known survival factor in many types of cancer, including glioma. Our study is unique in that we have recently discovered regulatory factors for the suppression and induction of PINCH. Building on these recent findings, we are positioned to make significant progress in preventing PINCH-mediated survival of cancer cells at multiple cellular levels. Regulatory mechanisms for PINCH expression were unknown until recently, when our group identified the transcription factor, MEF2a that induces PINCH transcription in CNS disease and a newly discovered microRNA that contributes to maintaining PINCH at normal levels in health. Upon exposure to inflammatory factors, increased intracellular calcium triggers p38-mediated induction of MEF2a followed by PINCH transcription. Our studies are the first to uncover regulatory mechanisms that trigger PINCH expression and to investigate how this information can be used to delay progression and prevent recurrence of gliomas.

Poster #8

Gain-of-Function Mutant p53 in Breast Cancer Interacts with Replicating DNA and Poly-ADP-Ribose Polymerase (PARP1)

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African American (AA) women are the highest racial/ethnic group diagnosed with Triple Negative Breast Cancer (TNBC). The frequency of *TP53* gene mutation is over 80% in TNBC. The mutant p53 (mtp53) protein often gains novel functions that promote tumorigenesis. We previously reported that GOF mtp53 R273H up-regulates the chromatin association of Mini-Chromosome Maintenance proteins (MCM2-7) and Poly-ADP-Ribose Polymerase (PARP). Here, we dissected the function and association between mtp53 and PARP using TNBC cell lines, TNBC patient derived xenografts (PDX), tissue microarrays (TMAs), and The Cancer Genome Atlas (TCGA). We found that mtp53 R273H and R248W are bound to replication forks. We showed that increased mtp53 R273H expression enhanced phosphorylation of MCM2, promoted cell proliferation, increased the association of mtp53 and PARP at replication forks, and improved the synergistic cytotoxicity of treatment with an alkylating agent, temozolomide, in combination with the PARP inhibitor (PARPi) talazoparib. Detection of p53 and PARP1 in breast cancer TMAs and TCGA samples indicated a higher double-positive signal in basal-like breast cancer versus Luminal subtypes (A or B). Higher levels of PARP1 and poly-ADP-ribosylated proteins were detected in mtp53 R273H expressing cells lines and in PDX samples compared to wild-type p53. Our results indicate that mtp53 R273H and PARP1 interact with replication forks and should be considered as a dual biomarker for identifying breast cancers that may respond to combination PARPi treatments.

Poster #9

Examining the Impact of Neighborhood Walkability on Dietary, Physical Activity, Sedentary and Colorectal Cancer Screening Behaviors among Underserved Vietnamese American Adults

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Colorectal Cancer (CRC) places a significant burden among Vietnamese Americans and prevails as the second most common cancer and third leading cause of death among this population. The built environment is an important predictor of lifestyle behavior and health outcomes, including engagement in behaviors identified to be associated with CRC. The purpose of the study was to determine whether neighborhood walkability is associated with dietary behaviors, physical activity and CRC screening behavior among underserved Vietnamese Americans. Underserved Vietnamese Americans enrolled in a multilevel CRC screening intervention participated in the survey. A total of 804 baseline surveys were collected from participants recruited from 20 community-based organizations (CBOs) in the Greater Philadelphia Metropolitan area. Information about physical activity, diet and CRC screening was obtained. Neighborhood walkability was measured using the Walk Score©. Regression analyses illustrated that neighborhood walkability was positively associated with healthy dietary behaviors, negatively associated with past CRC screening (colonoscopy test or immunochemical test (FIT)) and was not statistically significantly associated with physical activity or sedentary level after adjustment of sociodemographic and psychosocial covariates. This study elucidates the impact of neighborhood walkability on CRC risk behaviors including diet, physical activity, sedentary behavior, and CRC screening behavior among Vietnamese Americans. Future studies should potentially incorporate built environmental components to address CRC risk behaviors and screening.

Poster #10

Using residential histories to estimate effects of area-based poverty on colon cancer survival in New Jersey.

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Researchers using population-based cancer registry data routinely use place at time of diagnosis to assign area-based socioeconomic measures (SES). Although area-SES at diagnosis is associated with patient survival, less is known about whether these associations would change when incorporating residential moves and SES changes over time. We analyzed differences in colon cancer (CC) survival, comparing estimates of neighborhood-socioeconomic status (nSES) based on residence at time of diagnosis to estimates based on residential histories. Cases from the New Jersey Cancer Registry included 4,049 residents aged 21-83 diagnosed with regional stage CC from 2006-2011 linked to residential histories data .nSES based on census tract poverty was measured four ways: 1) Poverty at diagnosis location, 2) Average poverty considering all addresses 5-years before and after diagnosis, 3) Time-weighted poverty, 4) Time and place varying poverty. For each scenario, Hazard Ratios (HRs) adjusted for age, sex, and stage were estimated from Cox regression. Sixty-two percent of cases remained in a tract with the same poverty level. Regardless of poverty measure, the models showed a significant, positive association between poverty and risk of colon cancer death ($p<0.05$). HRs for each poverty measure varied slightly, ranging from 1.009 ($p=0.027$) for average poverty (Model 2) to 1.015 for poverty at diagnosis location (Model 1). The time-varying model indicated that HRs for poverty were not constant throughout the follow-up period. nSES does not remain the same for all cases; therefore integrating residential histories into cancer registry data provides new opportunities to examine nSES on survival.

Poster #11

Patient and Stakeholder Engagement for a Comparative Trial to Improve Care for Underserved Asian Americans with HBV: Achievements and Lessons Learned

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In the past decades, patient and stakeholder engagement has been an emerging infrastructure in the research process. The aim of this study is to examine the influences of patient and stakeholder engagement on research infrastructures and health care improvement among underserved Asian Americans with HBV. A 3-year fieldwork was conducted in a broader HBV project to observe the influences of patient and stakeholder engagement. Twenty-five patients, physicians, and community stakeholders were engaged through numerous regular in-person meetings and teleconferences in project conceptualization, study design, patients' recruitment strategy, intervention components development, outcome measurement assessment tools, and quality control. Moreover, the engagement experiences from patients and stakeholders were examined using the Bell-Elkins questionnaire with 25 survey forms: the survey indicated that there is a unanimous agreement of partnership engagement in shared mission, values, goals, and measurable outcomes for the study. The fieldwork observation showed that the patient and stakeholder engagement can improve the study quality by enhancing intervention content, offering practical suggestions, promoting recruitment and increasing the retention rate. Furthermore, the adoption of the patient-centered strategy in the HBV project has resulted in significant benefits for patients, as patients can better manage their health when they are informed and supported. Full engagement empowered target populations to make lifestyle modifications, improve their overall health and wellbeing and enhance patients' health care experiences, thus reducing health disparities. The active involvement of patient and stakeholders can significantly empower the investigators and improve the HBV patient's health care among Asian Americans.

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Poster #12

Clinicians' Perspectives on Barriers and Facilitators to Perinatal Hepatitis B Care as a Pathway to Preventing Liver Cancer Disparities in Philadelphia

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Hepatitis B virus (HBV) is the most common serious liver infection and leading cause of liver cancer worldwide. Health care providers play a crucial role in preventing perinatal HBV transmission, by providing perinatal HBV testing, maternal education and care for both mothers and neonates. The goals of this study were to determine provider-level knowledge, barriers, and facilitators to care for HBV positive women and determine the most helpful tools in providing HBV care to women diagnosed during pregnancy. Ten audio-transcribed 30-minute semi-structured interviews with obstetricians, gastroenterologists, neonatologists, pediatricians, family practitioners and nurses were conducted using open-ended questions. Inductive content analysis was used to identify emerging themes in the data. Clinicians were most likely to report patient-related barriers, including a lack of hepatitis B knowledge, stigma and misconceptions surrounding the disease, low language skills and health literacy levels, phobia of frequent bloodwork, lack of health insurance coverage, and lack of compliance to medication. Most frequently mentioned provider barriers include not having necessary patient educational materials in various languages, and among general practitioners, not seeing the need to refer patients to specialty care. Facilitators to care that were identified include both patient and provider level education on hepatitis B and the creation of perinatal hepatitis B materials in languages other than English. The barriers reported by clinicians have been used to highlight new potential intervention targets and tools to improve patient outcomes, including developing strategies to better educate providers at health centers and creating and disseminating patient literature in various languages.

Poster #13

Is diagnosis of panic disorder associated with self-reported financial status among survivors of cancer?

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Previous research has shown that among survivors of cancer, greater cancer-related financial burden is associated with greater risk for anxiety and depression. However, little is known about the relationship of financial status with panic disorder among cancer survivors. To investigate this potential association, a multivariate logistic regression model was used, regressing a likert-style measure of "current financial situation" on diagnosis of panic disorder and then adjusting for diagnosis of generalized anxiety disorder/major depressive disorder, age, sex, and race. Analyses were performed on a sample of 313 individuals who reported history of cancer from the Midlife in the United States (MIDUS) project, and all mood/anxiety disorders were assessed using the WHO Composite International Diagnostic Interview. In an unadjusted model, better-rated financial situation was associated with less risk of panic disorder diagnosis (OR .757, 95% CI .626-.916, p=.005), but this relationship was significantly weakened after adjusting (AOR .855, 95% CI .709-1.103, p=.227). When using the entire sample of individuals regardless of history of cancer (n=2550), however, better-rated financial situation remained associated with decreased risk of diagnosis of panic disorder in an adjusted model (AOR =.899, 95% CI .842-.959, p=.001). Future psychosocial interventions that treat mood and anxiety disorders in survivors of cancer incorporate a focus on stress caused by financial strain.

Poster #14

Living Past Cancer: A mixed methods systematic review on the impact of a 'survivor' identity

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The idea of survivorship is a relatively new idea among the cancer community and presently defined by the National Cancer Institute as "one who remains alive and continues to function during and after overcoming a serious hardship or life-threatening disease. In cancer, a person is considered a survivor from the time of diagnosis until the end of life" however, there are mixed emotions regarding this identity. The aim of this mixed methods systematic review was to explore the 'survivor' identity of those who have completed cancer treatment using an illness identity concept developed by Oris et al. (2016) and to provide a better understanding and rationale for why an individual may accept, reject, or become enriched or engulfed by the 'survivor' identity. Articles were identified, using PubMed, PsycInfo, and JSTOR. Articles were included if they were published in a peer reviewed journal, published between 2008 and 2019, published in the English language, and reported data regarding the participant's identity as a cancer 'survivor.' Articles were excluded if they were secondary works, did not address a cancer patient's 'survivor' identity, were not published in English, or contained only individuals' narratives about their experience. 19 studies were analyzed evaluating 11,610 participants with ages ranging from 18 to 94. Our results found that men were more likely to reject the survivor term while women were more likely to accept, enrich, or engulf in the survivor identity. A number of themes emerged for rejection including terminology, cancer reminder, disregard fear of recurrence, seriousness of the cancer and rejection of social factors/advocacy roles. Those who acceptance the survivor identity, did so based on their version of the definition of survivor differing from individuals who demonstrated enrichment through a sense of accomplishment and resilience, as well as creation of a community. Lastly, engulfment was illustrated by those who identified as a survivor and felt they had a new outlook on life.

Poster #15

Health Education Intervention Addressing Oral Health and Systemic Disease in the Filipino American Population of Greater Philadelphia

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Filipino Americans are one of the fastest growing, most diverse, and understudied immigrant populations in the United States, with a large proportion residing in the Greater Philadelphia area. Diabetes and hypertension are prevalent systemic diseases in this particular population. The relationship between oral health and these systemic diseases need to be further studied and addressed. Pilot a health education intervention promoting knowledge and awareness of the link between oral health and systemic disease among Filipino Americans. From January-February of 2019, this health education intervention was conducted among sixty Filipino Americans aged 18 years or older in the Greater Philadelphia area, recruited from three Filipino church-based organizations. Demographics, oral health behavior and perceived oral health status were collected in the pre-presentation assessment and knowledge regarding oral health and systemic health were collected in the post-presentation assessment. 73.5% of participants reported seeing a dentist within the past year with the majority (60.9%) of participants reporting their oral health as good. 79.7% of participants reported in the post-presentation survey that they believe their oral health can affect their general health. 57.8% of participants reported uncontrolled hypertension as a cause for gum disease and 54.7% of participants reported diabetes as a cause for early loss of teeth. Disparities in research and studies regarding Filipino Americans and their systemic and oral health remain and findings from this intervention reveal need for further interventions in this population.

Poster #16

Group-Based Learning in Lung Cancer Screening Education

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The field of lung cancer screening (LCS) has developed rapidly since 2011 when the National Lung Screening Trial demonstrated a 20% reduction in lung cancer death using low dose computed tomography (LDCT). The US Preventive Services Task Force now recommends annual LCS using LDCT. Unfortunately, implementation of LCS has been less than 12-15% (Klabunde et al), demonstrating a need for better physician education about the screen and how to implement it. Group-based learning (GBL) has been used effectively in residency curricula but has not yet been used in the context of LCS education. In our study, we compared the application of a GBL format versus a lecture format to LCS education in terms of feasibility, acceptability, and potential to facilitate LCS implementation among medical residents. We implemented a GBL and a lecture approach at two unaffiliated medical residency programs and compared the results using an online survey. We found that while GBL required more time and resources, both formats were successfully incorporated into residency curricula. Residents accepted both approaches and, in fact, preferred to learn from a mix of GBL and lecture formats. Interestingly, residents felt GBL had more potential to facilitate implementation of LCS, compared to a lecture format. We conclude that both approaches have merit in educating residents about LCS, but GBL may be superior to implement LCS.

Poster #17

Exploring race and gender inequities in financial stress and coping in cancer: Analysis of online survey data

Meredith Doherty, LCSW

Cancer-related financial hardship is associated with poorer health and treatment outcomes, including early mortality. This study analyzed survey data from an online sample of U.S. cancer patients and survivors (n=511) in order to: (1) identify variation in financial stress and coping behaviors; (2) explore differences in coping by race/ethnicity, income, and gender; (3) examine the impact of each coping behavior on psychological distress. Multivariate statistical analyses revealed four distinct cost-coping strategies: care-altering, lifestyle-altering, self-advocacy and financial help-seeking. Two played significant intermediary roles in the relationship between financial hardship and psychological distress. Self-advocacy significantly moderated the impact of financial hardship on distress (B = -.01, p < .01), while lifestyle-altering significantly mediated it (B = 0.08, p < .05). Accounting for relevant health and behavioral factors, individuals with higher household incomes were more likely to self-advocate (OR = 2.45), while women (OR = 1.73), people identifying as African American (OR = 1.83) or Hispanic (OR = 2.67) were more likely alter lifestyle.Findings suggest that women and people of color are more likely to engage in cost-coping behaviors that undermine mental health outcomes and are therefore unduly burdened, materially *and* psychologically, by out of pocket costs of cancer treatment. This finding is made more notable when paired with the finding that people with higher income, regardless of race, are more likely to engage in coping strategies that reduce stress and protect mental health.

Poster #18

Social Determinants of Health and Weight Perception among Endometrial Cancer Survivors

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Endometrial cancer is one of the most common gynecologic malignancies in the United States. Obesity is a risk factor for developing endometrial cancer and BMI is inversely associated with the physical, functional, and social/emotional well-being after diagnosis. However, most women are unaware of this link. Further, cancer is the second leading cause of death in adults aged 65 and older and one third of this population have 3 or more comorbidities that may impact their treatment and survivorship plans. Consequently, we examined the relationship between social determinants of health and weight perception in this population.
Overweight and obese endometrial cancer survivors (N=101) were recruited at follow-up appointments to complete a cross-sectional survey that focused on weight loss perceptions. Bivariate analyses were conducted to identify associations between social determinants of health and weight perception. Younger patients and those with greater education were more likely to understand obesity is a risk factor for endometrial cancer (*ps* <.05). Additionally, Non-Hispanic White and older patients were less likely to understand the importance of weight loss after an endometrial cancer diagnosis (*ps* <.05*)*. Finally, older patients were less likely to report their doctors discussed the importance of achieving and maintaining a healthy weight but had increased belief that weight is something a person cannot change (*ps*<.05).These findings highlight the importance of considering social determinants when developing interventions. Future research should further explore these associations to identify mechanisms to facilitate weight management needs of overweight and obese endometrial cancer survivors.

Poster #19

Postpartum smoking relapse: Factors associated with temptation to smoke

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Women are often motivated to quit smoking during pregnancy. However, an estimated 40% will relapse within six months of giving birth with underserved women experiencing greater rates of relapse. The initial postpartum period offers a unique opportunity to promote continued smoking abstinence. The goal of the current study was to examine factors associated with temptation to smoke among underserved postpartum women. Participants (n=106) were recruited through Philadelphia WIC clinics and, within ten days of giving birth, completed a phone survey assessing demographics; smoking history; smoking temptation, including three subscales; and other psychosocial factors. Linear regression analyses were used to examine predictors of smoking temptation .Having a greater number of children was positively associated with overall temptation to smoke, as well as temptation from social/positive and habitual/craving situations (*ps*<.05). Experiencing more distressing life events was also associated with overall temptation to smoke, as well as temptation from negative affect and habitual/craving situations (*ps*<.05). Lastly, Non-Hispanic Black women had greater temptation to smoke f and negative affect compared to non-Hispanic White women (*ps*<.05).Postpartum women who experienced a greater number of distressing events during pregnancy (e.g., financial difficulty, family death/illness) and had more children reported significantly greater temptation to smoke. Additionally, Non-Hispanic Black women had significantly greater smoking temptation compared to Non-Hispanic White women. Further research is warranted to elucidate the underlying mechanisms of these associations and to identify effective strategies to mitigate temptation in underserved postpartum women.

Poster #20

Intracellular localization of downstream molecular mediators of miR-1207-3p in prostate cancer

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Prostate cancer (PCa) is the second most common cancer diagnosed among men in the United States. Men of African ancestry (moAA) are two-thirds more likely to be diagnosed with PCa and have increased PCa mortality rates when compared with Caucasian men. Human chromosome 8q24 is the most important PCa susceptibility locus. This region contains the *MYC* oncogene, which is involved in early PCa initiation. Downstream to *MYC* is the *PVT1* gene, which is often amplified in PCa. *PVT1* is a long non-protein coding gene that contains up to twelve exons that are alternatively spliced into differentially expressed transcripts. *PVT1* also encodes six annotated microRNAs (miRNAs), including miR-1207-3p, which our lab has demonstrated to display tumor suppressive activity. Further studies into the role of miR-1207-3p in PCa racial disparities are required. Our group has previously demonstrated that miR-1207-3p targets the novel fibronectin type III domain containing 1 (FNDC1)/fibronectin (FN1)/androgen receptor (AR)/c-MYC molecular pathway through direct physical interactions. Moreover, we observed that miR-1207-3p is significantly underexpressed and FNDC1/FN1/AR/c-MYC is overexpressed in histologically confirmed moAA PCa tissue when compared to normal prostatic tissue, suggesting a role in PCa tumorigenesis among moAA. In an effort to better understand how the miR-1207-3p/FNDC1/FN1/AR/c-MYC pathway interacts to drive PCa progression, we performed immunofluorescence to investigate localization of the novel molecular pathway FNDC1/FN1/AR/c-MYC. Single staining analysis indicate that FNDC1 and c-MYC localize to the nucleus and cytoplasm, AR localizes to the nucleus, and FN1 localizes to the cytoplasm. Future studies include using live cell imaging to evaluate the effects of miR-1207-3p in regulating the intracellular localization of FNDC1/FN1/AR/c-MYC.

Poster #21

Noise filtering, exploratory data analysis and trajectory inference from single-cell (scSeq) genomic sequencing using the R / Bioconductor software libraries.

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Conceptually, the idea of sequencing data from individual cells is the current truest form of genomic analysis. Short of analyzing living cells in real time, the single cell sequencing (scSeq) method will likely carry genomic and proteomic studies until the next leap in biotechnology. However, scSeq comes with hardships in the form of cell level quality control, additional control inputs, and sensitive technical variation. Removal of background noise requires the development of techniques which will dependably transform variable data to filter the technical deviation out. A consistent noise removing transformation algorithm leaves behind data fit for biological study. With reliable data, scSeq analysis can cluster cells by transcriptome profile, giving each an identity with tSNE/PCA statistical methods. From any mass of tissue, scSeq analysis can possibly group individual cell transcriptome data by cell state, metastatic stage, developmental stage, or even location in the cancer. Trajectory algorithms can be implemented in disease progression or developmental studies. Mapping clusters of cells by a transcriptome profile leads to the opportunity of visualizing and comparing progressive developmental stages attributed by inherent or epigenetic factors. Deep analysis of single cells is justifiably drawing the attention of research teams around the world and has the potential to greatly contribute to academia and medicine. Our group is developing a single cell pipeline with the goal of producing clustered samples fit for decisive trajectory analysis.

Poster #22

Fibronectin regulation of Integrin B1 and SLUG expression in circulating tumor cells

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Metastasis is the leading cause of cancer death worldwide. Circulating tumor cells (CTCs) are an excellent tool to study this process. We isolated and studied CTCs from a syngeneic mouse model of hepatocellular carcinoma (HCC) and a xenograft mouse model of castration-resistant prostate cancer (CRPC), both cancers with established cancer health disparities and poor outcomes. From these mouse models, novel primary tumor and CTC cell lines were established. Wound healing and transwell migration assays revealed that CTCs exhibited greater migration than primary tumors. CTCs also demonstrated an epithelial-to-mesenchymal transition (EMT), as observed from loss of E-cadherin and an increase in SLUG and fibronectin. Interestingly when fibronectin was knocked down in CTCs, Integrin B1 and SLUG were also decreased, suggesting regulation of these molecules by fibronectin. Additionally, we investigated cell surface molecules and cytokine secretions that could confer an immunomodulatory advantage to CTCs. Less major histocompatibility complex class I (MHCI) was observed, as well as reduced endostatin, CXCL5, and proliferin secretions by CTCs. Lower endostatin was also observed via immunofluorescence in all CTCs. Taken together, our findings indicate that CTCs exhibit distinct characteristics from primary tumors that transcend tissue of origin. Furthermore, we uncovered a mechanism by which CTCs may enhance their migration via fibronectin regulation of integrin B1 and SLUG. Finally, our successful establishment of CTC cell lines enabled the study of how CTCs may circumvent immuno-surveillance and promote metastasis

Poster #23

BRCA1/BARD1 polyubiquitinates the RNA recognition motif 3 of HuR-bound to the 3' untranslated region of TP53 mRNA.

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Human Antigen R (HuR, ELAV1) is an RNA binding protein that regulates the stability of mRNA targets involved in DNA damage response by binding to 3' untranslated regions (3'UTR), usually increasing their stability. Control of mRNA stability is essential for regulation of gene expression during different cellular conditions. HuR is released from its target mRNAs by ubiquitination under non-stress conditions. It is known that poly(Ub) chains attached to Lys313 and Lys326 of RNA recognition motif 3 (RRM3) signal dissociation of HuR from CDKN1A mRNA. However, the identity of the E3 ubiquitin (Ub) ligase responsible for HuR modification is not known yet. Our results indicate that the E3 Ub ligase BRCA1/BARD1 can modify HuR in *in vitro* ubiquitination reactions. Furthermore, siRNA-mediated knockdown of BRCA1/BARD1 decreased HuR ubiquitination in HCT116 cells. Interestingly, *in vitro* ubiquitination reactions with HuR bound to biotinylated TP53 3'UTR resulted in HuR polyubiquitination. My data indicates that polyubiquitination of HuR by BRCA1/BARD1 happens mainly through Lys6 of Ub. Using different HuR derivatives, we determined that BRCA1/BARD1-mediated ubiquitination of HuR mostly occurs in HuR's RRM3. To further analyze which Lys residues in the HuR RRM3 domain are ubiquitinated by BRCA1/BARD1, we used a panel of Lys mutants (Lys274Arg, Lys283/285Arg, Lys313Arg, Lys326Arg, Lys313/326Arg). While BRCA1/BARD1 can mono- or poly-ubiquitinate most of the RRM3 mutants, the replacement of Lys313 for Arg significantly decreased RRM3 ubiquitination. These results indicate that BRCA1/BARD1 regulates the signaling of HuR-mRNAs interaction resulting in the regulation of gene expression during the DNA damage response.

Poster #24

Oxytocin and oxytocin receptor genetic alterations, decreased survival, and chemoresistance in pancreatic and liver cancers

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Oxytocin is a neural regulatory hormone with an established role in psychosocial behavior and stress, and an emerging role in cancer. The objective of this study was to assess the overall and disease-free survival of oxytocin (OXT) and oxytocin receptor (OXTR) genetic alterations in pancreatic cancer (PC) and hepatocellular carcinoma (HCC) using data in The Cancer Genome Atlas (TCGA), and the potential role of these genetic alterations in pancreatic cancer chemoresistance. Information regarding OXT and OXTR genetic alterations was retrieved from TCGA and analyzed using the cBioPortal online tool. We assessed the correlation between overall survival and either oxytocin or oxytocin receptor genetic alterations using Kaplan-Meier and Cox regression analyses. Quantitative PCR (qPCR) and western blotting analyses were performed to assess mRNA and protein expression of OXT and OXTR in human PC cell lines. 5% (9 of 185) of PC cases showed genetic alterations in both the OXT and OXTR genes. The median months survival was lower for PC cases with genetic alterations in the OXT and OXTR genes as compared to cases without such genetic alterations. The median months disease-free survival was lower in cases with genetic alterations in OXT than in cases without such alterations. qPCR data showed oxytocin and oxytocin receptor mRNA expression were 2-fold and 20-fold higher, respectively in PANC-1 cell line as compared to L3.6pl cell line in direct negative correlation with responsiveness to gemcitabine. Additionally, we found that 3% (11 of 360) of HCC patients showed genetic alterations in the OXTR gene. The median months survival was 33.0 versus 60.84 for cases with and without such alteration, respectively. The median months disease-free survival was 8.64 for cases with OXTR alterations and 21.55 for cases without. These data suggest that OXT and OXTR may be important in PC and HCC progression and survival and PC chemoresistance and thus potentially could have prognostic and therapeutic implications in a subset of PC and HCC patients.

Poster #25

MicroRNA-198 regulation of hepatocyte growth factor receptor in pancreatic cancer chemoresistance

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Pancreatic cancer (PC), the 3rd leading cause of cancer-related deaths in the United States, has a very dismal prognosis with a 5-year survival rate of less than 5%. PC is typically systemic upon detection. Therefore, most patients rely on chemotherapy. However, up to 94% of patients are resistant to chemotherapy. As a result, there is an urgent need for biomarkers to effectively detect the disease early, predict as well as monitor response to chemotherapy. Novel and effective therapeutic strategies are also urgently needed. MicroRNAs (miRNAs) are small non-coding RNAs which have recently gained much attention as key regulators in cancer progression and as blood-based non-invasive biomarkers. MicroRNA-198 (miR-198) has been shown to act as a tumor suppressor in pancreatic, hepatocellular, and colorectal cancers. The role of miR-198 in PC chemoresistance has not been reported to date. Hepatocyte growth factor receptor (c-MET), a well-known proto-oncogene, is overexpressed in PC and has been implicated in PC chemoresistance. c-MET has been shown to be directly regulated by miR-198 in hepatocellular carcinoma. The aim of this study is to investigate the role of miR-198 and c-MET in PC chemoresistance. We hypothesize that the regulation of c-MET by miR-198 contributes to PC chemoresistance. This hypothesis was tested by using a combination of molecular and functional studies in PC cell line models and patient samples (blood and urine) categorized in terms of their responsiveness to the current standard of care in PC chemotherapy, Gemzar (gemcitabine). Using q-PCR analysis, our results in our cell line models thus far show that *L3.6pl*, which is highly responsive to gemcitabine, expresses significantly more miR-198 than the gemcitabine-resistant cell line, *PANC-1* which is highly unresponsive to gemcitabine. c-MET expression is significantly higher in *PANC-1* at both the mRNA and protein levels as compared to *L3.6pl*. Ongoing studies are elucidating the molecular mechanisms of how miR-198 regulation of c-MET may explain PC chemoresistance.

Poster #26

The role of estrogen signaling in regulating mRNA 3' end processing and gene expression in MCF7 human breast cancer cells

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Messenger RNA (mRNA) 3' end processing plays important roles in balancing biosynthesis and turnover of transcripts, thus regulating their steady-state levels and contributing to gene expression control. We have shown that removal of the poly(A) tail at the mRNAs 3' end, a process known as deadenylation, is regulated by functional interactions between nuclear poly(A)-specific ribonuclease (PARN) and tumor suppressor factors, such as p53 and BRCA1/BARD1 under normal and DNA damage conditions in HCT116 colorectal cells. Here, we extend these studies to determine whether estrogen treatment regulates mRNA 3' end processing and gene expression in MCF7 human breast adenocarcinoma cells. Estrogen signaling is primarily mediated by estrogen receptors, ERα and ERβ. Excessive estrogen signaling leads to increased cell proliferation and cancer development in breast cells, with over 80% of breast cancers being ER positive. Studies have suggested that there is a feedback loop between p53 and ERα. Thus, we hypothesize that the interplay between estrogen signaling, specifically through ERα, p53, and deadenylation factors will play a role in regulating mRNA 3' processing, affecting the cellular transcriptome and hence, gene expression. Using radiolabeled capped poly(A)+ RNA substrates, we show that 2 hour estrogen treatment (10nM) activates nuclear deadenylation in MCF7 cells. Furthermore, small-interfering RNA (siRNA) mediated knockdown of ERα and fulvestrant treatment (a selective ER degrader) results in a decrease in nuclear deadenylation, suggesting ERα may act as an activator of nuclear deadenylation. Understanding the role of estrogen in this regulation will contribute to the development of new therapies for breast cancer.

Poster #27

Reversing hemizygous loss of B55α/PP2A kills prostate cancer cells via centrosome destabilization

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The *PPP2R2A* gene encodes the B55α regulatory subunit of PP2A. Here we report that *PPP2R2A* is hemizygously lost in ~42% of prostate adenocarcinomas, correlating with reduced expression and poorer prognosis and the rate of hemizygous loss increases to >75% in metastatic disease. Of note, while homozygous loss is less common (5%), the frequency of co-deletion of other B55 genes (*PPP2R2B/C/D*) increases in metastases. Reconstitution of B55α expression in prostate cancer cell lines with low B55α expression reduces proliferation, inhibits transformation and blocks xenograft tumorigenicity. Mechanistically, we show B55α reconstitution reduces phosphorylation of proteins essential for centrosomal maintenance, and induces mitotic defects followed by centrosome collapse and chromosome segregation failure; a first link between B55α/PP2A and the vertebrate centrosome. These effects are concordant with a prolonged checkpoint with unstable centrosomes and are lethal to prostate cancer cells addicted to low levels of B55α. This study also provides functional evidence that *PPP2R2A* is a haploinsufficient tumor suppressor and defines vulnerabilities associated with its functional reconstitution. Our data suggest that pharmacologic approaches aimed at activating the pool of PP2A activity dependent on the B55 family of regulatory B subunits in the large pool of patients with hemizygous *PPP2R2A* deletions should be explored as a potential novel therapeutic strategy in prostate cancer patients

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Poster #28

PVT1 regulation of claudin expression in triple negative breast cancer

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Breast cancer (BC) is a heterogeneous disease that is classically driven by the estrogen receptor (ER), progesterone receptor (PR) and human epithelial growth factor receptor2 (EGFR2/HER2) signaling pathways. Triple negative breast cancer (TNBC), is a lethal subtype of invasive BC tumors that are ER-, PR- and HER2-. A subtype of TNBC is claudin low (CL). Dysregulation of claudin proteins disrupt tight junctions consequently inducing the epithelial- to-mesenchymal transition (EMT) in cancers. This leads to enhanced motility and metastasis. Patients with CL TNBC have worse prognosis than patients with other BC subtypes. African American (AA) women with TNBC account for almost 20% of all BC cases and premenopausal African American (AA) women are more likely to die from the disease. PVT1 is a long noncoding RNA (lncRNA) transcribed from the 8q24 genomic locus that has been demonstrated to play an oncogenic role in multiple cancers including BC. Amplification of the 8q24 gene locus is a common event in many malignant diseases and is associated with poor survival rate among patients. Although previous research demonstrates a critical functional role which PVT1 plays in BC, the underlying molecular mechanisms of PVT1 in CL TNBC was previously unknown. Using qPCR to assess PVT1 expression, we observed that PVT1 exons 4A, 4B, and 9 are significantly upregulated in MDA MB 231 cells (claudin low) and significantly downregulated in MDA MB 468 cells (claudin high), in comparison to T47D (ER+). Further investigation could lead to an understanding of how PVT1 exon 9 regulates claudin expression and consequently clinical outcome in TNBC.

Poster #29

MicroRNA-1205 as a tumor suppressor in aggressive prostate cancer in men of African Ancestry

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The 8q24 chromosomal locus is an important prostate cancer (PCa) susceptibility region containing genetic variants associated with increased PCa incidence among men of African Ancestry (moAA). *PVT1* is a gene located within this region that encodes microRNA-1205 (miR-1205), whose function is largely unknown. We observed miR-1205 underexpression in PCa tissues obtained from moAA men and PCa cells *in vitro* when compared to normal prostatic tissue and cells, respectively. We also observed significant inhibition of xenograft tumor growth *in vivo* when mice were administered NB1205, a patent-pending synthetic analog of miR-1205, when compared to mice treated with a scramble oligonucleotide. Next, we identified FRYL as a putative target of miR-1205 and observed FRYL overexpression in PCa tissue when compared to normal tissue from both whole transcriptome and quantitative polymerase chain reaction analyses. Using dual luciferase assay, we have demonstrated direct binding of miR-1205 to the 3'UTR of FRYL. As FRYL is predicted to regulate dendritic branching, we hypothesized that FRYL plays a role in PCa neuroendocrine differentiation (PCND), a consequence of resistance to treatment of PCa. When PCND was induced *in vitro*, we observed FRYL mRNA overexpression and significant miR-1205 underexpression, suggesting that miR-1205 and FRYL may be implicated in PCa resistance. Lastly, we performed RNA sequencing to identify the molecular targets of miR-1205 via RNA pulldown. Interestingly, we observed that in addition to FRYL, the *AURKA* gene, which is amplified during PCND, was significantly enriched. Further understanding miR-1205 regulation of FRYL and AURKA may provide novel insights into the molecular mechanisms of aggressive PCa.

Poster #30

Loss of RB and CDKN2A cause Rapamycin resistance

Sohag Chakraborty

mTOR-the mammalian target of Rapamycin acts as the central regulator of multiple cellular processes like cell growth, proliferation and survival by integrating signals via nutrients, growth factors, hormones and energy sensing. In cancer cells, the mTOR pathway is highly dysregulated providing survival signals to the cells for their uncontrolled growth. Hence, mTOR has been a potential therapeutic target for cancer treatment for the past two decades. Application of micro-molar doses of Rapamycin has been found to successfully inhibit mTOR complex 1 by blocking the phosphorylation of both downstream substrates- S6K and 4E-BP1. Our lab previously reported that Rapamycin acts as a cytostatic drug and causes G1 cell cycle arrest in the presence of TGF-β signal. However, in the absence of TGF-β signal, the drug induces apoptosis. The rationale behind the apoptotic effect of Rapamycin in absence of TGF-β is that without TGF-β signals, cells do not arrest in G1 and progress into S phase where Rapamycin is cytotoxic rather than cytostatic. Of significance, we have found that cancer cells with nonfunctional RB and mutated CDKN2A do not undergo apoptosis upon Rapamycin treatment in the absence of TGF-β signal. Proteins encoded by RB (pRb) and CDKN2A ($p16^{INK4A}$ and $p14^{ARF}$) are upstream effectors of E2F family of transcription factors that are critical for G1 to S phase progression.

Poster #31

Pro-Inflammatory IL6-STAT2 Signaling Promotes Colorectal Carcinogenesis via Dysregulation of Lipid Metabolism

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Despite significant breakthroughs in colorectal cancer (CRC) research, this disease continues to be the second leading cause of cancer deaths affecting men and women equally in the United states. Considered a cancer of the elderly, recent statistics show a concerning rise of new cases in young adults, understanding the molecular mechanism(s) of colorectal carcinogenesis is vital. We previously reported that loss of the transcription factor STAT2 reduced tumor burden in a mouse model of colitis-associated cancer, but the molecular basis for this phenotype remains to be determined. STAT2 is a critical component of the type I interferon (IFN-I) signaling pathway that mediates host defense. To identify potential molecular mechanisms, we performed RNA-Seq analysis of human tumor xenografts in which STAT2 expression was silenced by shRNA approach. Gene set enrichment analysis revealed type I and type II interferon and cholesterol homeostasis as the three top hallmark gene sets regulated by STAT2. Given the role of IL-6 in CRC and lipid metabolism together with recent studies showing STAT2 as a driver in the transcription of IL-6, we found that IL-6 stimulation of HCT116 cells upregulated the expression of STAT2 protein, suggesting a pro-inflammatory STAT2-IL6 feedback loop that could play a role in driving lipid metabolism. Our findings propose a new mechanism by which STAT2 driven inflammation promotes colorectal carcinogenesis via IL-6 dysregulation of lipid metabolism.

Poster #32

Lyme Disease vaccine development: optimizing bacterial production of recombinant antigens

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Lyme disease is the most prevalent vector-borne disease in the United States that affects 25,000-30,000 people annually. Lyme disease is caused by, *Borrelia burgdorferi*, a bacterial pathogen transferred from ticks to a host species including humans. Local populations of *Borrelia burgdorferi* consist of a diverse set of strains, making it hard to develop a broadly effective vaccine. We want to find an effective recombinant antigen that would recognize and cross-react to different outer surface protein C *(*OspC*)* antigens. The *B. burgdorferi* OspC is a vaccine candidate due to its high expression during host invasion. Twenty *ospC* alleles have been cloned into plasmids and expressed in *E.coli*. By measuring growth conditions for strains with individual alleles, we aim to maximize the yield of recombinant proteins. We use R to obtain statistical estimates of parameters of the growth curves. A statistical method has been developed to estimate growth rates in R/Rstudio. This experiment is ongoing and we have used this method on four out of twenty alleles, which allowed us to maximize the production of these antigens.

Poster #33

Cell Cycle Arrest Protein p21 Function Is Regulated by Non-Coding RNA from CDKN1A Gene Generated by Alternative Polyadenylation during DNA Damage Response.

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After being subject to DNA damage, mammalian cells undergo coordinated responses to regulate cellular functions. A mechanism to control cellular conditions during the DNA damage response is the regulation of mRNA processing, such as the regulation of cleavage and polyadenylation (CpA) during transcription. CpA can occur at more than one mutually exclusive location within a gene, termed "alternative polyadenylation" (APA). We have characterized a long non-coding RNA (lncRNA) produced through intronic APA in the CDKN1A gene, which canonically encodes for the cell cycle arrest protein p21. To further explore the mechanisms of this lncRNA's function, we performed siRNA-mediated knockdown of its expression. Depletion of this CDKN1A lncRNA resulted in a significant decrease in p21 protein, without affecting CDKN1A full-length mRNA levels. Consistent with this, overexpression of the intronic-APA lncRNA increased p21 protein levels but did not affect CDKN1A full-length mRNA levels. These studies suggest that this lncRNA regulates p21 protein levels post-transcriptionally. I propose to analyze CDKN1A-APA transcript functions under different stresses which induce p21, such as etoposide. Understanding the role of lncRNAs in cancer is a novel approach to design new diagnostic tools and therapies. In addition to this work, I have worked under Dr. Carmen Sapienza, through a U54 grant between Hunter College and Temple University, assisting in a project involving the identification of epigenetic DNA methylation markers between samples from colon cancer patients and those from non-cancer patients.

Poster #34

Human Microbiome and Minority Health: Unravelling Variations Associated with Disease and Health Disparities

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Over the past decade, human microbiome research has made strides in relating disease and health to microbiome composition and diversity. More specifically, certain human microbiome profiles have been associated with increased risk of cancer, infectious, metabolic and autoimmune diseases. Type 2 diabetes, most notably, has become an epidemic health problem that has been linked to alterations in the diversity and structure of gut microbiomes. Previous research has shown a relationship between the dysbiosis of gut microbiomes and an increased risk of diabetes however, little effort has been made to explore variations in microbiomes of diabetes patients in relation to their ethnicity. Here, we examined the differences in the taxonomic composition, diversity, and structure of gut and nasal cavity microbiomes (n = 128) studied in Caucasian, African American, Asian, and Hispanic prediabetic patients (n = 76) in the US. Specifically, we utilized raw 16S rRNA sequence reads generated by the Integrative Human Microbiome Project and analyzed the data using the R environment. Our preliminary results suggest that the diversity and structure in gut (Kruskal-Wallis Test, P = 0.30; PERMANOVA, P = 0.12) and nasal (Kruskal-Wallis Test, P = 0.06; PERMANOVA, P = 0.13) microbiomes of prediabetes patients did not significantly differ among most ethnic groups. We conclude that unlike in healthy individuals who vary in their microbiome profiles based on their ethnic origin, human microbiomes in prediabetes become less distinguishable by ethnicity and race. Further studies are needed to increase our understanding how socioeconomic, behavioral, biological, and cultural factors impact microbiomes in health and disease

Poster #35

Activation of STING Signaling in Platinum Resistant Ovarian Cancer Correlates with High PD-L1 Expression

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Ovarian cancer is the leading cause of gynecological cancer related death. Cisplatin, a chemotherapeutic, has been the mainstay of treatment for four decades; however, greater than 70% of patients with advanced ovarian cancer who achieve remission relapse due to acquired platinum resistance. Exposure of tumor cells to cisplatin can cause nuclear DNA leakage into the cytosol and trigger stimulator of interferon genes (STING)-dependent cytokine production. Our project investigates the effect of cisplatin on immunogenicity in ovarian tumor models in vitro. By long-term exposure of mouse (2F8) ovarian cancer cells to low dose of cisplatin, a moderately resistant mouse ovarian cancer cell line was generated (2F8cis). The expression of STING, cGAS, PD-L1, p-Stat3 and Stat3 was detected by Western Blot. Exposure to cisplatin of both 2F8 and 2F8cis cells increased cell surface MHC-I and PD-L1 expression. Baseline STING protein expression was higher in immunogenic 2F8cis than 2F8 cells, and cisplatin triggered a moderate increase in cytosolic STING. PD-L1 expression was higher in cisplatin treated cells, demonstrating greater immune resistance. PD-L1 upregulation also correlates with p-Stat3. The increased immunogenicity of 2F8cis cells may be due to the higher baseline levels of STING and p-Stat3. Cisplatin can stimulate anti-tumor immunity but can also lead to adaptive immune resistance. Our studies linking STING and cisplatin-induced immune modulation need to be further validated in additional ovarian tumor models. Anti PD-L1 drugs like Nivolumab and Durvalumab are approved for urothelial carcinomas but are still in clinical trials for ovarian cancer.

Poster #36

MicrobiomeExplorer: An interactive and web-based R Shiny microbiome analysis platform for cancer research

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Understanding the complex microbial world opens new doors to study human biology and to address some of the most pressing health challenges of today's world, including cancer. Microbiome research is a quickly advancing scientific field and may be the key to improving cancer treatments. Microbiome research generates large-scale, high-throughput sequencing data, which requires scientists to have advanced skills in bioinformatics and statistics. Here, we developed *MicrobiomeExplorer*, an easy-to-use, web-based R Shiny application, providing researchers an interactive and intuitive bioinformatics platform that complements current analysis tools in addition to combining functions of several R packages currently available for microbiome analysis. Specifically, the application allows users with little coding expertise to generate microbiome data summary statistics, pre-process data (e.g., rarefaction, subsampling), and run in-depth analysis of taxonomic composition, diversity, and structure of microbiomes. *MicrobiomeExplorer* also provides easy access to different visualizations and a suite of statistical analyses, including univariate and multivariate community inference commonly used in microbiome research. In conclusion, *MicrobiomeExplorer* offers a user-friendly graphical interface that guides users through a sophisticated analysis workflow, which enables the efficient exploration and visualization of complex microbiome data in biomedicine and beyond. We validated the app functionality by studying microbiomes associated with colorectal carcinomas

Poster #37

Dietary behavior and urinary gallic acid concentrations in minorities in New York City

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Cancer is the second most common cause of deaths in the United States, disproportionately affecting minority groups. A diet low in fruits and vegetables is associated with increased risk of cancer. In this multidisciplinary study, we assessed the dietary behaviors and urinary gallic acid concentrations of minorities in New York City. Seventy-five (75) participants were recruited from a senior center in East Harlem, New York City, a racially diverse and underserved community. A National Institute of Health (NIH) - validated survey questionnaire was used to collect dietary behavior data. Demographic and cancer history information were also collected. All 75 recruited participants completed the survey and forty-one (41) participants provided urine samples for urinary gallic acid content analysis. Associations between demographic factors and intake of certain foods were observed. Specifically, age was negatively associated with French fries/fried potatoes and white potatoes intake ($p<0.05$), while positively associated with intake of fruits ($p<0.05$). Additionally, Asian race was associated with a higher frequency of fruit intake ($p<0.05$), compared to other races. Moreover, we determined dietary behavior predictions through multivariate analyses. Notably, higher income, not married, older individuals would be more likely to consume vegetable soup ($p<0.05$). This study provided preliminary information about the dietary behavior of older adults in East Harlem, which will serve as a basis for a future larger study to investigate the effect of nutrition/dietary education intervention on cancer prevention among diverse groups in New York City.

Poster #38

The prevalence of throat cancer in underdeveloped countries

Rushoza Amini

University of Burundi

There has been an increase in cases of throat cancer recently in underdeveloped countries such as Burundi. Often these are cases that are not even supported by the health care in place for lack of means as technical as financial. Cancer is a serious disease. It affects 200 to 300 hundred thousand people every year in the world. Although we do not yet have a national registry for cancer cases, there is a clear increase in cases of throat cancer. 10 thousand new cases of this type of cancer occur each year worldwide and 80% of these cases are in developing countries. But it is an illness that heals when it is detected early. Burundi plans to set up a national cancer registry from April to diagnose all cancers. The Ministry of Health is preparing to train the focal points in this area. The Cancer Registra V software is a tool that will help achieve this goal. It will also facilitate cancer treatment and research.

Poster #39

Racial/Ethnic Differences in the Psychological Consequences of Smoking Lapses

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Smoking is the single greatest modifiable risk factor for cancer. Racial and ethnic minorities in the U.S. bear a disproportionate burden of cancer risk compared to White Americans. Numerous studies have found that one-size-fits-all smoking cessation interventions are wholly insufficient to address the needs of the diverse population smokers. To that end, we conducted a longitudinal study of the smoking cessation experience, with an eye toward understanding the role of key psychological predictors of smoking. African American, Hispanic, and Caucasian adult smokers (n=107) were recruited in a major medical center in New York City. Over the course of two weeks, participants engaged in an unaided, "cold turkey" quit attempt and were asked to record their smoking behavior in daily diaries, including lapses, triggers that gave rise to smoking-episodes, as well as mood immediately after smoking. We conducted hierarchical linear modeling across the fourteen post-quit date days to evaluate mood and enjoyment during smoking lapses. We found that smokers who identified as racial/ethnic minorities reported significantly worse mood and significantly less enjoyment during lapses than White smokers. Interestingly, these effects were particularly pronounced among smokers who were low in overall psychological distress; mood and enjoyment were universally depressed among highly distressed smokers. Findings suggest that smokers who identify as racial/ethnic minorities, especially those who are not generally highly distressed, may experience more intense psychological sequelae during cessation, which can possibly be leveraged to develop improved tailored interventions to address the unique needs of a diverse population of smokers.

Poster #40

Predictors of attrition in a text-message smoking cessation intervention for underserved women in postpartum

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Despite attempts to quit smoking during pregnancy, urban, underserved women are at high risk for relapse in postpartum. Text-messaging interventions may be an optimal method to reduce barriers to accessing cessation support services for these populations. However, difficulties recruiting and retaining these populations for research are persistent. This study examines attrition in a text-message smoking cessation intervention for urban, underserved women in postpartum. Participants received daily text messages aimed at maintaining cessation for one month. Baseline surveys and follow-up surveys at one and three months were completed. Participants (N = 106) were predominately non-Hispanic Black (64%) women with a household income less than $15,000 (71%), and an education of high school or less (64.2%). Multinomial logistic regression was completed to identify predictors of dropout at one month and three months. Included in the model were demographic and smoking variables significantly related to dropout. Education and total lifetime number of cigarettes smoked were significantly associated with attrition ($ps < .05$). Participants who smoked fewer than 100 cigarettes in their lifetime were more likely to drop out after baseline ($p = .022$). Less educated participants were more likely to drop out after one month ($p = .015$). Participants who smoked less and were less educated may have had less cessation success, or may have believed a smoking intervention was unnecessary. Future research should examine the underlying mechanisms for dropout among these women to reduce attrition in targeted smoking cessation interventions.

Poster #41

Decreasing Cancer Health Disparities Through Community Engagement: The Efficacy of a Cancer Awareness Campaign

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Due to lower socioeconomic status of some African-Americans, Asian Americans, and Hispanic Americans, they are disproportionately at an increased risk of getting diagnosed with cancer and obtain higher death rates related to cancer. In addition, they often face barriers to get adequate healthcare, to access healthier food options, and to gain access to cancer education. Research studies suggest that the use of the community engagement has been a prominent role in educating communities about the risk of cancer and helps induce individuals to reshape health-related behaviors. In this study, we conducted a community-based cancer awareness campaign related to liver cancer to promote cancer screening and to foster strategies that will successfully encourage the impact of health awareness, decisions, practices, and health education in underserved communities.We used two approaches for the cancer awareness campaign: one for onsite and the other for one-week follow up visits. Specifically, we planned to visit community centers twice. During the first visit, we will set-up a table providing information about liver cancer prevention, provide handouts, stickers, and ask community members to fill out an onsite survey that assesses their knowledge about liver cancer and if they believe that liver cancer is detrimental issues in society. A week later, during the second visit, we will do a follow-up at the same location where we will go back to assess if the campaign is beneficial to community members and if our campaign posters and handouts are noticed by community members. Community members are asked to fill out the survey on tablets through Qualtrics, an online data collection app, or by paper. To generate more community awareness about the campaign, we hung a few posters on a bulletin board at the YMCAs and left handouts on a table for community members to take. As of today, we have collected 16 surveys through onsite visits, distributed over 160 handouts, and did community engagement at the Bronx YMCA, The New American Center, and the Ecuadorian Consulate in New York City. We have yet to do the follow up visits. Our preliminary data showed that initiating a cancer awareness campaign through community engagement for cancer prevention is reassuring. We continue to assess how community engagement can improve community health, encourage community members to get cancer screenings, to reduce to stigmatization of cancer, and to help community members learn about the warning signs in the African-American, Hispanic American, and Asian American New York City population.

Poster #42

Social Determinants of Health and Self-Efficacy of Prostate Cancer Survivors in the First Year Post-Treatment

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The emotional distress initiated by a cancer diagnosis, particularly prostate cancer, does not disappear when a cancer patient becomes a cancer survivor. Social determinants of health have been linked to distress in long-term cancer survivors, yet this has not been examined among prostate cancer survivors in the first year post-treatment when patients are “re-entering” life as survivors. This study aimed to evaluate social determinants of health and emotional well-being among prostate cancer survivors in their first year post-treatment. Localized prostate cancer patients within one year of treatment (N=431) were recruited to evaluate a web-based supportive intervention. Using data from the baseline survey, multivariable regression analyses were completed to identify social determinants of health associated with self-efficacy for re-entry into daily life, including four subscales, and practical concerns (i.e., aspects of daily living). Prostate cancer survivors who indicated more positive communication with their partner reported decreased practical concerns and greaterself-efficacy for re-entry into daily life (*p*s<.05). Survivors that had low health literacy reported increased practical concerns and low self-efficacy for re-entry into daily life (*p*s<.05).Self-efficacy for re-entry into daily life and practical concerns among prostate cancer patients one year post-treatment are associated with modifiable and nonmodifiable social determinants of health, including marital communication and health literacy. Further research is warranted to investigate the modifiable role of social support (e.g., marital communication) as a possible buffer of nonmodifiable features of the self (e.g., health literacy).

Poster #43

Development of Liver Cancer Prevention Materials for Social Media Campaigns

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U.S. minority populations suffer disproportionately for liver cancer and hepatitis B or C. For example, African-Americans obtain the highest rates of HCV, Asian Americans have the highest liver cancer rates (Laotians, Vietnamese and Cambodians and Chinese), and Hispanic Americans have the greatest increase in liver cancer. Social media platforms, such as Instagram and Twitter, have been used widely to influence public's opinion, perception and behavior. However, the use of social media for cancer prevention among minority populations has rarely been developed and studied. Therefore, the purpose of the project is to develop liver cancer prevention materials for social media campaigns. Literature search was conducted to compile information that was important to liver cancer and HBV/HCV prevention. Key information, such as contacting health care providers to screen for HBV and HCV, keeping a healthy diet, and promoting daily physical activity, was collected. Posters, handouts, and PowerPoint slides including these key concepts were developed. Those materials were then forwarded to experts for comments. Feedback from experts was incorporated in the next round of revision. This iterative process repeats several times until no new information was added. Materials for liver cancer/HBV/HCV prevention were developed successfully. They included key logo of "KnowCancerNoCancer" as well as MyPlate for healthy eating and physical activity recommendations. (See Figures). In addition, a short PowerPoint slides regarding liver cancer/HBV/HCV prevention and its associated YouTube video were also produced and were live on social media platforms. Very few liver cancer/HBV/HCV prevention materials for minority populations have been developed for dissemination via social media platforms. Its efficacy and effectiveness deserve further investigation.

Poster #44

Efficacy of Liver Cancer Prevention Materials for Social Media Campaigns

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Both Hepatitis B (HBV) and Hepatitis C (HCV) are chronic diseases that are prevalent in the African-American, Asian American, and Hispanic American communities. Research studies have shown that these populations experience high rates of morbidity and mortality pertaining to liver cancer and cancer as a whole. Research studies suggest that the use of the media campaigns has been a successful method to encourage and produce healthy behaviors and prevent poor health choices in populations. We intend to assess the effectiveness of social media campaigns to promote and raise awareness about liver cancer and HBV/HCV health disparities in underserved communities, and to improve community member's knowledge about cancer. The objective of this study is to evaluate how the utilization of social media can produce the improvement in community health, to help raise awareness about HBV and HCV, encourage healthy lifestyles, and to enlighten community members about cancer prevention. Social media platform accounts such as Instagram and Twitter were created. The "KnowCancerNoCancer" campaign materials and its associated diet and physical activity information went live in April, 2019. To generate traffic, research team posted liver cancer prevention information regularly and encouraged public to comment or repost/retweet messages. A $10 award will be given out every three months to one person who has been most creative or active. Data was analyzed by how community members engaged with the weekly post pertaining to nutrition and cancer education, such as how often individuals commented, liked, and reposted our social media's feed. As of today, we obtain 16 followers on instagram and 3 followers on Twitter. On instagram, the total amount of likes are 24. On Twitter, there is a total of 3 likes and 1 repost on our social media feed. Our preliminary data showed that social media for cancer prevention is promising. We continue to assess how the use of social media can build positive outcomes and avert individuals to avoid negative lifestyle behaviors across the African-American, Hispanic American, and Asian American New York City population.

Poster #45

Hepatitis C Related Knowledge and Screening Among African Americans In Philadelphia

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African Americans are twice as likely to have been infected with hepatitis C virus (HCV) than Caucasians due to greater risk for contracting HCV through occupational exposure, blood transfusions or injection drug use. Studies found that African Americans have less access to information on HCV and preventative medical care.The purpose of this pilot study was to examine the level of knowledge regarding HCV symptoms and preventions among African Americans in Philadelphia, using baseline data from a research project of an education intervention on HCV prevention in African American communities. African American community members who were born during 1945 and 1965 (n=138) were recruited from 11 community-based organizations in Philadelphia, Pennsylvania, and randomly assigned to the intervention or comparison group. Participants in intervention group received HCV education and navigation assistance for blood testing. The control group received general health education. We collected assessment data at baseline, post-intervention, and 6 months post-intervention. Our findings showed that HCV-related knowledge was low among participants. Specifically, we conducted bi-variate analyses to examine whether HCV-related knowledge varied by age, gender, nativity status, education level, and insurance status. Our findings help highlight the subgroups with low HCV-related knowledge, which should be targeted in education intervention campaigns. African American baby boomers present moderate to high risk factors, yet awareness and knowledge related to HCV transmission remained low. Educational intervention in community setting proves to be efficient in raising knowledge of HCV and promoting HCV screening.

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Poster #46

Cope for Hope: A community-based intervention focused on mental-health related quality of life in breast cancer patients residing in the Greater Philadelphia region

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In 2019, over 268,000 individuals will be diagnosed with breast cancer and approximately 42,000 individuals will die from breast cancer. Of the many challenges that breast cancer patients face, an important one that is greatly overlooked by patients and health professionals is mental health. Major changes regarding a cancer patient's mental health include fear, short term and long-term treatment effects, and loss of support from providers, family members, and friends. Beyond the negative effect these changes have on a cancer patient's mental health, it too disrupts the entire spectrum of quality of life. Through the use of a community-based intervention program implemented in Center City, Philadelphia, PA, breast cancer patients will participate in a 12-week program with the goal of providing cancer patients with information regarding coping mechanisms for stress and improving self-reported depression. Prior to the start of the intervention, a pre-test will be distributed to all participants containing questions about demographics and current knowledge about mental health and coping mechanisms, COPE Inventory, and Beck's Depression Inventory. Each week, participants will engage in a 1-hour educational session highlighting mental health coping mechanisms and self-efficacy regarding coping. Following the educational session, participants will partake in an integrated yoga component. This will include 40-minutes of beginner yoga run by a professional yoga instructor followed by 20-minutes of deep breathing. A post-test will be distributed at the end of the intervention with the goal of increasing self-efficacy toward coping and decreasing the number of self-reported depression diagnoses in breast cancer.

Poster #47

Using Community-Based Participatory Practices to Improve Cancer-Related Health Outcomes in a High-Risk Population

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Persons Living with HIV/AIDS (PLWHA) have an increased life expectancy when they adhere to highly active antiretroviral treatment (HAART). At the same time, ~25% of AIDS related deaths are due to non-HIV related comorbidities including cardiovascular disease, atherosclerosis, and hypertension. In the aging PLWHA population on HAART, an increasing risk for multiple cancers is clear and the cancers are more aggressive and advanced compared with an age-matched population. In addition to the liver cancer related to Hepatitis B and C, genital cancers related to human papillomavirus (HPV), increases in non-immune cancers including lung and melanoma cancers are the leading causes of death in PLWHA. Evidence has shown that community-based participatory approaches can be used to improve health outcomes in many populations. In this study, we focus on interventions for at-risk African-American, HIV positive, Men having Sex with Men (MSM) population. Typical community-based participatory activities include cancer-related awareness, prevention, diagnosis, and treatment. We plan to utilize partnerships with community-based AIDS service organizations (ASO), LGBTQIA+ youth centers, and local community state-representatives. Partnering with city-wide programming initiatives such as Black Gay Pride, Philly Pride Present and National Coming-Out Week will ensure community participation, leadership and engagement among the community. Currently, there is little research on how best to reach the PLWHA community. This project will investigate the biopsychosocial factors that contribute to the development of these cancers and will increase engagement with healthcare educators and providers. Furthermore, knowledge from the PLWHA will help devise preventative approaches for reducing and addressing cancer risks.

Poster #48

Reducing Liver Cancer Disparities through Community Engagement: A City-Wide Bus Campaign in Philadelphia City

Kerry Traub[1], Jean-Marie Kouassi[2], Evelyn Gonzalez[3], Elizabeth Yi[1], Safa Ibrahim[4], Yin Tan[1], Ming-Chin Yeh[4], Olorunseun Ogunwobi[4], Marilyn Fraser[5]

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The Community Outreach Core (COC) Program is a part of the NCI funded TUFCCC/HC Regional Cancer Health Partnership Program. Consistent with the principles of the Partnership, the COC Program targets underserved African, Asian-Pacific, and Hispanic American populations in the areas of Pennsylvania, New Jersey, and New York City. One of the most important goals of the COC is engaging community partners in cancer outreach research to reduce cancer disparities among underserved minority populations in the Partnership targeted geographic areas using Community-Based Participatory Research(CBPR) approaches. A CBPR approach leverages community resources and respects cultural sensitivity to build partnerships to achieve mutually beneficial and agreed-upon outcomes that directly involve community leaders in all aspects of outreach research and activities. This engaging of the community in research can enhance the process of enabling a trusting relationship and co-learning/decision making procedures between academic and community partners. Over the first six-months of Year 1, the COC team closely worked with community partners and successfully launched a city-wide awareness campaign through the Southeastern Pennsylvania Transportation Authority (SEPTA) buses in Philadelphia. The campaign features an educational advertisement, whose central message calls for action in getting screened for HBV and HCV, the two most important risk factors in getting liver cancer in the US. Over the entire campaign development course, the community advisory board and community partner leaders played instrumental and important roles in guiding the message development. Details of this community engagement process and the City-Wide Bus Campaign will be discussed

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