NIH NATIONAL CANCER INSTITUTE
CENTER TO REDUCE CANCER HEALTH DISPARITIES

2023 Partnerships to Advance Cancer Health Equity (PACHE) Biennial Program Meeting

Building on a Solid Foundation to Strategically Strengthen & Enhance PACHE

September 8, 2023

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Welcome Letter

September 8, 2023

Dear Attendees,

On behalf of the National Cancer Institute (NCI) Center to Reduce Cancer Health Disparities (CRCHD), I have the great pleasure of welcoming you to the 2023 Partnerships to Advance Cancer Health Equity (PACHE) Biennial Program Meeting. The theme for this year's meeting, "**Building on a Solid Foundation to Strategically Strengthen & Enhance PACHE**," serves as a cornerstone for our exciting agenda.

The 2023 PACHE Biennial Program Meeting, hosted in person with a hybrid option, will provide you with opportunities to meet, network, and exchange ideas with other PACHE partnerships and NCI CRCHD program staff through engaging presentations and interactive panel sessions.

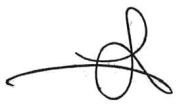
In addition to recognizing investigators who have contributed to PACHE's development, this year's agenda includes programmatic and scientific posters—viewed in person and online—and sessions about a range of topics, including fiscal management and opportunities for additional funding. We expect that you will engage with your collaborators, network with colleagues, and learn best practices and strategies developed to meet PACHE program goals and overcome challenges. The sessions will provide additional opportunities for networking and for sharing information, resources, and lessons learned.

The 2023 PACHE Biennial Program Meeting objectives are as follows:

- Share best practices on research capacity building, cancer education and training, community engagement, and evaluation to continue building successful PACHE partnerships.
- Discuss how to strategically strengthen and enhance PACHE by leveraging resources within NIH and beyond.
- Discuss the importance of budget and fiscal management.
- Discuss effective strategies to capitalize on new funding opportunities.
- Engage in thoughtful discussion on topics of relevance to PACHE partnership investigators and administrators.

We are pleased to have all of you attending in person and virtually. This meeting is a forum for fostering, supporting, and strengthening the PACHE Program. Working together as partners, the program is committed to promoting research addressing cancer and cancer disparities, fostering training and education, and supporting outreach and engagement to underserved populations. We look forward to your active participation in this exciting and engaging meeting.

With warm regards,



Dr. Sanya A. Springfield
Director
Center to Reduce Cancer Health Disparities

Agenda

NCI Center to Reduce Cancer Health Disparities
2023 Partnerships to Advance Cancer Health Equity (PACHE) Biennial Program Meeting

#PACHE2023

Friday, September 8, 2023

All times listed in the agenda are Eastern Time.

NCI Shady Grove – Conference Rooms TE 406/408/410 (Lower Level)

7:00–8:00 AM **Registration and Poster Setup**

8:00–8:05 AM **Welcome and Purpose**
Dr. Sandra L. San Miguel-Majors and Dr. Sarah M. Szurek, *NCI CRCHD*

8:05–8:15 AM **CRCHD Director's Remarks and Introduction of Dr. Douglas R. Lowy, NCI Principal Deputy Director**
Dr. Sanya A. Springfield, *NCI CRCHD*

8:15–8:35 AM **NCI Principal Deputy Director's Remarks and Q&A Session**
Dr. Douglas R. Lowy, *NCI*

8:35–8:45 AM **Honoring Outstanding PACHE Leaders**
Dr. LeeAnn Bailey, *NCI CRCHD*

8:45–9:20 AM **PACHE Highlights and Updates**
Moderator: Dr. Behrous Davani, *NCI CRCHD*

- **8:50–9:00 AM** Dr. H. Nelson Aguila, *NCI CRCHD*
- **9:00–9:20 AM** **Group Discussion**

9:20–9:35 AM **Break**

9:35–10:15 AM **Session I.A.: Building on a Solid Foundation: Success Stories – Research Capacity Building and Cancer Education and Training**
Moderator: Dr. Mariana Stern, *Florida Agricultural and Mechanical University/University of Florida/University of Southern California Norris Comprehensive Cancer Center*

- **9:40–9:50 AM** **Research Capacity Building and Competitiveness**
  Dr. Ana Patricia Ortiz
  University of Puerto Rico Cancer Center, Medical Sciences Campus/University of Texas MD Anderson Cancer Center
- **9:50–10:00 AM** **Cancer Education and Training**
  Dr. Carolyn Fang
  Hunter College/Temple University/Fox Chase Cancer Center
- **10:00–10:15 AM** **Session I.A. Group Discussion**

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10:15–10:55 AM **Session I.B.: Building on a Solid Foundation: Success Stories – Community Engagement and Evaluation**
Moderator: Dr. Sora Park Tanjasiri, *California State University, Fullerton/ University of California, Irvine*

- **10:20–10:30 AM** **Community Engagement in Research and Dissemination**
  Dr. Jani Ingram and Dr. Francine Gachupin
  Northern Arizona University/University of Arizona Cancer Center
- **10:30–10:40 AM** **PACHE Impact: Evaluation**
  Dr. Sara Bolduc
  University of Guam/University of Hawaii Cancer Center
- **10:40–10:55 AM** **Session I.B. Group Discussion**

10:55–11:25 AM **Fiscal Management of the U54 and P20 Budget**
Moderator: Dr. Anil Wali, *NCI CRCHD*

- **11:00–11:15 AM** Ms. Kelli Maddock
  NCI Office of Grants Management
- **11:15–11:25 AM** **Group Discussion**

11:25–11:55 AM **Applying to New Funding Opportunities**
Moderator: Dr. LeeAnn Bailey, *NCI CRCHD*

- **11:30–11:40 AM** Dr. H. Nelson Aguila, *NCI CRCHD*
- **11:40–11:55 AM** **Group Discussion**

11:55 AM–12:00 PM **Poster Session Overview**
Dr. Anthony DiBello and
Dr. Maria Jamela R. Revilleza, *NCI CRCHD*

12:00–1:15 PM **Lunch (pre-ordered and/or on your own)**

1:15–1:45 PM **Program Poster Session – Conference Room Seminar 110 (Lower Level)**

1:45–2:00 PM **Break**

2:00–2:40 PM **Session II.A.: Strategically Strengthen and Enhance PACHE – Opportunities for Collaborations**
Moderator: Dr. Neal Palafox, *University of Guam/University of Hawaii Cancer Center*

- **2:05–2:15 PM** **All of Us**
  Dr. Karriem Watson
  NIH All of Us Research Program
- **2:15–2:25 PM** **AIM-AHEAD and Data Science: AI and Equity**
  Dr. Samson Gebreab
  Office of Data Science Strategy, NIH
- **2:25–2:40 PM** **Session II.A.: Group Discussion**

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2:40–3:30 PM **Session II.B.: Establishing Public and Private Collaborations Across the Nation**
Moderator: Dr. Vanessa Sheppard, *Virginia State University/Virginia Commonwealth University*

- **2:45–2:55 PM** **Research Collaborations with Government Entities**
  Dr. Jill Macoska
  University of Massachusetts, Boston/Dana-Farber/ Harvard University Cancer Research Institute
- **2:55–3:05 PM** **Cancer Education and Training Collaborations with Private Industry**
  Dr. Bao Vuong
  City College of New York/Memorial Sloan Kettering Cancer Center
- **3:05–3:15 PM** **Community Engagement Collaborations Locally, Regionally, and Nationally**
  Dr. Brian Rivers
  Tuskegee University/Morehouse School of Medicine/ University of Alabama at Birmingham Cancer Center
- **3:15–3:30 PM** **Session II.B.: Group Discussion**

3:30–3:45 PM **Break**

3:45–3:55 PM **Session I and II Recaps**

- **3:45–3:50 PM** **Session I Recap: Building on a Solid Foundation: Success Stories**
  Dr. Sarah M. Szurek, *NCI CRCHD*
- **3:50–3:55 PM** **Session II Recap: Strategically Strengthen and Enhance PACHE: Opportunities for Collaboration**
  Dr. Sandra L. San Miguel-Majors, *NCI CRCHD*

3:55–4:00 PM **Closing Remarks**

Dr. Behrous Davani, *NCI CRCHD*

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Guest Speaker Biography

Douglas Lowy, M.D.—Principal Deputy Director and Chief, Laboratory of Cellular Oncology, Center for Cancer Research, NCI

Dr. Lowy received his medical degree from New York University School of Medicine and trained in internal medicine at Stanford University and dermatology at Yale. Dr. Lowy's research includes the biology of papillomaviruses and the regulation of normal and neoplastic growth. The papillomavirus research is carried out in close collaboration with Dr. John Schiller, and they were involved in the initial development, characterization, and clinical testing of the preventive virus-like particle-based human papillomavirus (HPV) vaccines that are now used in the three U.S. Food and Drug Administration approved HPV vaccines. Dr. Lowy's growth regulation research is now focused primarily on the DLC family of tumor suppressor genes and their mechanism of action. In response to the COVID-19 epidemic, he has led the SARS-CoV-2 serology research effort at NCI. Dr. Lowy is a member of the National Academy of Sciences (NAS) and of the Institute of Medicine of the NAS. For their HPV vaccine research, he and Dr. Schiller have received numerous honors, including the 2007 Federal Employee of the Year Service to America Medal from the Partnership for Public Service, the 2011 Albert B. Sabin Gold Medal Award, the 2012 National Medal of Technology & Innovation (awarded in 2014), and the 2017 Lasker-DeBakey Clinical Medical Research Award.

PACHE Biennial Program Meeting Biographies

Sanya A. Springfield, Ph.D.—Director, CRCHD, NCI

Dr. Springfield supports programs, initiatives, and activities to spawn cancer health disparities research, increase workforce diversity, and create networks for community outreach, education, and engagement. Within NCI, Dr. Springfield is a member of the Scientific Program Leadership (SPL) where she champions the need for continued investment for diversity training and education programs and to reduce cancer health disparities.

Previously, Dr. Springfield was Chief of the NCI Diversity Training Branch, where she conceived, implemented and oversaw the Continuing Umbrella of Research Experiences (CURE) program. Utilizing a unique, holistic, training pipeline approach, CURE seeks to increase the number of competitive cancer researchers from racial and ethnically diverse, and other underserved populations. Dr. Springfield expanded the CURE program, launching a middle school program as part of a CURE early intervention strategy and an Intramural CURE (iCURE) program aimed at enhancing the diversity of the NCI intramural research workforce. Prior to this, Dr. Springfield had expanded the diversity training landscape through the creation and implementation of the Partnerships to Advance Cancer Health Equity (PACHE). PACHE aims to improve the cancer research infrastructure at institutions serving underserved health disparity populations and underrepresented students (ISUPS) and enhance the ability of NCI-Designated Cancer Centers to address cancer health disparities in their communities.

Dr. Springfield serves on a variety of trans-NCI and trans-NIH scientific and programmatic committees focused on disparities research, workforce diversity, and inclusive excellence, including NCI's Equity Council and the NIH Common Fund's Faculty Institutional Recruitment for Sustainable Transformation (FIRST) Program Working Group Coordinators. For her vision and leadership in promoting diversity in biomedical research, Dr. Springfield was honored with the NIH Director's Award and the NCI Director's Award. Dr. Springfield also serves as a member of the American Association for Cancer Research (AACR) Minorities in Cancer Research (MICR) Council and the Science Education and Career Development Committee and played a vital role in establishing the annual The Science of Cancer Health Disparities in Racial and Ethnic Minorities and the Medically Underserved conference.
Dr. Springfield received her Ph.D. in physiology and biophysics from Howard University and was the third

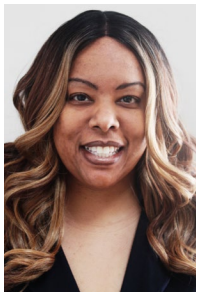
PACHE Biennial Program Meeting Bios

African American neuroscientist in the world. After completing her postdoctoral studies at the Robert Wood Johnson School of Medicine, she joined the faculty at City College of New York. Dr. Springfield left the academic ranks to serve as a Program Director at the National Science Foundation, and then entered NIH as a Grants Associate after, which she joined NCI.

H. Nelson Aguila, D.V.M.—Deputy Director, CRCHD, NCI

Dr. Aguila plays a central role in coordinating the day-to-day functions of the Center and development of strategic planning, priority-setting, and management of CRCHD's disparities research, diversity training, and community education/outreach efforts. Previously, Dr. Aguila served as Chief of CRCHD's Diversity Training Branch. Prior to coming to NIH, Dr. Aguila worked at the U.S. Food and Drug Administration as a Reviewer Toxicologist at the Center for Veterinary Medicine. Earlier in his career, Dr. Aguila 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.



LeeAnn Bailey, M.B.B.S., Ph.D., M.S.—Chief, Integrated Networks Branch, CRCHD, NCI

Dr. Bailey has been Chief of the Integrated Networks Branch of NCI's CRCHD since 2016. In this role, she manages, develops, and assesses strategies for enhancing the integration and dissemination of diversity training, women's health, and sexual and gender minority efforts within and across NCI, as well as within the scientific community and underserved communities through NCI-supported networks. She also identifies and leverages opportunities to address unmet needs in cancer health disparities research.

Prior to joining NCI, Dr. Bailey was a healthcare consultant at Deloitte Consulting LLP. She also has been a principal investigator researching tissue engineered products and cellular inflammatory responses at the National Institute of Standards and Technology as well as an adjunct professor at Morgan State University.

Dr. Bailey received her M.B.B.S. (M.D. equivalent) from the University of Adelaide Medical School with an emphasis on Aboriginal health and pediatric oncology. She also has a Ph.D. in biochemistry and molecular genetics and an M.S. in biological and physical sciences from the University of Virginia School of Medicine.

Sara Bolduc, Ph.D.—External Evaluator and President, Sara Bolduc Planning and Evaluation LLC, Pacific Islands Partnership for Cancer Health Equity (PIPCHE)

Dr. Bolduc is an evaluator and social science researcher with more than 15 years of experience working with federal, state, and county agencies and the nonprofit sector in Hawai'i and throughout the Pacific Region—specifically with large, interdisciplinary science teams and equity focused STEM programs. The SBPE Team has been evaluating the U54 PIPCHE since 2020, when the partnership received its third renewal of U54 funds. Dr. Bolduc has led a PACHE Special Interest Group focused on Best Practices in Evaluation since January 2022, promoting discussions and the sharing of ideas among PACHE partners related to challenges and successes in promoting and demonstrating program effectiveness, sustainability, relevance, and impacts.

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Behrous Davani, Ph.D.—Chief, Diversity Training Branch, CRCHD, NCI

Dr. Davani has been Chief of the Diversity Training Branch of NCI's CRCHD since 2022. In this capacity, he plays a central role in the strategic planning of the Branch and program implementation to enhance workforce diversity in cancer research. He oversees management of NCI's diversity-focused training programs, including the extramural Continuing Umbrella of Research Experiences (CURE) program.

Prior to his appointment as Chief, Dr. Davani served as a Program Director in the Division for Research Capacity Building, National Institute of General Medical Sciences (NIGMS), where he oversaw the IDeA Regional Entrepreneurship Development Program and managed grants for the Centers of Biomedical Research Excellence, IDeA Network of Biomedical Research Excellence, Science Education Partnership Awards, and Native American Research Centers for Health Programs. Before his time at NIGMS, Dr. Davani was a Program Director in NCI's CRCHD, during which time he led the development, implementation, and management of various programs that address cancer health disparities. In this capacity, Dr. Davani managed, comanaged, or coordinated multiple CURE programs, Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE U54) partnerships, and the PACHE Feasibility Studies to Build Collaborative Partnerships in Cancer Research (P20) program, among others.

Prior to first joining NCI, Dr. Davani served as a Scientific Review Manager in the Peer Review Science and Management Division of SRA International. While at SRA, he oversaw and managed the scientific review process for multiple research programs, including breast, ovarian, and lung cancer, for the Congressionally Directed Medical Research Programs. He received his Ph.D. in molecular endocrinology from Karolinska Institute in Stockholm, Sweden.
Dr. Davani is committed to developing innovative research and educational programs to advance health equity and promote diversity in biomedical research.

Anthony DiBello, Ph.D.—Program Director, Diversity Training Branch, CRCHD, NCI

Dr. DiBello is primarily responsible for managing the Kirschstein National Research Service Award Predoctoral Fellowship to Promote Diversity in Health-Related Research (F31-Diversity) program for NCI. In this role, he also supports portfolio analysis and program evaluation efforts.
Prior to joining NCI, Dr. DiBello served as a Data Management and Research Officer at the International Monetary Fund (IMF) and the World Bank. While at IMF/World Bank, he conducted interdisciplinary research focused on relationships between environmental health, climate, economic inequality, and economic/social welfare. Before joining the IMF, Dr. DiBello spent years, first at the Johns Hopkins University School of Medicine and later at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), conducting biomedical research investigating the mechanisms that govern ubiquitin signaling and its role in responding to cell stress and DNA damage.

Dr. DiBello earned a dual B.S. in physics and mathematics, as well as a B.A. in Philosophy, from Northern Kentucky University. He received his Ph.D. in biophysics and biophysical chemistry from the Johns Hopkins University School of Medicine, where he completed his thesis on the "Regulation of Ubiquitin Conjugation and Removal." His postdoctoral training, completed at NIDDK, focused on an investigation into the regulation of the cellular response to misfolded protein stress by ubiquitin signaling.

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Carolyn Y. Fang, Ph.D.—Associate Director of Population Science and Professor, Cancer Prevention and Control Program, Fox Chase Cancer Center; Adjunct Professor, Center for Asian Health, Temple University Health System Lewis Katz School of Medicine

Dr. Fang's research focuses on how psychosocial and behavioral factors contribute to cancer risk and outcomes, particularly in diverse and medically underserved populations. She leads an active lab with several NIH-funded studies to: (1) elucidate biobehavioral mechanisms underlying health disparities in diverse patient and immigrant populations; and (2) evaluate multilevel interventions to increase cancer screening behaviors. Dr. Fang has more than 20 years of experience in cancer research and mentorship of postdoctoral fellows and trainees. She serves as Co-Lead of the Research Education Core for the U54-funded TUFCCC/HC Regional Comprehensive Cancer Health Disparity Partnership. Working closely with U54 MPIs Drs. Grace Ma and Joel Erblich and other collaborators, she has overseen the development and growth of the Research Education Core's training activities.

Dr. Fang received her Ph.D. in psychology from the University of California, Los Angeles (UCLA). She completed a 2-year postdoctoral fellowship in Cancer Prevention and Control at Fox Chase Cancer Center prior to joining the faculty. Dr. Fang is a member of the NCI Cancer Prevention Steering Committee, the NRG Oncology Cancer Prevention and Control (CPC) Committee, and the Pennsylvania Cancer Coalition. She is an elected Fellow in the Society of Behavioral Medicine (SBM) and the Academy of Behavioral Medicine Research (ABMR).

Francine C. Gachupin, Ph.D., M.P.H.—Professor, Department of Family and Community Medicine, College of Medicine, University of Arizona

Dr. Gachupin is a tribal member of the Pueblo of Jemez in New Mexico. She received her doctorate from the University of New Mexico and her Master of Public Health in epidemiology from the University of Washington. Dr. Gachupin is currently involved with the University of Arizona Cancer Center (UACC) Partnership for Native American Cancer Prevention (NACP) and works with Dr. Ken Batai, Roswell Park Comprehensive Cancer Center, on renal cell carcinoma health disparities. On the NACP grant, Dr. Gachupin is the UACC principal investigator (PI) and NACP Outreach Core PI. The goal of the NACP is to alleviate the unequal burden of cancer among Native Americans of the Southwest through research, training, and community outreach programs in collaboration with tribal communities.

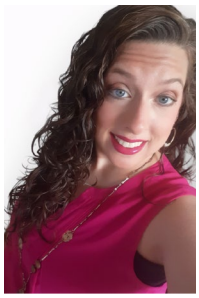
Samson Gebreab, Ph.D., M.Sc.—Lead, AIM-AHEAD, Office of Data Science Strategy, NIH

Dr. Gebreab is responsible for the overall management, oversight, coordination, and implementation of the AIM-AHEAD program and for ensuring that the benefits of big data and artificial intelligence/machine learning (AI/ML) technologies reach across diverse populations. Previously, Dr. Gebreab served as Program Director at the NCI Center to Reduce Cancer Health Disparities (CRCHD), where he managed efforts related to building collaborative partnerships in cancer research and CRCHD between minority serving institutions and NCI-Designated Cancer Centers. Dr. Gebreab also led the Early Investigator Advancement Program (EIAP) and NCI Research Supplements to Promote Diversity, Reentry, and Re-integration in Cancer Research Careers. Before joining NCI, Dr. Gebreab worked as a mathematical statistician at the U.S. Food and Drug Administration (FDA) Center for Tobacco Products, where he led working groups for sampling design, data analyses, and data delivery for the PATH Study. Before FDA, Dr. Gebreab was a staff scientist at National Human Genome Research Institute, where he served as an associate investigator of Genomics, Environmental, and Social Determinants of Cardiovascular Disease in African Americans. He also actively mentored summer students, staff, and postdoctoral fellows. Early in his career, Dr. Gebreab was a biostatistician/epidemiologist at the Jackson Heart Study. Dr. Gebreab received his joint M.Sc. and Ph.D. in statistics and spatial epidemiology

from Utah State University. He also received his M.Sc. in geographic information science from Wageningen University, Netherlands. Dr. Gebreab completed his postdoctoral training at the University of Michigan School of Public Health.

Jill A. Macoska, Ph.D.—MPI, University of Massachusetts, Boston/Dana-Farber/ Harvard Cancer Center U54 Comprehensive Partnership for Cancer Disparities Research

Dr. Macoska's career is characterized by scholarship and leadership. She has led peer-reviewed and NIH-funded research for the past 30 years focused on elucidating the molecular genetic alterations and dysfunctional inter- and intracellular signaling mechanisms that promote urinary tract (kidney, bladder, prostate) pathobiology. Research in the Macoska laboratory is focused on: (1) defining the mechanisms through which dysfunctional interactions between cell types within the tissue microenvironment develop and how these dysfunctional interactions contribute to pathobiology in the urinary tract; (2) elucidating the intracellular mechanisms through which inflammatory cytokines secreted by aging stromal fibroblasts and inflammatory cells stimulate cellular proliferation and myofibroblast phenoconversion—and mechanistically delineating how these pathobiologies, particularly tissue fibrosis, promote urinary tract dysfunction and malignancy; (3) understanding how the intersection of lifestyle and genetic predisposition contributes to health disparities in diverse populations; and (4) translating laboratory-based knowledge to the development of clinically efficacious biomarkers and therapeutics. Dr. Macoska has mentored more than 50 assistant professors or research assistant professors and postdoctoral, predoctoral, or undergraduate trainees, and is dedicated to educating, training, and diversifying the next generation of outstanding life scientists. She is currently working with state-wide nonprofit and government agencies to promote life sciences workforce development that will benefit a diverse student population. Recent efforts are focused on creating academic and industry programs to train "hybrid scientists" that can understand and utilize both data science and basic science approaches to decipher genomic data sets to treat cancer.



Kelli Maddock, M.M.T., M.T.-B.C.—Grants Management Specialist, NCI

Ms. Maddock has 8 years of experience with grants and fundraising and 15 years of experience in the healthcare field. She works with a variety of universities and cancer centers with a focus on small business grants, National Clinical Trial Networks (NCTNs), and U.S. Food and Drug Administration awards. Ms. Maddock got her start working with grants by trying to find funding for services provided as a Music Therapist-Board Certified, and realized she could amplify her impact by working with grants directly. She also served as a Peace Corps Volunteer Leader in the Fiji Islands from 2015 to 2018. She holds a Master of Music Therapy degree from Drury University.

Ana Patricia Ortiz, Ph.D., M.P.H.—Director, Office of Cancer Research Training and Education Coordination; Investigator, Division of Cancer Control and Population Sciences, University of Puerto Rico Comprehensive Cancer Center; Ad-Honorem Professor, Department of Biostatistics and Epidemiology, Graduate School of Public Health, Medical Sciences Campus, University of Puerto Rico

Dr. Ortiz has more than 19 years of experience leading multiple research efforts focused on human papillomavirus (HPV), HPV-related malignancies, HIV, women's health, HPV vaccination, and interventions to increase cancer prevention strategies among Hispanics/ Latinos. She is Multiple PI of the University of Puerto Rico/University of Texas MD Anderson Cancer Center Partnership for Excellence in Cancer Research grant and is Program Director and

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Multiple-PI of the Cancer Prevention and Control
(CAPAC) Research Training Program at the University of Puerto Rico Comprehensive Cancer Center.

Maria Jamela R. Revilleza, Ph.D., M.Sc.—Program Director, Integrated Networks Branch, CRCHD, NCI

Dr. Revilleza is involved in projects related to cancer research and cancer disparities for integrated research, training, and outreach network programs. Prior to joining NCI, Dr. Revilleza was a Health Science Policy Analyst at the Tribal Health Research Office, Division of Program Coordination, Planning, and Strategic Initiatives, Office of the Director, and earlier, a Scientific Program Analyst at the Division for Research Capacity Building, National Institute of General Medical Sciences. She initially joined NIH as a postdoc in the Molecular Biology Section of the Laboratory of Immunology, National Institute of Allergy and Infectious Diseases. A former academician, she was an Associate Professor of Biochemistry and Molecular Biology at the University of the Philippines (UP) and professorial lecturer at American University. She received her Ph.D. in agricultural chemistry from UP, with a Fulbright dissertation and MCBN-UNESCO grants at the University of California, Berkeley. She received her master's degree in food science (biochemistry minor) and an undergraduate degree in chemistry from UP Los Baños.

Brian Rivers, Ph.D., M.P.H.—Professor and Director, Cancer Health Equity Institute, Morehouse School of Medicine

Dr. Rivers is nationally and internationally recognized as a thought leader in health disparities research and a retired appointed member of the NIH National Advisory Council on Minority Health and Health Disparities (NACMHD). Dr. Rivers is an active member in the American Association for Cancer Research (AACR) community and has served in several leadership capacities, such as the steering committee for the inaugural AACR Cancer Disparities Progress Report, Chairperson for the AACR Minorities in Cancer Research Council, Conference Co-Chair for the 11th AACR Conference on Cancer Health Disparities, and Co-Chair for the AACR Think Tank on Cancer Health Disparities. Currently, Dr. Rivers serves as Chair of the Science Education and Career Advancement Committee. Dr. Rivers also serves as Co-Chair for the Georgia Cancer Control Consortium (GC3), a state-funded entity responsible for developing the state's cancer plan and maintaining the cancer prevention and control infrastructure. Dr. Rivers' research portfolio has endeavored to expand the application of population-based intervention/implementation/dissemination science to address cancer health disparities and advance cancer health equity in clinical and community-based settings, utilizing multi-level/multi-domain/multi-sectoral approaches, such as novel technological platforms and iterations of the Patient Navigation model.

Dr. Rivers has led and is leading several large randomized controlled trials funded by the National Institute on Minority Health and Health Disparities (NIMHD) (R01) to evaluate and characterize the impact of multi-level, digital health psychosocial interventions, targeting African American men diagnosed with prostate cancer, and the NCI (R01) to examine the interplay of social and molecular determinants in lung cancer disparities. Dr. Rivers is lead Multiple-Principal Investigator (MPI) for the NCI funded National Cancer Institute (NCI) funded Partnerships to Advance Cancer Health Equity (PACHE) U54 Cancer Research Partnership between Morehouse School of Medicine, Tuskegee University, and the University of Alabama-Birmingham O'Neil Comprehensive Cancer Center (UAB OCCC). Dr. Rivers serves as MPI of the inaugural NIH Faculty Institutional Recruitment for Sustainable Transformation Coordination and Evaluation Center (FIRST CEC). Lastly, Dr. Rivers is the Principal Investigator of two ecently launched American Cancer Society initiatives, Diversity in Cancer Research Institutional Development Program (Health Equity Research Career Advancement Program) and Cancer Health Equity Research Centers (Georgia Cancer Health Equity Research Center). Dr. Rivers has presented his novel and innovative research findings in diverse settings including the First Congress on Oncology Clinical Trials (Lagos, Nigeria); Movember International Prostate Cancer

Consortium (Queensland, Australia); *The Atlantic* Magazine, *The People vs Cancer*; South by Southwest (SXSW) conferences; and the National Press Foundation.

Sandra L. San Miguel-Majors, Dr.P.H., M.S.—Program Director, Integrated Networks Branch, CRCHD, NCI

Dr. San Miguel-Majors contributes to the grants management of the Connecting Underrepresented Populations to Clinical Trials (CUSP2CT) program. Dr. San Miguel-Majors also provides technical and scientific expertise to the Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE) program. She contributes to the grants management and lends her scientific expertise to the Patient Engagement and Cancer Genome Sequencing (PE-CGS Network) Administrative Supplements, and participates in various Center-wide and trans NCI and NIH initiatives.

Prior to joining NCI, Dr. San Miguel-Majors served in academia, holding faculty positions at the Department of Medicine, Epidemiology & Biostatistics at UT Health San Antonio, Baylor College of Medicine, and the Department of Biology and International Studies at Trinity University conducting behavioral and psychosocial research across the cancer control continuum and chronic diseases as well as teaching. Dr. San Miguel-Majors' expertise lies in epidemiology, behavioral psychology, and population and global health—developing/adapting, implementing, and evaluating evidence-based, culturally sensitive, multilingual cancer interventions to achieve health equity among racially/ethnically diverse and other underserved populations within the U.S. Dr. San Miguel-Majors also possesses extensive global health experience in cervical cancer and collaborating with the Pan American Health Organization/World Health Organization (PAHO/WHO), MD Anderson Cancer Center, and international non-government organizations.

Dr. San Miguel-Majors received her doctoral degree in public health, where her dissertation focused on cancer genetics health equity among underserved populations from the University of Illinois at Chicago. She earned her M.S. in psychology and B.A. in psychology and biology.

Isabel C. Scarinci, Ph.D., M.P.H.—Professor and Vice-Chair for Global and Rural Health, Department of Obstetrics and Gynecology, Senior Advisor for Globalization and Cancer, O'Neal Comprehensive Cancer Center, University of Alabama at Birmingham

Dr. Scarinci is a behavioral scientist, and her work has focused on the application of behavioral science to public health by promoting behavior change at the population level. She has expertise and experience in the development of cancer prevention and control in low-resource settings (including rural areas), particularly in cervical cancer prevention and tobacco control. She is the MPI for the Partnership to Advance Cancer Health Equity (PACHE) between the O'Neal Comprehensive Cancer Center (ESI), Morehouse School of Medicine, and Tuskegee University. She was a trainee as an early stage investigator through the NCI CRCHD-funded program to Reduce Cancer Health Disparities (CRCHD) funded program "Redes en Acción" in 2001. Since then, she has led a number of capacity building programs in health disparities/health equity targeting undergraduate and graduate students, postdoctoral fellows, and ESIs in collaboration with other universities in the U.S. and abroad. In addition to her work responsibilities, she is very committed to community service. One example of her community work is a 17-year program to promote breast and cervical cancer screening among Latina immigrants in Alabama that relies 100% on the work of committed volunteers—Sowing the Seeds of Health. In 2021, she was chosen as one of the six champions of health worldwide by Rotary International for her work in cervical cancer prevention and control in low-resource settings. She has been instrumental in the launching and implementation of a collaborative statewide action plan to eliminate cervical cancer as a public health problem in Alabama, the first U.S. state to do so.

PACHE Biennial Program Meeting Bios

Vanessa B. Sheppard, Ph.D.—Professor and Interim Founding Dean, Virginia Commonwealth University School of Population Health

Dr. Sheppard has served as Chair of Health Behavior and Policy in the Virginia Commonwealth University (VCU) School of Medicine. She is the inaugural Associate Director of Community Outreach, Engagement, and Health Disparities Research at VCU Massey Comprehensive Cancer Center. She holds the Theresa B. Thomas Memorial Chair in Cancer Prevention and Control. Prior to joining VCU, Dr. Sheppard was tenured at Georgetown University and Assistant Director for Disparities Research at the Lombardi Comprehensive Cancer Center.

Recognized by NIH as a health equity expert, Dr. Sheppard's research has been supported by the NCI, the National Institute for Nursing Research, the American Cancer Society, Susan G. Komen, and other entities. In 2023, Dr. Sheppard was named the American Cancer Society's Researcher of the Year. This prestigious award recognized her outstanding contributions to cancer research, advocacy, and policy and her commitment to improving cancer care for patients and families. She is currently principal investigator and multiple principal investigator on awards focused on enhancing cancer care delivery and access to clinical research for populations typically underrepresented in cancer clinical research. Her novel interventions have been the first to address disparities in uptake and adherence to adjuvant systemic therapy and hereditary cancer care for Black and Latine populations.

As a scientist committed to impacting workforce diversity, she leads and has co-led initiatives funded by the National Science Foundation and the NCI. Her administrative contributions include significant increases in institutional research funding, founding the Office of Health Equity and Disparities Research, developing the Massey Office of Community Engagement, and founding VCU's School of Population Health to address gaps in Virginia's public and population health workforce.

Mariana C. Stern, Ph.D.—Professor of Population and Public Health Sciences & Urology, Ira Goodman Chair in Cancer Research, and Associate Director of Population Sciences, Norris Comprehensive Cancer Center; Program Director, Master's Degree Programs in Epidemiology; Program Director, CaRE² Health Equity Center; Co-Lead, Cancer Moonshot Center for Optimization of Participant Engagement for Cancer Characterization (COPECC) Patient Engagement Unit , University of Southern California

Dr. Stern joined the faculty at the Keck School of Medicine of University of Southern California in 2001. She is a fFounding Director of the Florida-California Cancer Research Education and Engagement Health Equity Center, an NCI-funded center focused on the training of underrepresented minorities from undergraduates to early career scientists, which includes a partnership with the University of Florida and the Florida Agricultural and Mechanical University. This bi-coastal partnership is focused on conducting innovative translational research in cancers of high mortality among Blacks and Latinos, training underrepresented minorities both in Florida and California, and conducting community outreach and education to foster participation of underrepresented minorities in cancer research and clinical trials.

Dr. Stern obtained her undergraduate degree in biology at the University of Buenos Aires, School of Sciences, and a Ph.D. in cancer biology from The University of Texas MD Anderson Cancer Center. She completed her postdoctoral training in epidemiology at the National Institute of Environmental Health Sciences. Dr. Stern is a cancer epidemiologist with expertise in the identification of cancer determinants, translational cancer research, and cancer disparities research. Her research studies are focused on colorectal and prostate cancer, with emphasis on dietary sources of carcinogenic exposures and cancer

genetics, cancer patterns, tumor characteristics, and clinical outcomes, with special focus on minority populations. Dr. Stern was appointed by the California Governor to the Carcinogen Identification Committee of Proposition 65 for the California Office of Environmental Health Hazard Assessment. Dr. Stern has served and continues to serve on various organizing committees for cancer health disparity initiatives, such as the AACR Minorities in Cancer Research Council and as Co-Chair of the 2022 American Association for Cancer Research (AACR) Cancer Disparities Progress Report.

Sora Park Tanjasiri, Dr.P.H., M.P.H.—Professor, Department of Health, Society and Behavior, Program in Public Health and Associate Director of Cancer Health Equity and Community Engagement, Chao Family Comprehensive Cancer Center, University of California

Dr. Tanjasiri's research focuses on community health promotion to reduce cancer health disparities among diverse populations, particularly Asian Americans and Pacific Islanders. Her work applies community-based participatory research (CBPR) to tobacco prevention and cessation, cancer early detection, and survivorship, and she has served as PI or Co-PI on over two dozen extramurally funded cancer-related studies, including principal investigator (PI) of the 4-year NIH P20 Cancer Health Equity Research Partnership and the 2-year U.S. Department of Health and Human Services Office of Minority Health's Equity and Literacy in Orange County (HEAL OC). Her research has been published in peer-reviewed journals including *American Journal of Public Health*, *Journal of the American Medical Association*, *Health Education & Behavior*, and *Health Promotion Practice.* Dr. Tanjasiri has served as advisor to numerous organizations, including the Orange County Asian Pacific Islander Community Alliance; Asian Pacific Partners for Empowerment, Advocacy and Leadership; Orange County Women's Health Project; and the St. Joseph Health System Community Partnership Fund. She received her Dr.P.H. in Community health sciences and her M.P.H. in behavioral science at the University of California, Los Angeles School of Public Health.

Sarah M. Szurek, Ph.D. (C)—Program Director, Integrated Networks Branch, CRCHD, NCI

Dr. Szurek is an applied medical anthropologist and community-engaged researcher who joined the Integrated Networks Branch of NCI's CRCHD in 2022. As a Health Scientist Administrator, Dr. Szurek contributes to the CRCHD mission to integrate and disseminate research, training, and outreach programs on a national level through NCI-supported networks. Prior to joining NCI, Dr. Szurek held a faculty position within the University of Florida's College of Medicine. She also served as Director of the Office of Community Outreach and Engagement at the UF Health Cancer Center. Her past research and teaching experience spans a range of contexts—including social exclusion and diabetes risk among Mexican immigrants in the U.S.; structural racism and heart disease among African Americans; indigenous health in New Zealand; and intersectional cancer disparities among Black, Hispanic/Latinx, rural, and persistent poverty communities in Florida.

Dr. Szurek was awarded her B.A. in anthropology with a linguistics minor at the State University of New York, College at Geneseo. She earned her M.A. and Ph.D. in Anthropology with a concentration in biocultural medical anthropology at the University of Alabama. Dr. Szurek received postdoctoral training in medical anthropology and public health at the University of Florida.

PACHE Biennial Program Meeting Bios

Bao Q. Vuong, Ph.D.—Associate Professor of Biology, City College of New York

Dr. Vuong obtained his undergraduate degree from Cornell University, where he studied retroviral biology in Dr. Voker Vogt's lab. After graduation, he worked as a research technician in Drs. Jane Gibson's and Steve Ealick's labs. He completed his doctoral work in Dr. Paul Rothman's lab at Columbia University, where he studied cell signaling pathways in lymphocytes, and his postdoctoral work in Dr. Jayanta Chaudhuri's lab at Memorial Sloan-Kettering Cancer Center. He started his research lab at The City College of New York; his research team studies the molecular pathways that regulate antibody gene diversification. As one of the principal investigators on the U54 grant jointly held between City College and Memorial Sloan-Kettering Cancer Center, he works with Dr. Karen Hubbard from City College and Drs. Tim Ahles and Francesca Gany from Memorial Sloan-Kettering to develop collaborative research, education, and community engagement projects.

Anil Wali, Ph.D.—Program Director, CRCHD, NCI

Dr. Wali has been a Program Director in the Integrated Networks Branch of NCI's CRCHD since 2009. In this role, he contributes to the grants management of CRCHD's Geographic Management of Cancer Health Disparities Program. He also provides technical and scientific expertise to the Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE U54) program.

Prior to joining NCI, Dr. Wali served as Associate Professor in the Departments of Surgery and Pathology at the NCI-Designated Comprehensive Cancer Center Barbara Ann Karmanos Cancer Institute, Wayne State University in Detroit. While at Wayne State University, Dr. Wali served as principal investigator on a Veterans Administration Merit Review Award-funded project on the role of the ubiquitin-proteasome pathway in mesothelioma carcinogenesis. Dr. Wali conducted an NCI clinical trial on asbestos-exposed patient populations to determine their risk for developing lung cancer and mesothelioma using high-throughput genomics and proteomics technologies.

Dr. Wali received his B.S. and M.S. degrees from the University of Kashmir in Srinagar, India and earned his Ph.D. at the Postgraduate Institute in Chandigarh, India. He completed postdoctoral fellowships at the Institute for Environmental Medicine at the University of Pennsylvania, at the FELS Institute for Cancer Research at Temple University, and in the Department of Pathology at Thomas Jefferson University in Philadelphia, PA.

Karriem S. Watson, D.H.Sc., M.S., M.P.H.—Chief Engagement Officer, *All of Us* Research Program

Dr. Watson leads the Division of Engagement and Outreach, overseeing the *All of Us* program's efforts to foster relationships with participants, community partners, researchers, and providers across the U.S. His focus is on engaging people and populations who have been left out of medical research in the past and inviting them to help drive new biomedical discoveries. Dr. Watson comes to *All of Us* from his role as Associate Executive Director of the Mile Square Health Center, a group of Federally Qualified Health Centers in Chicago affiliated with the University of Illinois Hospital and Health Sciences System. He served as the Associate Director of Community Outreach and Engagement for the University of Illinois Cancer Center and as a Research Assistant Professor in the University of Illinois Chicago (UIC) School of Public Health. Much of Dr. Watson's previous work has focused on cancer, touching on racial disparities in lung cancer, improving cancer survival, and prostate cancer among African American men. Dr. Watson's holds Ph.D. in health science (global health), an M.S. in basic medical research, and an M.P.H. in community health sciences.

Speaker List

Speaker List

2023 PACHE Biennial Program Meeting Moderators and Speakers

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Partnership Programmatic Abstracts Poster List

Partnership Programmatic Abstracts List

All posters will be displayed in Seminar 110.

1	City College of New York/Memorial Sloan Kettering Cancer Center (U54)
2	Florida Agricultural & Mechanical University/University of Florida/University of Southern California Norris Comprehensive Cancer Center (U54)
3	Hunter College/Temple University/Fox Chase Cancer Center (U54)
4	Meharry Medical College/Vanderbilt-Ingram Cancer Center/Tennessee State University (U54)
5	New Mexico State University/Fred Hutchinson Cancer Center (U54)
6	Northeastern Illinois University/University of Illinois at Chicago/Northwestern University, Robert H. Lurie Comprehensive Cancer Center (U54)
7	Northern Arizona University/University of Arizona Cancer Center (U54)
8	Ponce Health Sciences University/H. Lee Moffitt Cancer Center (U54)
9	South Carolina State University/Medical University of South Carolina Hollings Cancer Center (U54)
10	Tuskegee University/Morehouse School of Medicine/University of Alabama at Birmingham Cancer Center (U54)
11	University of Guam/University of Hawaii Cancer Center (U54)
12	University of Massachusetts Boston/Dana-Farber/Harvard University Cancer Research Institute (U54)
13	University of Puerto Rico Cancer Center, Medical Sciences Campus/University of Texas MD Anderson Cancer Center (U54)
14	California State University, Fullerton/University of California, Irvine (P20)
15	Hampton University/Icahn School of Medicine at Mount Sinai (P20)
16	Virginia State University/Virginia Commonwealth University (P20)

Partnership Programmatic Abstracts

U54 Programmatic Abstracts

1: City College of New York/Memorial Sloan Kettering Cancer Center

Partnership Institutions:
The City College of New York and Memorial Sloan Kettering Cancer Center

Research Team:
Drs. Karen Hubbard & Bao Vuong – CCNY Principal Investigators, Drs. Tim A. Ahles & Francesca Gany – MSKCC Principal Investigators, Kelsey Schobert- CCNY Assoc. Program Manager & Nicole Roberts-Eversley – MSKCC Program Manager, Core Leaders – Drs. Gita Bosch, Jennifer Leng, Erica Lubetkin, Ümit Uyar, Carlos Riobó, Lisa Diamond, & Hedvig Hricak

Overview of Partnership:
The CCNY-MSK Partnership brings together two historic institutions, with long histories of major contributions to cancer education, research, and clinical care. The primary goals of the partnership are to: 1) encourage and support basic and applied cancer research initiated by CCNY investigators; 2) encourage and support research on health disparities and cancer burden in minority populations initiated by MSK investigators; 3) implement joint education and training opportunities to attract minority students at all levels to careers in cancer research and cancer clinical care and to support their career development; and 4) use the combined resources of the institutions to develop and evaluate innovative health outreach initiatives to reduce the impact of cancer in medically underserved and at-risk communities. The two institutions support each other in developing stronger cancer programs through resource sharing, forming collaborations of diverse inter-institutional teams, and giving underrepresented minority students access to world class technology and laboratories.

Accomplishments and/or Discoveries:
Over the past five years, areas of significant strength have been developed, including: 1) rich collaborations between engineers and computer scientists at CCNY and clinicians and imaging experts at MSK to develop innovative solutions to improve cancer care; 2) sustainable, translational health disparities research and activities that directly benefit underserved communities in New York, and serve as national models, in terms of: a) screening/identification of cancer risk factors that disproportionately affect minorities; b) socioeconomic determinants of access to and successful completion of clinical care and cancer clinical trials; and c) policy change on the city and state levels. We have funded 73 research projects and 2 training projects. A total of 136 grants were awarded based on work conducted in the U54 and 20 grants were awarded based on work done in the U56/P20. We have had a total of 449 publications. Publication and grant highlights include: Gany F, et al. Food to Overcome Outcomes Disparities: A Randomized Controlled Trial of Food Insecurity Interventions to Improve Cancer Outcomes. *J Clin Oncol*. 2022 Nov 1;40(31):3603-3612. doi: 10.1200/JCO.21.02400. Epub 2022 Jun 16. PMID: 35709430; PMCID: PMC9622577 and Karen Hubbard, Ph.D. and Hedvig Hricak, Ph.D. were awarded a supplement to expand the Scholars of the Future postdoctoral training program.

Impact/Outcomes of the Partnership:
Our partnership has impacted the environment of each partner institution including: 1) all 12 Partnership developed courses have become institutionalized at CCNY; 2) a significant number of Biomedical Engineering faculty have a cancer component in their research. U54 investigators Sihong Wang, Zeynep Dereli-Korkut, and Xuejun Jiang received a patent, LAYERED MICROFLUIDIC LIVING CELL ARRAY (application number 14/257,182); 3) CCNY Commitment to Cancer Research Infrastructure with the addition of cancer research cluster in basic sciences faculty; 4) expanding the Breadth of Expertise for MSK Investigators; 5) MSK Commitment to Health Disparities research and 6) Focus on Translation Research. Working groups. The success of our working groups has resulted in innovative research, education, and outreach initiatives. ESI success. The Partnerships ongoing support to young investigators is reflected in this year's awarded proposals, three of the four have an ESI as one of the collaborating PIs, one of whom was previously a U54 postdoctoral trainee.

Sustainability:
We continue to successfully meet our metric goals of sustainability including: 1) a robust portfolio of externally funded grants that ensures continuation of research stimulated by the U54; 2) hiring of faculty with cancer (CCNY) and health disparities (MSK) interests; 3) integration of Partnership courses and programs into the overall CCNY curriculum; and 4) impact on policy at the city, state, and national levels based on PCORE research and initiatives. The Partnership receives a great deal of institutional support from both CCNY and MSK by providing additional salary and administrative support. MSK provides $500K per year which includes $200k per year to support new projects that promote new investigative teams among both institutions and $50k a year to support community engagement activities, which includes costs of translation/interpretation services in the main languages of the communities we are serving, stipends for bilingual students from the Partnership communities, and funds for community partners. CCNY provides matching effort for all key personnel and provides salary lines for new faculty hires. Both institutions waived indirect costs when collaborating.

Challenges and Opportunities:
Institutional challenges still exist, including faculty hiring freezes and lengthy IRB processes, however programmatic activity post-pandemic has rebounded. Student trainees in our Research Education Core were able to conduct and present their research using remote platforms. Outreach and research enrollment activities through Outreach Core (PCORE) and Shared Resource Core (LCRSRC) continue to thrive through the continued development of innovative virtual platforms and through in-person outreach and outreach-research activities. Remote Simultaneous Medical Interpretation (RSMI) technology has been incorporated in two research studies. LCRSRC methodologies will be disseminated to the MSK P30 CCSG and to other PACHE programs and GMaP regions to significantly increase their reach to the limited English proficient (LEP) community.

2: Florida Agricultural & Mechanical University/University of Florida/ University of Southern California Norris Comprehensive Cancer Center

Partnering Institutions:
Florida A&M University (FAMU), University of Florida (UF), and University of Southern California (USC)

Research Team:
R. Reams (FAMU), K. Redda (FAMU), D. Wilkie (UF), J. Krieger (UF), C. Carpten (USC), M. Stern (USC)

Overview of Partnership:
We established the Florida-California Cancer Research, Education and Engagement (CaRE^2) Health Equity Center, which was funded as a CPACHE partnership in September 2018. This bi-coastal minority cancer research and training partnership includes Florida A&M University (FAMU) (an institution serving underserved health disparity populations and underrepresented students [ISUPS]), the University of Florida Health Cancer Center (UFHCC), and the University of Southern California Norris Comprehensive Cancer Center (USC NCCC). The CaRE^2 Center has uniquely contributed to the CPACHE program by addressing gaps in knowledge and novel translational cancer disparities research in racially and ethnically diverse bicoastal populations of Black or African Americans (B/AA) and Hispanic/Latino/a/x (H/L) in Florida and California. The CaRE^2 partnership is in Year 5 of its current (first) funding cycle. In addition to continued development and support of translational cancer disparities research studies, we have also continued with significant cancer health disparities activities in education, training, and community outreach among underrepresented minorities (URM).

Accomplishments and/or Discoveries:
To date, our partnership has funded 15 translational cancer disparities research projects, which includes 2 Full Projects, 4 Pilot Projects, 3 Administrative supplements, 1 Diversity Supplement, and 5 Developmental Research Projects. Among our discoveries, we identified two novel Mitochondrial Derived Peptides, 144B and 143B, which are derived from ORFs that are differentially expressed in PCA from B/AA men and in response to androgens. Whole exome sequencing of tumor and uninvolved tissue from a series of B/AA, H/L and NHW PDAC patients has revealed local ancestry patterns across B/AA, H/L, and NHW patients and somatic mutation frequencies for comparison with other datasets (i.e., TCGA). We developed and synthesized novel nanoparticle coated Gemcitabine analogs (GemEnps) at FAMU and tested them on novel patient derived primary PDAC organoid cell models and xenografts (PDX) models derived from B/AA, H/L, and NHW patients.

Impact/Outcomes of the Partnership:
We made outstanding progress toward our benchmarks, and have advanced and expanded infrastructure in cancer disparities research at FAMU, including the development of a Living Repository of cancer model systems developed from minority patients to drive our novel cancer drug development (81 model systems). Specifically, we have trained 94 URM trainees, 32 URM ESIs, and 2 other ESIs (34 total) across the partnership (128 total), who have received awards, co-authored 313 Center-related publications, and received 52 grants including 4 R01s; through our community outreach efforts we have reached thousands of individuals and trained 145 community cancer advocates, including 26 Community Scientist Research Advocates; published 10 community reports; and funded 15 scientific projects. Altogether, our research project teams published 38 articles, our members, and trainees, as a result of leveraging our center have published another 584 publications (642 total); received 61 grants resulting from the U54, and 57 awards. Finally, to assess progress and impact, we have planned and convened 4 Program Steering Committee (PSC) meetings, 12 partnership meetings, and have used mixed methods approaches for continued quality improvements. In summary, the CaRE^2 partnership has successfully achieved its aims ahead of the end of its first funding cycle: FAMU has expanded its research infrastructure for translational cancer research and cancer disparities research has expanded at the two cancer centers. Through our renewal application, we will continue to expand our impact on our diverse catchment areas.

Sustainability:
The submitted and awarded grants facilitate our Center toward sustainability.

Challenges and Opportunities:
Recruitment of a senior cancer health disparities researcher to serve as permanent MPI at UF. The search continues. UF Cancer Center Director attended AACR Science of Cancer Health Disparities meeting in October 2022 and met several potential candidates. Several individuals have completed campus visits as part of Cancer Health Disparities Seminars series, which also serves a platform for recruitment. Dr Carpten at USC also worked with UF Cancer Center Director to identify additional candidates who are also being contacted and invited for campus visits.

Sars-CoV2 (COVID-19) pandemic from February 2020 through March 2022.
Minimally 2.5 years of our first grant cycle overlapped with the Sars-CoV2 (COVID-19) pandemic, which significantly impacted laboratory research due to shutdowns, halted and limited in person activities, and led to the "Great Resignation." We relied on available institutional resources to supplement work-backlog.

UFHCC has been designated as an NCI Cancer Center, which provides additional opportunities for our cancer health disparities work.

3: Hunter College/Temple University/Fox Chase Cancer Center

Partnering Institutions:
Hunter College (HC); Temple University Fox Chase Cancer Center (TUFCCC)

Research Team:
Grace Ma (TUFCCC), Jean-Pierre Issa (TUFCCC) , Camille Ragin (TUFCCC), Olorunseun Ogunwobi (HC), Joel Erblich (HC) Yin Tan (TUFCCC), Thoin Begum (TUFCCC), Yasmin Tariq (HC), Lin Zhu (TUFCCC), Jade Truehart (TUFCCC), SJ Dodd (HC), Emily Kaminsky (HC), Evelyn Gonzale (TUFCCC), Erin Kim (TUFCCC), Ming-chin Yeh (HC), Marilyn Fraser (HC), Safa Ibrahim (HC), Carolyn Fang (TUFCCC), Yuku Chen (TUFCCC), Wenyue Lu (TUFCCC), Sarit A. Golub (HC), Chibuzo Enemchukwu (HC), Camille Ragin (TUFCCC), Carmen Sapienza (TUFCCC), Jayashri Ghosh (TUFCCC), Frida Kleiman (HC), Eric Ross (TUFCCC), Konstantinos Krampis (HC)

Overview of Partnership:
The overall goals of the Partnership are to: 1) create and enhance successful and sustainable cancer disparity research collaborations in underserved minority populations between TUFCCC and HC; 2) provide research education opportunities to support a pipeline of diverse and underrepresented undergraduate and graduate students at HC and TUFCCC; 3) establish a sustainable career development program to increase the number and diversity of investigators to conduct cancer and cancer disparity research at both HC and TUFCCC; and 4) use a Community-Based Participatory Research approach to engage academic researchers, students, and community leaders to develop and implement culturally appropriate collaborative cancer outreach, research, and education initiatives to increase access to and utilization of cancer prevention, early detection, and treatment by underserved Black/African American, Asian Pacific, and Hispanic American disparity populations.

The Partnership is the only NCI-funded CPACHE in Pennsylvania and New Jersey and one of only two in NYC, and is highly collaborative and mutually beneficial. Built on active collaboration between TUFCCC and HC since 2015, the Partnership has been integrating and enhancing cancer-related activities across both institutions,and continues to provide research opportunities for trainees and community partners that have significantly benefited both institutions.

Accomplishments and Impact/Outcomes of the Partnership:
Over the past five years, our Partnership has enjoyed significant accomplishments and made significant impacts on cancer health disparities at multiple levels (trainee, institution, research, and community-level, among underserved African American, Asian-Pacific American and Hispanic American populations). Institutional Research-Level Impact: 108 cross-institution collaborative research projects by U54 investigators, 102 cross-institution collaborative projects awarded, totaling $67M. Additionally, there were 249 publications and 444 presentations. The Partnership also led to an increase in cancer disparities investigators since its inception, with TUFCCC seeing an increase from 32 to 52, and HC from 10 to 32. Trainee-Level Impact: 207 trainees (107 HC, 100 TUFCCC) across academic levels; all co-mentored across institutions; trainee-led grants: 6 external awards to ESIs, 49 U54-supported awards; 48 trainee-led publications; 323 presentations led by trainees; 14 minority ESIs enjoyed career advancement, 8 ESIs hired to new junior faculty positions, 8 trainees advanced to postdoctoral positions; 26 to doctoral programs. Community-Level Impact: We established academic-community partnerships and community research capacity throughout our catchment: 51 community-based/faith-based organization partners across three underserved communities in which we also trained 47 community health workers who co-delivered 127 outreach events, and educated 6,029 community members.

Sustainability:
Our ultimate goal is to empower our institutions, investigators, trainees, and community-based organizations to advance cancer health equity and achieve long-term sustainability. Significant investments in capacity-building have groomed a cohort of dedicated researchers and leaders whose contributions will continue in the long term. The Partnership has knitted a network of diverse stakeholders, ranging from researchers to trainees to community partners. The Partnership's demonstrated success in grant acquisition underscores its potential for sustained funding. Deep-rooted community engagement has not only increased cancer awareness and treatment accessibility, but also cultivated resilient community health behaviors and practices.

Challenges and Opportunities:
The most notable challenge was COVID-19. To minimize disruptions, we built online and hybrid capacity that further strengthened research, career development, and outreach activities. Together with increased institutional support, the pandemic created new opportunities and enhanced capacity and reach. Collaborative efforts resolved initial IRB challenges, enabling projects to meet and exceed programmatic goals. Engaging with diverse communities was a challenge. However, we worked closely with our diverse Community Advisory Board, to enhance culturally-tailored programming with community partners, and implemented "train-the-trainers" models to strengthen community engagement and capacity in cancer research and education, fostering true community partnerships.

4: Meharry Medical College/Vanderbilt-Ingram Cancer Center/Tennessee State University

Partnering Institutions and Title:
Meharry Medical College (MMC)/ Vanderbilt-Ingram Cancer Center (VICC)/ Tennessee State University (TSU)

Research Team:
PI Team: Samuel Adunyah, Ph.D.; LaMonica Stewart, Ph.D.; Tuya Pal, M.D.; Karen Winkfield, M.D., Ph.D., Margaret Whalen, Ph.D.; Quincy Quick, Ph.D.; Core Leaders: Debra Friedman, M.D., M.S.; Billy Ballard, M.D., D.D.S.; Yu Shyr, Ph.D.; Karen Winkfield, M.D., Ph.D.; Kim Dahlman, Ph.D.; Sarah Suiter, Ph.D.. Administrative Team: Monica Taylor, Calandra Whitted.

Overview of Partnership:
The purpose of the partnership is to identify and address cancer disparities in underserved populations through facilitation of research projects, cores and shared resources. The MVTCP is committed to demonstrably showing a clear impact of the partnership in reducing disparities in the 14-county Nashville Metropolitan Statistical Area. The MVTCP has worked to strengthen research infrastructure at MMC and TSU by leveraging the resources and expertise at VICC. The commitment to these Institutions Serving Underserved Health Disparity Populations and Underrepresented Students is demonstrated by revisions to institutional policies to ease access to core research facilities across the collaboration and providing multiple additional sources of funding to develop the next generation of world class researchers.

Accomplishments and/or Discoveries:
Since January of 2022, MVTCP investigators have contributed to 74 publications, which compares to over 200 publications between 2016 and January 2021 (the most recent grant cycle). MVTCP investigators are extensively involved in the training and mentorship of students and early career faculty, with 14 publications involving MVTCP students as collaborators and 27 publications authored by MVTCP early-stage investigators (ESIs).

Impact/Outcomes of the Partnership:
The MVTCP values the input of our highly engaged community advisory board that has not only provided input on research projects but members of which are named as investigators on studies. Research activities continue to expand as demonstrated by our growing number of collaborative research papers, the number of which has tripled over the past 10 years. Additional grant funding has nearly doubled over the last grant cycle demonstrating a great return on investment for the NCI. At TSU, a highly successful Cancer Biology curriculum was established through the Partnership led by the MVTCP Research Education Core, training both high school students for college admission and undergraduates for successful admission into professional school, including graduate school, medical and dental school. Additionally, the Partnership was integral in the formation of the Southern Community Cohort Study, one of the nation's significant investigations of cancer among African American and underserved populations.

Sustainability:
The MVTCP is one of the longest CPACHE programs with continuous funding since 1999. As noted earlier, it has led to successful competition for additional extramural research funding. More importantly, there is great commitment from institutional leadership at all 3 institutions as evidenced by the provision of additional financial support and resources.

The MVTCP is also supported by the broader and overarching Meharry-Vanderbilt Alliance (MVA), which is an independent umbrella program initiated in 1999 that develops and supports collaborative opportunities for MMC and VUMC, including cancer initiatives and inter-institutional collaborations on graduate student training and aspects of medical education and training. Formal inclusion of TSU into the MVA Faculty Affiliate Program was extended in 2022.

Shared Resources:
A unique aspect of the MVTCP across CPACHE sites is the Population Research And Clinical Trials In Cancer Equity (PRACTICE) Shared Resource Core; it is currently supporting more than 4 populations health studies addressing key needs for our community. Additional research infrastructure supported by the MVTCP includes the biospecimen collection and processing through the Translational Pathology Shared Resource Core, which continues to grow its histological services (tissue processing sectioning, antibody validation, general and specialty staining, immunohistochemical staining, mRNA, FISH, and genomic FISH staining, and cryostat time, microscope time) for cancer.

Areas of Collaboration:
VICC has demonstrated support for disparities research, investing significant pilot funds, independent of the PACHE award, to support ESI career development. Institutional funding also offers opportunities to apply for pilot funding from its NCI breast and gastrointestinal cancer Specialized Programs of Research Excellence (SPORE) grants and Cancer Center Support Grant to support MVTCP investigators' continued career development. The MVTCP will continue to facilitate state of the art research projects to bolster the competitive cancer research capacity at MMC and TSI with the ultimate goal of improving cancer equity for the communities we serve.

U54 Programmatic Abstracts

5: New Mexico State University/Fred Hutchinson Cancer Center

Partnership Institutions:
New Mexico State University (NMSU), Fred Hutchinson Cancer Center (Fred Hutch)

Research Team:
MPIs: Drs. Graciela Unguez (NMSU) and Julian Simon (Fred Hutch); **Managers:** Helena (Lene) Loest (NMSU) and Marilyn Drennan (Fred Hutch); **Administrative Core Leads:** Drs. Graciela Unguez (NMSU) and Julian Simon (Fred Hutch); **Planning and Evaluation Core Leads:** Drs. Graciela Unguez, Rachel Boren (NMSU) and Julian Simon (Fred Hutch); **Outreach Core Leads:** Dr. Tamara Stimatze (NMSU) and Marilyn Drennan (Fred Hutch); **Research Education About Cancer and Health (REACH) Core Leads:** Drs. Mary Alice Scott (NMSU) and Julian Simon (Fred Hutch); **Sustain Competitive Cancer Early State Scientists (SuCCESS Core) Leads:** Drs. Michele Shuster (NMSU) and Karen Peterson (Fred Hutch)

Overview of Partnership:
The U54 Partnership between NMSU and Fred Hutch is a mature, mutually beneficial partnership; the institutions started with a U56 (2002–2007) and are in the third cycle of a U54 (2007–2023). Our partnership has accomplished many goals; including developing a strong cancer research infrastructure at NMSU and increasing health disparities research at Fred Hutch. Overall goals include increasing and maintaining excellence in cancer research, cancer education, and outreach and dissemination. The target populations include underserved communities in the border region of New Mexico, northwestern New Mexico, and the Yakima Valley of Washington State.

Accomplishments and/or Discoveries:
Development of Small Grants Program, which trains community organizations in Washington and New Mexico in grant writing for interventions in underserved populations, promoting sustainability and community-based research.

Impact/Outcomes of the Partnership:
The partnership has funded 40 research projects, produced over 176 publications, supported 127 graduate and undergraduate internships for NMSU students at Fred Hutch and educated more than 22,200 community members on cancer health. One of our trainee success stories is former NMSU graduate intern and community health educator, Dr. Janeth Sanchez, who currently is the Program Director of the *All of Us* Research Program in the Division of Medical and Scientific Research at NIH.

Sustainability:
Both institutions successfully integrated courses into their curriculum (Cancer Biology at NMSU, Health Disparities at UW/Fred Hutch). The partnership sponsored the launch of the Health Sciences Seminar Series at NMSU, continued by the College of Health, Education, and Social Transformation.

Shared Resources:
The program hosts summer technical workshops (i.e., Proteomics, Scientific Imaging and Deep Learning) open to all faculty at both institutions. SuCCESS Core lead Dr. Peterson provides career development sessions open to all faculty at NMSU.

Areas of Collaboration:
Our partnership expands student opportunities at NMSU by collaborating with other NIH-funded programs for underrepresented students to host/attend professional development sessions. Our Outreach Core established relationships with other U54 Outreach Cores to share methods for evaluating program impact. Our partnership has a research collaboration with MD Anderson under the UO1 *Building a Diverse Biomedical Workforce Through Communication Across Difference.*

6: Northeastern Illinois University/University of Illinois at Chicago/ Northwestern University, Robert H. Lurie Comprehensive Cancer Center

Partnering Institutions:
Robert H. Lurie Comprehensive Cancer Center of Northwestern University (NU-LCC), the University of Illinois at Chicago (UIC), and Northeastern Illinois University (NEIU), Chicago, IL

Research Team:
Melissa Simon (NU), Joseph Feinglass (NU), Marian Fitzgibbon (UIC), Masahito Jimbo (UIC), Christina Ciecierski (NEIU), and Lidia Filus (NEIU)

Overview of Partnership:
Launched in 2015, the Chicago Cancer Health Equity Collaborative (ChicagoCHEC) combines the synergistic strengths of three institutions including two federally designated Hispanic Serving Institutions, the University of Illinois at Chicago (UIC) and Northeastern Illinois University (NEIU), with a world class NCI-designated cancer center – the Robert H. Lurie Comprehensive Cancer Center of Northwestern University (NU-LCC). ChicagoCHEC is dedicated to advancing cancer health equity through rigorous and innovative science, education, and outreach and engagement of Chicago's underserved communities. This is reflected in the following goals: Aim 1: To strengthen a transformational alliance between UIC, NEIU, and the NU-LCC in pursuit of cancer health equity in Chicago; Aim 2: To initiate, conduct, and support innovative bench, translational, clinical, and prevention and control focused cancer research with emphasis on cancer health disparities; Aim 3: To develop and implement cancer-related education and outreach activities generated with the engagement of underserved communities across Chicago; Aim 4: To coordinate research education and mentoring opportunities to recruit, retain, and advance a pipeline of underrepresented students in cancer research careers and to develop early career faculty who will forge independent cancer research careers; and Aim 5: To conduct ongoing rigorous evaluation of ChicagoCHEC activities. These goals are accomplished by a nurturing hub of four Cores (Administrative, Planning and Evaluation, Research Education, and Outreach) and a research project funding program.

Accomplishments and/or Discoveries:
Since its inception, there has been rapid growth in collaborative infrastructure built across the three partnering institutions; enhanced cancer research engagement, capacity, and education; extensive community outreach and engagement; and encouraging advancement of ChicagoCHEC faculty and students. ChicagoCHEC projects and programs provided research experiences to over 155 students, provided cancer research and leadership opportunities for over 57 faculty, and directly resulted in over 109 peer-reviewed publications, over 53 extramural grants submitted, and more than 32 grants awarded.

Impact/Outcomes of the Partnership:
ChicagoCHEC has planned and participated in over 120 community events in Chicago, reaching more than 18,800 individuals. The Annual Community Forum is the partnership's largest dissemination and outreach event to present to communities of interest. Our community partners have co-authored over 18 peer-reviewed publications with ChicagoCHEC investigators. The virtual community and professional development events are recorded on the ChicagoCHEC YouTube and Facebook pages. ChicagoCHEC Twitter, LinkedIn, and Instagram webpages are other social media avenues to provide outreach and to disseminate cancer research to communities of interest.

ChicagoCHEC has successfully graduated 7seven cohorts from our Summer Fellows Program. The program has trained over 100 students from diverse backgrounds in the STEM pipeline. Thirteen fellows have further engaged in the semester-long LEaP one-on-one mentoring experience.
Accomplishments based on ChicagoCHEC's efforts to mentor early career faculty (ECF) include promotion (tenure) of underrepresented faculty and faculty conducting cancer disparities research (11

at NEIU, 3 at NU-LCC, 3 at UIC) and an endowed chair/professorship; and career development awards granted to ChicagoCHEC ESIs, including a K01, K12, and an NCI CURE Diversity Research Supplement. Other impacts include: 1) successful alignment of the Institutional Review Boards across the three institutions with an IRB Authorization Agreement (IAA) for efficient review of tri-site research protocols,; 2) development of standard operating procedures and manual;, 3) Tri-institutional leadership commitment for capacity building and access to research resources;, and 4) a widely visited website (250+ visits/week), shared cloud-based file storage (70GB, 17,000+ files), and a cloud-based video conferencing platform used for virtual meetings, webinars, and community events.

Sustainability:
Since its inception, ChicagoCHEC has secured resources amounting to over $690,000 from the NU-LCC in the form of a new Center for Health Equity Transformation (directed by Dr. Simon), deeply discounted rates for access to NU-LCC's 16 Shared Resource Cores/Facilities, salary support for grants administrators, manuscript publication fees, national meeting travel, Research Education Core programming, and arrangements for the Outreach Core's Annual Community Forum, Community Steering Committee, and outreach events. ChicagoCHEC has also received over $416,000 from UIC institutional funds to support community events, student programming, and faculty salary and development.

Additional commitments to our partnership include 1) faculty course releases, administrative office space, parking, and establishment of the NEIU Center of Health; 2) an award (U54MD01253) establishing the Center for Health Equity Research at UIC; 3) successful competition and newly awarded U54 NURTURE grant (U54CA272163, Simon PI), which aims to cluster hire 15 new tenure-track faculty in the areas of cancer, cardiovascular, and brain and behavioral sciences and also deploy new strategies to ensure success of these faculty from underrepresented groups; and, 4) the NIMHD T37 award to support minority health disparities research training at NU (T37MD014248, Simon) and successful renewal of T32 cancer education and career development program at UIC (T32CA057699, Fitzgibbon) to bolster a minority-focused cancer research education pipeline.

Challenges and Opportunities:
Challenges include funding multiple and increasingly sophisticated research projects with static agency budgets and providing mentorship to trainees from established scholars.

7: Northern Arizona University/University of Arizona Cancer Center

Partnership Institutions:
Northern Arizona University (NAU) and University of Arizona Cancer Center (UACC)

Research Team:
JJani Ingram (NAU), Francine C. Gachupin (UACC), Melissa M. Herbst-Kralovetz (UACC) Jason Wilder (NAU), Alicia Allen (UACC) Ronald Heimark (UACC), Nicolette Teufel-Shone (NAU), Hendrik deHeer (NAU), Jennifer Bea (NAU), Naomi Lee (NAU), Celina Valencia (UACC), Maria Lluria-Prevatt (UACC), Maria Elena Jackson (NAU), Kelly Laurila (NAU)

Overview of Partnership:
Overall goals are to increase NAU's cancer research and UACC's cancer health disparities capacities by honoring existing and establishing new Native American community partnerships. Objectives are to: 1) reduce the cancer burden within the Native American population through research and community engagement; 2) expand the number of Native American investigators working in cancer research; and 3) increase the total number of investigators focused on cancer health disparities within the Native American communities of Arizona.

Accomplishments:
In the first three years of the current funding cycle, NACP affiliated faculty were awarded 59 cancer related grants with 34% including early-stage investigator PIs and 32% by underrepresented PIs. Student research engagement is very high (n=81); 43% of students self-identifying as American Indian/Alaska Native (AIAN). The NACP publications (n=56) can be found at: https://in.nau.edu/nacp/nacp-research-publications-2003-present-2/.

Impact/Outcomes of the Partnership:
The Outreach Core *Indigenous Cancer Prevention Webinar Series* engaged participants from over 30 states with 59% affiliated with or working in tribal communities. The *Taking Care of Us* Podcasts includes four episodes with 135 downloads from 16 different states. During the current grant cycle, NACP engaged in 15 community outreach events with 330 participants, 35 community research dissemination activities, and 22 technical consultations with Tribal communities. Since the inception of NACP in 2002, NACP has engaged 350 AIAN trainees and increased the number of AIAN students earning doctoral degrees from one (2002) to 33 (as of 2022) demonstrating the Partnership impact on increasing the AIAN cancer research pool.

Sustainability:
UACC has established a Center for Outreach & Engagement (COE) which includes Investigator recruitment, training, education, and community sustainability. NACP works with COE to complement and support efforts and is working to expand on collaborative activities. Additionally, at UACC, funds were used to support the activities of Guiding U54 Investigator Development to Sustainability (GUIDeS) Shared Resource. NACP affiliated faculty have developed significant research training infrastructure for AIAN trainees, which includes 17 externally funded research training programs spanning the pipeline from community college to post-doctoral & ESI oriented opportunities.

Challenges and Opportunities:
NACP faculty departures from both NAU and UACC have been a challenge to maintaining cancer health disparity research. However, both institutions have instituted strategies for recruitment and retention of underrepresented faculty, particularly Native American faculty (see following examples of Drs. Erdrich and Lee). NACP works closely with Institutional leaders in recruitment of new cancer researchers at both institutions.

8: Ponce Health Sciences University/H. Lee Moffitt Cancer Center

Partnering Institutions:
Ponce Health Sciences University (PHSU); H. Lee Moffitt Cancer Center (MCC)

Research Team:
Contact PIs - J. Matta (PHSU); K. Wright (MCC); J. Dutil (PHSU), A. Monteiro (MCC)[2]; W.D. Cress (MCC), H. I. Saavedra (PHSU), C. Gwede (MCC), S. Christy (PHSU), J. Jiménez (PHSU); M. Marzán (PHSU); B. Ramos (PHSU) (MCC), M. Rosa (MCC), I. Flores (PHSU), S. Eschrich (MCC), C. Appleyard (PHSU), P. Santiago (PHSU), S. Rodríguez (MCC), H. Delgado (PHSU), Y. Rivera-Torgerson (MCC), M. Alvarado (MCC), A. Vela (PHSU), M. Baez (PHSU), M. E. Aviles (PHSU)

Overview of Partnership:
The Hispanic/Latino (H/L) communities in the Ponce and Tampa Bay regions experience shared and unique challenges associated with poverty, access to care, and language. Since 2006, an engaged team of investigators from the Moffitt Cancer Center (MCC) in Florida and the Ponce Health Sciences University (PHSU) in Puerto Rico has forged a strong relationship and leveraged their respective strengths and resources to address these needs with the goal of eliminating cancer health disparities. The Partnership is a catalyst that facilitates recruitment of new faculty at PHSU in basic and translational cancer research, increase in health disparities research focus at MCC, establishment and growth of the Puerto Rico Biobank (PRBB), exchange of research and medical trainees between institutions, and development of community outreach and educational materials for the H/L communities in Ponce and Tampa.

Accomplishments and/or Discoveries:
A. Research projects showed 1) the roles of mitotic kinases networks as drivers of epithelial-to-mesenchymal (EMT) and early metastatic events in triple-negative breast cancer, which affects Blacks, African Americans, and Caribbean Hispanics disproportionately; 2) that stress hormones can induce adrenergic-mediated DNA damage while abrogating the effects of cisplatin on DNA damage; and 3) that for carriers of a risk genotype at *MC1R*, the use of precision prevention materials can promote receipt of a skin exam and improve sun protection behavior for themselves and their children; and 4) the critical role that dysregulated DNA repair through epigenetic mechanisms exerts in the development of lethal prostate cancer.

B. The Outreach Core has been actively involved, through a community engagement approach, in psychoeducational interventions for cancer patients and their families affected by hurricanes and earthquakes in PR. The Outreach has effectively promoted awareness about cancer-related issues affecting sexual minorities and established a Cancer 101 curriculum to sustain a cadre of individuals who can provide cancer prevention and early detection education in the community.

C. PRBB is the first repository of biospecimens derived from H/L. In addition to supporting research projects, the PRBB has joined efforts with the Quantitative Sciences Core and the Oncology Research Information Exchange Network (ORIEN) to acquire the first molecular profiling of tumors from Puerto Rican patients.

Impact/Outcomes of the Partnership:
Impact includes recruitment of 18 cancer research faculty at PHSU and >200 community outreach activities for H/Ls in FL and PR—the creation of the PRBB with over 7,700 specimens collected and 3,019 released to investigators. The Partnership had a significant clinical impact by supporting the ACGME accreditation of the first Urology residency program in PR and the re-accreditation of the Hematology/Oncology Fellowship at the San Juan VA Hospital in PR and the first two stem cell transplant offices in PR. Since 2006, 107 medical students, 40 graduate students, 36 clinical fellows, and residents have received training through inter-institutional rotations.

Partnership support facilitated 290 publications, and 101 funded Partnership-related grants representing over $34,000,000 in direct costs. ESIs from both institutions have secured multiple R-type grants and academic promotions.

Sustainability:
Partnership sustainability has continued to solidify with the success of the faculty and trainees, as evidenced by the significant increase in grant applications and awards in cancer research at PHSU and health disparities research at MCC. Overall, the Partnership grants include 27 R-type or equivalent grants, highlighted most recently by an R01 on breast cancer disparities emanating from a full research project and a DoD cancer disparities grant on prostate cancer emanating from a developmental research project. Additionally, the PRBB and QSC shared resources and implemented chargebacks for non-PACHE studies to grow and sustain their essential activities. Supporting competitive grant applications will continue to be an essential focal point toward building robust sustainability.

Challenges and Opportunities:
The Partnership's continued growth occurred with a backdrop of devastating natural disasters during this funding cycle, including hurricanes in Puerto Rico and Florida, earthquakes in the SW PR, and the COVID-19 pandemic. Through stable leadership and strong institutional commitment, the Partnership has continued to thrive. New opportunities include expansion of training to undergraduates and urology residents, new research in prostate and ovarian cancer, and addressing cancer care in gender minorities. The Partnership has a mature and robust infrastructure that is now ripe for its expansion serving as an incubator for the development and implementation of complementary programs and projects.

9: South Carolina State University/Medical University of South Carolina Hollings Cancer Center

Partnering Institutions:
Medical University of South Carolina (MUSC) and South Carolina State University (SCSU)

Research Team:
Marvella E. Ford (MUSC), Tammy L. Loucks (MUSC), James B. Stukes (SCSU), Cammie Berry (SCSU), Joni D. Nelson (MUSC), Kathleen Cartmell (Clemson University), Audrey McCrary-Quarles (SCSU), Amy Martin (MUSC), Joseph Tahsoh (SCSU), Alexander Alekseyenko (MUSC), Janae Sweeney (SCSU), Steven Carroll (MUSC), Debra McAlister (SCSU), Ellen Gomez (MUSC), Yaoling Long (SCSU), David P. Turner (Virginia Commonwealth University), Judith D. Salley (SCSU)

Overview of Partnership:
The South Carolina Cancer Disparities Research Center (SC CADRE) is a mature and vibrant multi-institutional Comprehensive Partnership to Advance Cancer Health Equity (CPACHE) enterprise between South Carolina State University (SCSU), an institution serving underserved health disparity populations and underrepresented students (ISUPS) and the Medical University of South Carolina-Hollings Cancer Center (MUSC-HCC), an NCI-designated Cancer Center. The SC CADRE was built on a foundational relationship that began in 2009, including three consecutive inter-institutional Department of Defense Summer Undergraduate Prostate Cancer Research Training grants and an NCI CPACHE P20 grant. Awarded in 2017, the inaugural U54 SC CADRE had four main goals: 1) further elucidate the biological and social contributors to cancer disparities; 2) enhance the pipeline of diverse cancer researchers; 3) increase the number of NIH research proposals led by SCSU faculty as independent investigators; and 4) include greater community engagement in cancer research.

Accomplishments and/or Discoveries:
Since 2017, the U54 partnership has produced 94 peer-reviewed publications and, not counting the SC CADRE research project awards, 33 grants have been funded (9 were awarded to SCSU investigators as PIs or MPIs), and a national virtual cancer health equity symposium was established. Four ESIs were hired (three at SCSU). An inaugural Biorepository was created at SCSU. Cancer research education was provided for 640 undergraduate students at SCSU, including 22 SC CADRE Scholars. The SC CADRE team members serve as Advisory Board members of South Carolina's statewide cancer control consortium, the South Carolina Department of Health and Environmental Control, ISUPS and other colleges/universities in South Carolina, and statewide faith-based, professional, and civic organizations. These combined efforts have led to an overall 30% representation of diverse participants in the MUSC-HCC's cancer clinical trial accruals.

Impact/Outcomes of the Partnership:
While much work remains, mammography and colorectal cancer screening rates, and 1st-dose HPV vaccination rates, are now higher in South Carolina than in the US. The longstanding academic partnership between SCSU and MUSC-HCC, leveraging each entity's research and educational strengths and community relationships, has positioned the SC CADRE to transform cancer health outcomes in South Carolina and beyond.

Sustainability:
The partnership has led to enduring institutional changes, such as the new Biorepository at SCSU, which is expanding and deepening SCSU's research capabilities. Additionally, a new Applied Oncology Honors Sciences Concentration at SCSU was established. The 3-year program includes an intensive curriculum that received full accreditation by the South Carolina Commission on Higher Education in 2020.

Challenges and Opportunities:
The partnership submitted a renewal proposal in January of 2023 to continue the work of the partnership. Other funding streams, in addition to the current extramurally-funded research projects, are continually sought to bolster and expand the outstanding platform of work completed by the SC CADRE investigators.

10: Tuskegee University/Morehouse School of Medicine/University of Alabama at Birmingham Cancer Center

Partnering Institutions:
Morehouse School of Medicine (MSM), Tuskegee University (TU), and University of Alabama at Birmingham O'Neal Comprehensive Cancer Center (O'Neal)

Research Team:
Upender Manne (O'Neal), Isabel C. Scarinci (O'Neal), Brian M. Rivers (MSM), James W. Lillard, Jr. (MSM), Vivian Carter (TU), Windy Dean-Colomb (TU) (Piedmont Oncology), and Clayton C. Yates (TU) (Piedmont Oncology)

Overview of Partnership:
This Partnership, funded in 2006, is located in the Deep South, where culture, environment, health care access, socioeconomics, and population-specific genetic differences have contributed to high levels of cancer and cancer disparities. The Partneship's objectives were to expand cancer research programs and infrastructure at MSM and TU, cancer disparity research at O'Neal, and to create a pipeline of well-trained racial/minority student/faculty cancer researchers across the Partnership.

Accomplishments and/or Discoveries:
The Partnership has supported 41+ research projects (16 basic, 9 pre-clinical translational, 9 cancer prevention, and 7 behavioral/community-based), which have yielded 259 manuscripts (95 by MSM, 92 by TU, and 72 by O'Neal) that are directly related to proposed specific aims. Partnership investigators at UAB have published 225 additional manuscripts related to cancer disparities. The Research Education Core (REC) has trained >110 high school, >130 undergraduate, >270 graduate/medical students, and >90 early stage investigators (ESIs). The REC developed three graduate-level courses at MSM and two undergraduate-level courses at TU, and contributed to the development of a cancer biology undergraduate degree program at UAB. REC trainees have published >820 manuscripts and obtained >60 extramural grants. Partnership investigators have submitted >270 grant proposals; of these, 101 (29 at MSM, 33 at TU, and 39 at O'Neal) have been funded. Most of these publications and grants are from racial/ethnic minority faculty/ESIs. The Outreach Core has screened >600 low-income minority individuals for colon cancer (MSM), engaged >400 individuals to practice healthy dietary habits (TU), and educated >1500 and recruited >500 racial/ethnic minority cancer patients into clinical trials at the O'Neal. Additionally, at all three institutions, more than 110 patients were recruited into cancer clinical trials using a patient/community navigation-based program, and they developed a high-tech animation and a low-tech brochure to educate and enroll diverse populations in clinical trials.

Impact/Outcomes of the Partnership:
The partnership infrastructure/efforts have contributed to the development of a Cancer Institute at MSM including 35 faculty (from 19); TU has developed a Cancer Program that includes 17 faculty (from one); and the O'Neal has >65 cancer disparity research investigators (from ~35). This Partnership has enhanced research productivity and created a generation of investigators with knowledge/skills for decreasing the cancer burden in the Deep South. Consistent with the mission of PACHE, the Partnership is addressing barriers that reduce cancer disparities.

Sustainability:
Cancer research funding increased from $8M to >$70M at MSM, and from <$1M to >$25M at TU; and cancer control/prevention/disparity funding from $12M to $45M at the O'Neal.

11: University of Guam/University of Hawaii Cancer Center

Partnering Institutions:
University of Guam (UOG) and University of Hawai'i Cancer Center (UHCC)

Research Team:
Leon Guerrero (UOG), A. Borja (UOG), S. Bolduc (Sara Bolduc Planning and Evaluation LLC), B. Y. Hernandez (UHCC), N. A. Palafox NA (UHCC), H. R. Robinett (UHCC)

Overview of Partnership:
The U54 Pacific Island Partnership for Cancer Health Equity (PIPCHE) aims to develop cancer and cancer health disparities (CHD) research at the University of Guam (UOG) and the University of Hawai'i Cancer Center (UHCC), focusing on Pacific Island populations (PIP); collaborate with community organizations that work with PIP to promote cancer health equity and opportunities for research education and workforce development; implement public health interventions and cancer prevention and control strategies with/in underrepresented communities; expand scientific collaborations, with an emphasis on early stage investigators (ESI) of Pacific Island (PI) ancestry; and continuously evaluate the partnership's activities. Funded since 2003, the partnership has enjoyed long-standing collaborations to advance CHD science, research education, and outreach unique to Guam, Hawai'i, and the U.S. Associated Pacific Islands (USAPI). PIPCHE has increased research capacity at UOG, and at UHCC PIPCHE is considered a signature program and the foundation for all cancer research in Guam and the Western Pacific.

Accomplishments and/or Discoveries:
Thirty-one biomedical research projects have been awarded, resulting in over 200 peer-reviewed publications. PIPCHE investigators have advanced the science as well as policies in betel nut in the Pacific region, with 35 papers published in the field including a special issue of *Substance Use & Misuse*. Sixty students were trained during the period 2012–2022; 85% URM, 57% completed their intended degree, and 38 degrees were earned including 6 Ph.D.s. Summer Writing Workshops for ESIs resulted in expanded research collaborations, increased capacity in data analysis and writing skills, and ESI-authored publications. A graduate-level CHD course has been piloted and evaluated at UOG for permanent inclusion in the program, and a master's in Applied Statistics Program has been developed and will be offered to UOG students in 2024. Data gaps analysis reports were developed to inform cancer prevention and control planning in Guam and Hawai'i. Jointly-sponsored regional biennial symposia for healthcare providers were offered. A cultural competency curriculum for healthcare providers has been developed and delivered to >60 clinicians at FQHCs in Hawai'i. A population-based survey assessing interest in cancer research and clinical trials participation was jointly-developed and pretested for administration in 2023. Cancer surveillance reports for Guam and Hawai'i were developed/distributed (2022).

Impact/Outcomes of the Partnership:
Three PI graduates of the program are now in tenure-track positions at UOG, mentoring future scientists and leading PIPCHE research projects. Research in tobacco and betel nut cessation has led to flagship legislation: the Guam Cancer Trust Fund, fueled by tobacco tax revenues, supports >$3M/year in direct cancer services, and legislation in the Commonwealth of the Northern Marianas Islands (CNMI) prohibits betel nut sales to minors, where oral cancer is the third leading type of cancer. The Guam Cancer Registry (GCR), funded by the U56/U54 at its inception and now staffed by certified tumor registrars, serves as a critical resource for public health and cancer research within Guam and as the lead registry within the Pacific Regional Central Cancer Registry, which includes American Samoa, the CNMI, the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau.

Sustainability:
PIPCHE investigators leveraged 118 grants and $95M (2020–2022), with $10M awarded to ESIs. Partnerships have been established with the Cancer Council of the Pacific Islands and Cancer Control Coalitions in Guam and Hawai'i, which together function as PIPCHE's community advisory body. The U56 is directly responsible for the establishment of the UOG Cancer Research Center (CRC), which has since secured several awards where there were none previously (e.g., 3 U54, 2 U24, NIH BUILD EXITO). Originally an unfunded mandate, the GCR received funding, training, and technical assistance through the U56/U54 and is now a central unit of the UOG CRC, sustained by tobacco tax revenues earmarked for the registry. Native investigators are now at the helm of PIPCHE at UOG. U56/U54 study data, cancer data and cancer health disparities reports, educational materials, publications, and audiovisual recordings of biostatics clinics are available at https://pipche.org/. PIPCHE's member handbook, an orientation tool clarifying expectations of all members, is available upon request. An Echosens Fibroscan will enhance the capacity for future translational research focused on chronic liver disease and liver cancer in Guam.

Challenges and Opportunities:
Guam is recovering from damages caused by Typhoon Mawar (5/24/23); PIPCHE activities have been delayed while residents recover and essential utilities are restored. As a 20-year partnership, succession planning is an ongoing challenge, however, also an opportunity for new leadership by ESIs trained and mentored by the program. COVID and economic-related challenges have led to recruitment and retention challenges; students and interns have assisted temporarily. An essential communications infrastructure aims to overcome the nearly 4,000-mile distance and 20-hour time zone difference between the partnering institutions. Opportunities lay in fulfilling the significant cancer training and research needs in Hawai'i, and the geo-political importance of Guam and the USAPI, which are hybrids for national, international, and developing nation cancer prevention and control.

12: University of Massachusetts Boston/Dana-Farber/Harvard University Cancer Research Institute

Partnering Institutions:
University of Massachusetts, Boston (UMB) and Dana-Farber/Harvard Cancer Center (DF/HCC)

Research Team:
MPIs: Adán Colón-Carmona (UMB), Jill Macoska (UMB), K. "Vish" Viswanath (DF/HCC), Gregory Abe (DF/HCC); **Program Manager:** Abigail Shain (UMB) (DF/HCC); **Core Leaders:** Karen Burns White (DF/HCC), Tiffany Donaldson (UMB), Liya Escalera (UMB), David Liu (DF/HCC), Wendy London (DF/HCC), Jan Mutchler (UMB), Shoba Ramanadhan (DF/HCC)

Overview of Partnership:
We aim to 1) advance transdisciplinary cancer and cancer health disparities research programs reflecting the theme "Bridging the Divides"; 2) develop educational experiences for students and trainees from a diverse population underrepresented in biomedical careers; 3) promote hiring and retention of diverse scholars, particularly those from underrepresented populations; 4) bridge research–community divides through innovative platforms to form and engage networks of community-based organizations; 5) develop cutting-edge approaches to address data-absenteeism in population-, community-, and genomics-based cancer and cancer disparities datasets and projects; and 6) promote sustainability of Partnership activities through institutional support and grant matching with NIH mechanisms and other sources of support.

Accomplishments and/or Discoveries (selected):
- Pathania, Shailja, NCI. 1R01CA2736-01; Celli, Jonathan, NCI. U01CA279862-01; Macoska, Jill, Massachusetts Life Sciences Center Grant.
- Han D*, Patalano S, Macoska JA, Balk SP, Gao S*, Cai C, et al. LSD1 Inhibition Disrupts Super-Enhancer-Driven Oncogenic Transcriptional Programs in Castration-Resistant Prostate Cancer. Cancer Res. 2023 May 15;83(10):1684-1698. PMCID: PMC10192194 (*= ESI)
- An evaluation expert was hired to adapt the Planning & Evaluation Core Logic model to align with initiatives in the current grant cycle. Metrics are being identified to measure outcomes and include new data collection methods into our reporting practices.
- The addition of a diversity, equity, and inclusion research project manager has enhanced Partnership programming and symposia to advocate for DEI and fostering belonging.

Impact/Outcomes of the Partnership:
- Research Program: 38 cross-institutional projects funded (92 investigators supported)
- Early Stage Investigators: 61 ESIs funded, 17 at UMass Boston and 44 at DF/HCC
- Career Advancement: 59 investigators had tenure track positions, tenure or a promotion
- Training: 455 trainees involved in the research education program, 48% considered URM
- Grants: 176 grants (67 directly related, 110 indirectly related) totaling $72,090,251
- Publications: 409 publications (132 directly related, 277 indirectly related)
- Patents: 5 directly related patents received

Sustainability:

- Leveraged other NIH mechanisms such as SPARC, CURE and YES for CURE, R25s, Administrative and Diversity Supplements, foundations such as the Cummings Foundation, and government organizations such as the Massachusetts Life Sciences Center.
- Dr. Abel led DFCI's institutional "Presidential Priorities for Disparities Research Program," awarding $500K over two years for two cancer-related disparities projects from 12 applications.
- Participated in efforts by the Boston Public Health Commission to train and equip pre-collegiate and collegiate Black, Latinx, and/or Native American young adults toward successful completion of degrees in STEM-related fields; also worked with non-profit MassBioEd to help guide STEM undergraduates into successful STEM careers in industry.
- Developed Planet MassCONNECT, which assists in helping organizations in community or faith-based settings learn how to use effective, evidence-based programs.
- Collaborated with initiatives that align with our mission: DF/HCC HBCUs program, the DFCI Office of Faculty Development, Harvard Medical School Office for Postdoctoral Fellows, and the UMB faculty in the College of Education and Human Development.

Challenges and Opportunities:

- Our request for applications process used to begin after receipt of the parent grant notice of award, which resulted in delays for new projects. We have adapted our process to begin the prior spring and select new projects with the disclaimer that we will specify award amounts after receiving our parent grant NoA. This has led to a significant decrease in carryforward.
- Since COVID has pushed our workforce to become remote/hybrid-friendly, we continue to face challenges building community among funded investigators and cores and are planning events to sustain that community.

13: University of Puerto Rico Cancer Center, Medical Sciences Campus/ University of Texas MD Anderson Cancer Center

Partnering Institutions:
University of Puerto Rico System[1] (UPR) (ISUPS) and The University of Texas MD Anderson Cancer Center (MDACC) (CC)[2]

Research Team:
MPIs: ***Principal Investigators*** - Brad Weiner (UPR) (ISUPS), Sharon Giordano (MDACC) (CC), Ana Ortiz (UPR) (ISUPS), Elizabeth Travis (MDACC) (CC), Reynold Lopez (UPR) (ISUPS), Cullen Taniguchi (MDACC) (CC); ***Program Directors -*** Evelyn Rivera (UPR) (ISUPS), Sherri De Jesus (MDACC) (CC); ***Core Leaders - Administrative Core -*** Brad Weiner (UPR) (ISUPS), Sharon Giordano (MDACC) (CC); ***Planning and Evaluation Core -*** Mirza Rivera (UPR) (ISUPS)and Cullen Taniguchi (MDACC) (CC); ***Research Education Core*** - Reynold Lopez (UPR) (ISUPS) and Elizabeth Travis (MDACC) (CC); ***DATAOmics -*** Luis Pericchi (UPR) (ISUPS) and Xuelin Huang (MDACC) (CC); and ***Outreach Core -*** Vivian Colon (UPR) (ISUPS) and Maria Fernandez (MDACC) (CC)

Overview:
The **I**nfection-Driven **M**alignancies **P**rogram for **A**dvancing **C**areers and **T**ranslational Sciences (**IMPACT**) addresses some of the most profound cancer health disparities in Puerto Rico and Texas. Specific aims include to: 1) develop a multidisciplinary research portfolio focused on health disparities derived from infection-driven malignancies; 2) increase the number of Hispanic students to produce a critical mass of clinicians, scientists, and physician-scientists, who specialize in cancer research; 3) strengthen sustainable collaborations to develop and promote key community outreach, education, and interventions emphasizing vaccinations against malignancy linked infections, among Hispanic/ Latino populations in Puerto Rico and Texas; 4) leverage strategic collaborations with NCI-designated cancer centers to augment the cancer research capacity of the UPR and the UPR Comprehensive Cancer Center (UPRCCC); and 5) provide professional support and development tools through designated cores designed to nurture and optimize the Partnership. Together, the institutions will use research expertise at MDACC to help build UPR capacity, leading the UPRCCC to NCI designation; help MDACC address cancers that are disproportionately higher in PR and TX Hispanics, and use PR expertise in outreach to help increase connection with TX Hispanics.

Select Accomplishments (2019-2023):
- The partnership has 71 publications (36 in high-impact journals [IF≥5]) and researchers have submitted 49 grant proposals (28 awarded).
- MD/Ph.D. Program has 12 alumni, and 5 students are on track.
  - 132 publications, 27 fellowships/scholarship awards, and 14 grants/supplements
  - Five alumni are in oncology-based residency/fellowship programs.
- Three diversity supplements (summer student alumni) submitted to complete a one-year postbaccalaureate to enhance their competitiveness for entry into an MD/Ph.D. program.
- New website platform for cancer medicine and science educational modules.

Impact/Outcomes: The Partnership has provided many benefits.

- For the UPR:
  - Credit-based curriculum focused in cancer research.
  - Competitive Research (R01, R25, U54, etc.).
  - Increased amount of external funding in cancer research.
  - Increased number of Puerto Rican MD/Ph.D.s.
  - Increased number of cancer researchers in Puerto Rico.
- For MDACC:
  - Pool of excellent undergraduates, graduates, medical students, residents, and fellows.
  - Increased # of clinical and basic research trainees.
  - Targeted studies on IMPACT cancers.
  - Training opportunities in developing culturally sensitive educational materials, (videos), data instruments (surveys, questionnaires, etc.), and interventions.

Sustainability:
The Partnership has a close collaboration with the UPRCCC to build research capacity and support researchers in seeking external funding (e.g., DOD, NSF, NIH, Puerto Rico Sciences and Technology Research Trust), as well as other local and state entities. A COBRE grant was submitted in January 2022, and the PIs and Core Leaders were instrumental in the grant's planning, design, and submission. Dr. Vivian Colon serves as one of the PIs. (Impact Score: 21, August 2022, currently negotiating project budget). To facilitate the sustainability of all training, education, and outreach efforts, Dr. Ana P. Ortiz was appointed as the Director of the recently established UPRCCC Office of Cancer Research Training and Education Coordination, and Dr. Maria Fernandez has been appointed as the co-director of the Institute for Implementation Sciences and Vice President of Population Health and Implementation Sciences at UT Health. The first UPR Comprehensive Cancer Center Scientific Congress: Advances in Cancer Care, Research and Health Policies in Puerto Rico was held this year with 12 posters presented by students, ESI, and staff; Partnership researchers and leadership were also actively involved as moderators and speakers.

14: California State University, Fullerton/University of California, Irvine

Partnering Institutions:
University of California-Irvine (UCI) and California State University Fullerton (CSUF)

Research Team:
Sora P. Tanjasiri (UCI), Laura Gil Trajo (CSUF), Marcelo E. Tolmasky (CSUF)

Overview of Partnership:
The Chao Family Comprehensive Cancer Center (UCI-CFCCC), a National Cancer Institute-designated comprehensive cancer center, and California State University Fullerton (CSUF) have come together to establish CSUF/UCI-CFCCC Cancer Health Equity Research Partnership (CHERP), a partnership supported by the NIH. The primary aims of this collaboration are two-fold. Firstly, it aims to encourage cancer research by offering $100,000 in funding for pilot projects conducted jointly by faculty members from CSUF and UCI-CFCCC. These projects generate preliminary data to compete for significant federal funding. Secondly, CHERP seeks to educate undergraduate and master's students at CSUF in the field of cancer and cancer disparities. The key objectives of this new partnership include developing a closely integrated and interactive association between CSUF and UCI-CFCCC focused on cancer and cancer health disparities. Additionally, the partnership aims to conduct pilot cancer research projects involving investigators from both institutions to produce preliminary results that will be instrumental in writing competitive grant proposals to submit to federal or non-federal granting agencies. Moreover, the partnership provides cancer research education to a diverse group of undergraduate and graduate students, increasing their knowledge and understanding of cancer and cancer health disparities and contributing to developing a talented pool of scientists from diverse backgrounds. The educational component of CHERP consists of various elements, such as the development of cancer-related coursework and research experiences. The program also includes synergistic educational components like community-building activities and student opportunities to attend research conferences.

Accomplishments and/or Discoveries:
CHERP has already funded three pilot projects centered around the study of triple-negative breast cancer, ovarian cancer, testicular cancer, and pro-tumorigenic macrophages, respectively. As part of the program, ten CSUF undergraduates and master's students are successfully taking courses and seminars covering cancer, cancer disparities, laboratory techniques, and responsible conduct of research. These students also underwent an intensive 10-week research training program in laboratories at CSUF or UCI in the summer of 2023. They are expected to present their work at conferences and, when possible, publish their results in peer-reviewed journals. The second cohort initiated the program in fall 2023. Ultimately, CHERP plans to fund a total of five pilot projects and train 20 students.

Impact/Outcomes of the Partnership:
The long-term goals of this collaborative partnership include expanding cancer research, promoting diversity within the cancer research workforce, and addressing cancer health disparities.

Sustainability:
The PIs plan to apply for follow-up funding to expand the program. The experience gathered during the four-year funded period will be used to propose a more extensive program modified based on the lessons learned.

Challenges and Opportunities:
Building the research partnerships and initiating the projects proved challenging, given the duration of the pilot project funding. We found that one year was insufficient, and two projects were extended under the one-year no-cost extension mechanism. The educational aspect was intense due to the need to create courses shaped to satisfy the program requirements. However, the courses, seminars, meetings, and other student-related activities proceeded smoothly.

15: Hampton University/Icahn School of Medicine at Mount Sinai

Partnering Institutions:
Icahn School of Medicine at Mount Sinai (ISMMS), Hampton University (HU)

Research Team:
Emanuela Taioli (ISMMS), Emma Benn (ISMMS), Richa Deshpande (ISMMS), Tara Ivic-Pavlicic (ISMMS)[1], Angelo Zegarelli (ISMMS), Marilyn Saulsbury (HU), Neelam Azad (HU), Simone Heyliger (HU)

Overview of Partnership:
This is a partnership between Hampton University (HU) and the Tisch Cancer Institute (TCI) at Mount Sinai School of Medicine (MSSM) that seeks to establish robust collaborations through on-site and online training and education to increase HU research capacity in the area of genetics and genomics and health disparities, using the examples of prostate and breast cancer. The final goal is to create a competitive and sustainable joint Center for Genetics and Genomics Cancer Research, encompassing the genetics and genomics aspects of health disparities to explain population differences in breast and prostate cancer occurrence and survival outcomes.

Accomplishments and/or Discoveries:
The partnership includes an Administrative Core with oversight function, and an Educational Core, which provides sequential research education training modules in the areas of genetics and genomic epidemiology for faculty and students. These training modules emphasize translational genomic research strategies and introduce learners to concepts in community-based participatory research, cancer epidemiology, biostatistics, and other quantitative methodologies. The Research program supports two pilot projects that explore the genetic factors contributing to differences in neoplastic disease presentation and proton beam therapy response in patients of color with breast and prostate cancer, respectively. It is envisioned that the ongoing research program will 1) provide hands-on training opportunities for faculty and students at both institutions to explore the genetic determinants of cancer disparities; 2) generate preliminary data for future joint HU-MSSM R01 and R21 applications; and 3) increase investigator productivity.

Impact /Outcomes of the Partnership:
This collaborative effort will have a transformational effect on both institutions. The partnership will provide TCI ISMMS with access to minority patients from rural and urban communities as well as facilitate collaborations between researchers from MSSM and diverse scientists from HU who have connections with marginalized communities. HU will benefit from the MSSM's methodological expertise, consultation services and established infrastructure to enhance scientific rigor of ongoing research projects as well increase funding competitiveness of research at that institution. Indeed, the partnership between the two institutions have led to the submission of five joint NIH applications, of which, two proposals received competitive (fundable) scores. In addition, this partnership has generated two abstracts and one paper from Hampton University.

Sustainability:
To ensure the success of the training and education program, we have assembled an excellent team of faculty with outstanding mentoring and teaching track records, along with extensive expertise in developing and implementing new initiatives aimed at diversifying the clinical investigator workforce and eliminating health disparities. We continue to foster collaboration and facilitate training opportunities so that HU faculty will also be exposed to the most novel and cutting-edge methods in cancer genomics and genetic epidemiology. Lastly, we continuously brainstorm to identify additional funding streams that can be used to support mutually beneficial research initiatives.

Challenges and Opportunities:
The distance between the two institutions present logistics challenges. Both institutions are pursuing pathways to strengthen the partnership by developing MOUs that allow for joint academic appointments and facilitate the sharing of institutional resources. The most notable challenge was finding a cohort of participants and to advertise the resources that we provide. We addressed this problem by jointly creating a preliminary REDCap questionnaire for participants, to better understand how to utilize our resources to provide an optimal benefit to the cohort. We then use the contact information gathered from our survey, to communicate future opportunities to participants.

16: Virginia State University/Virginia Commonwealth University

Partnering Institutions:
Massey Cancer Center at Virginia Commonwealth University and Virginia State University

Research Team:
Robert A. Winn (MCC), Vanessa B. Sheppard (MCC), Milton O. Faison (VCU) , Daniel Roberts (VCU)

Overview of Partnership:
Investigators from Virginia State University (VSU), a Historically Black College/University, and the NCI designated Virginia Commonwealth University (VCU) Massey Comprehensive Cancer Center (MCC) recognized a need to collaborate and leverage the expertise and resources of both institutions to educate and train promising individuals who will ultimately contribute to diminishing cancer disparities in Virginia. The outcome of this collaboration resulted in the formation of the VSU-MCC PartnErship for CancEr Disparities Research and Training (SUCCEED) program. The overarching goal of SUCCEED is to lead in the transformation of cancer-related outcomes for Virginians and to serve as a model of transdisciplinary disparities research and education. Guided by the NCI framework, our preliminary data, and the expertise of our multidisciplinary team, we will employ a multilevel approach to develop a robust collaborative infrastructure that will build on the strengths of the partnering institutions to enhance their capacity to conduct cancer health inequities research that is driven by local data and informed by the cancer-related needs of local communities. Specific **Aims** are: **Aim 1)** establish a mutually beneficial collaborative partnership between VSU and MCC in cancer disparities research and training; **Aim 2)** conduct collaborative, locally focused liver/gastrointestinal (GI) cancer pilot research studies by investigators at MCC and VSU; **Aim 3)** provide an integrated cancer research training and career development experience to VSU faculty; **Aim 4)** support underrepresented minority undergraduate students from VSU to pursue careers in disparities research; **Aim 5)** conduct an ongoing evaluation that reflects the progress of the collaborative partnership in meeting its goals and objectives. To our knowledge, this is the first targeted effort of this nature to address cancer disparities in the state of Virginia.

Accomplishments and/or Discoveries:
At the end of the second year of our collaboration, we successfully submitted one abstract to the 16th American Association for Cancer Research (AACR) conference, "Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved." Additionally, one publication has successfully been published in *Cancers* and we currently have two other manuscripts submitted to scientific journals.

Impact/Outcomes of the Partnership:
Our mutual partnership has resulted in: **Aim 2)** The liver cancer pilot project has successfully generated a cell line from a hepatocellular carcinoma patient. The GI cancer pilot has developed a prototype mobile Health (mHealth) application to engage participants and deliver content in a way that enables them to choose which aspects to view and share with their social network, receive tailored messages that encourage colorectal cancer (CRC) screening, and provides a referral to a local clinic for CRC screening. **Aim 3)** Four VSU faculty have been paired with MCC mentors to provide cancer research training. The four VSU faculty have been developing their projects and have submitted abstracts and/or publications. MCC mentors will continue to offer their expertise to aid in the VSU faculty in the submission of independent NIH/NCI funding. **Aim 4)** Our partnership has developed a 10-week summer research program for VSU undergraduate students, with the option of being placed in an MCC laboratory for a bench science-based research experience, or a virtual data-science centered community health research experience. The students spend 40 hours a week working on their projects and attending professional development seminars. At the end of the 10 weeks, the students present their projects and findings at an MCC campus-wide poster session and an online research symposium hosted by VSU. Following the summer program, VSU students are required to register for two courses that focus on cancer disparities research.

In addition, VSU students are also invited to attend MCC seminars, retreats, and conferences. Currently, we are hosting the second cohort of summer VSU undergraduate students.

Sustainability:
Virginia State University has been selected as a partner at Virginia Commonwealth University Wright Center Clinical and Translational Science Award (CTSA) (UM1TR004360).

Challenges and Opportunities:
Notable challenges in our partnership have included differences in the ways our internal processes work, which has led to delays, as well as differences in academic schedules, which has led to some schedule changes in the shared coursework.

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Scientific posters are only displayed in Whova.

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19 Evaluation of ¡Salud! Por La Vida, an Educational Intervention to Increase Colorectal Cancer Screening in Federally Qualified Health Centers in Puerto Rico (U54)
Mr. Fernando E. Betancourt Vélez

20 Addressing Helicobacter Pylori Health Disparities by Evaluating the Role of the GI Microbiome on Inflammation and ***H. Pylori*** Colonization in Patients on the Navajo Nation (U54)
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21 Bacterial Composition and Diversity in the Cervical Tumor Microbiome Are Closely Associated With HPV Serotype and Immune Profiles in an International Patient Cohort (U54)
Dr. Stephanie M. Dorta-Estremera

22 Evaluation of Data From a New Mobile HPV Vaccination Program in South Carolina, U.S. (U54)
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23 Impact of Shorter CAG Repeats in the Androgen Receptor on Transcriptional Activation of Lipid Biosynthesis Pathways in Prostate Cancer Among Men of African Ancestry (U54)
Dr. Dong Han

24 Viewing Native American Cervical Cancer Disparities Through the Lens of the Vaginal Microbiome: A Pilot Study (U54)
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Ms. Tawnjerae Joe

27 Educating the Next Generation of Cancer Researchers: Evaluation of a Cancer Research Partnership Training Program (U54)
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28 An Organoid System Tailored to Studying Lung Cancer in Black/African American Subjects (U54)
Dr. Nazarius S. Lamango

29 African American Patient-Specific Novel Molecular Targets of Pancreatic Ductal Adenocarcinoma (U54)
Dr. Upender Manne

30 Rural-Urban Disparities in Uptake of Low-Dose Computed Tomography Lung Cancer Screening in Alabama (U54)
Dr. Soumya J. Niranjan

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Ms. Jennifer Parsons

32 Exploiting the Biomechanics of Acinar to Ductal Metaplasia as a Potential Early Event in Pancreatic Cancer Development and Therapeutic Target (U54)
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Scientific Abstracts

17: Exposures, Experiences, and Determinants of Health in Colorectal Cancer Survival in South Carolina

Authors:
Mandel, A., BA[1], Wallace, K.,Ph.D.[1], Swain, N., Ph.D., PE[2], Alekseyenko, A., Ph.D.[1,*]
[1]Medical University of South Carolina, Charleston, SC; [2]South Carolina State University, Orangeburg, SC; [*]To whom correspondence may be addressed. Email: alekseye@musc.edu

Target Population and Cancer Site:
We examine exposures, experiences, and determinants of health in colorectal cancer (CRC) survival in South Carolina, responsible for racial inequities in health outcomes.

Introduction/Background Including Hypothesis/Objectives:
CRC is one of the most common and deadly cancers in the U.S., ranking third in both incidence and mortality in 2022. Nearly 9% of all cancer deaths that year were attributed to CRC. Non-Hispanic Blacks and Native Americans/Alaska Natives have the highest incidence and mortality from CRC. We hypothesize that integrating detailed information about the unique exposures, experiences, and medical/surgical treatment alongside the determinants of health data will provide further clues to understand the observed health inequity. Our study objective is to identify the specific factors in South Carolina that may increase mortality after diagnosis with CRC.

Methods:
Using patient data from South Carolina Regional Colorectal Cancer Network (SCRCCN), we modeled the risk of death using Cox proportional hazards in Blacks and Whites while adjusting for age, sex, treatment, stage, and location. Neighborhood attributes, as a proxy for routine exposures and behaviors, were sourced via the real-world data from the Determinants of Health Ontology of Mappable Elements (DHOME: https://tamilyn.github.io/dhomer/), which we developed for easy access to South Carolina data on economic stability, education, social and community context, healthcare, and natural and built environment social determinants of health from EPA, HRSA, SC DHEC, SLED, USDA, Esri, and other organizations.

Results:
SCRCCN data included 460 Black and 964 White patients diagnosed with CRC from 2000 to 2021. At diagnosis, Blacks compared to Whites were younger, and resided in lower income areas and were less likely to receive surgery (77% vs. 85%, $p<0.0001$) or radiation therapy (20% vs 31%, $p<0.0001$). We found that stage and primary site of cancer were the most important for survival. Race was also a significant predictor of survival (HR: 1.21, $p=0.01$, Black vs White). Adjusting for living in a low-income tract attenuated racial survival differences (HR: 1.14, $p=0.11$, Black vs White) and was itself a risk factor for decreased survival (HR: 1.22, $p=0.01$, Low vs High income). In addition, we found that surgical treatment had a positive effect on survival (HR: 0.30, $p<10^{-5}$) and attenuated racial differences in survival (HR: 1.11, $p=0.2$, Black vs White).

Conclusions:
Our study demonstrates the value of incorporating real-world evidence into epidemiological analyses to understand the context for racial differences in cancer survival in designing structural interventions to reduce disparities.

Future Directions (Opportunities and Challenges):
Our goal is to continue the development of the DHOME resource and produce analyses that illuminate factors contributing to cancer disparities.

Funding Support:
NIH/NCI U54CA210962 South Carolina Cancer Disparities Research Center (SC CADRE).

18: An Effective Intervention Toolkit to Promote Medication Adherence Among Asian Americans Living With Chronic Hepatitis B

Authors:
Wenyue Lu, M.L.[1]; Lin Zhu, Ph.D.[1,2]; Thoin Begum, Ph.D.[1]; Yin Tan, M.D., Ph.D.[1]; Minhhuyen T. Nguyen, M.D.[3]; Xiaoli Ma, M.D.[4]; Sarah Lai, R.N.[5]; Tam Tran[6]; Phuong Do, B.S.[1]; Elizabeth Handorf, Ph.D.[7]; Ming-Chin Yeh, Ph.D.[8]; Grace X. Ma, Ph.D.[1,2]

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Target Population and Cancer Site:
Asian Americans and liver cancer

Introduction/Background Including Hypothesis/Objectives:
Although Asian Americans only account for 7% of the US population they comprise nearly 60% of the burden of chronic Hepatitis (HBV), which is associated with 75% of hepatocellular carcinoma (HCC) cases in the U.S. Adherence to HBV medication guidelines is a critical to preventing liver cancer. However, limited studies have been conducted on promoting HBV medication adherence among underserved Asian American HBV patients.

Methods:
This study utilized 18-month follow-up data from a randomized controlled clinical trial aimed at improving long-term adherence to HBV medication. Eligible Asian American HBV patients were recruited in the Greater Philadelphia and New York City areas from community-based organizations and clinics serving the target population. Guided by Community-based Participatory Research (CBPR) principles, we developed and implemented Virtual Patient Navigation Toolkit and Text Messaging (VPN Toolkit+TM) intervention to promote HBV pill-taking among the target population. HBV medication adherence was assessed using the Morisky 8-Item Medication Adherence Scale with scores ranging from 0 to 8, depression was measured with the Patient Health Questionnaire-9, and knowledge of HBV was evaluated with a face-valid 10-item scale.

Results:
One hundred forty-nine participants (108 Chinese and 41 Vietnamese) were prescribed HBV medication, of whom 45% were female. Bivariate analysis showed that medication adherence was significantly higher in the intervention group (Mean = 7.2) than in the control (Mean = 5.57, $p<0.001$) group at the 18-month follow-up. Results from the multivariable analysis revealed that compared with their control group counterparts, intervention group participants had significantly higher Morisky medication score (Coef.= 0.66, $p=0.044$), controlling for demographics, depression level, and HBV knowledge score. The results indicated that there was a significant intervention effect in medication adherence at 18-month follow-up. In addition, we found that lower depression (b =-0.11, $p<0.001$) and higher HBV-related knowledge (b =0.40, $p<0.001$) were significant predictors of better HBV medication adherence at 18-month follow-up assessment.

Conclusions:
Findings indicate high utility of the VPN Toolkit + TM intervention among medically underserved HBV medication-taking patients. Moreover, targeted interventions addressing psychosocial barriers and promoting HBV-related knowledge would effectively promote HBV medication adherence among Asian Americans with chronic HBV infection.

Future Directions (Opportunities and Challenges):
Future research will scale up and implement the evidence-based (VPN Toolkit+TM) intervention to reach more individuals living with HBV and broaden the effectiveness of the intervention. Moreover, incorporating mental health support into the intervention to tackle psychosocial barriers will further enhance the long-term intervention effects.

Funding Support:
This project was supported by the TUFCCC/HC Regional Comprehensive Cancer Health Disparity Partnership, Award Number U54 CA221704(5) from the National Cancer Institute of National Institutes of Health (NCI/NIH). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NCI/NIH.

19: Evaluation of *¡Salud! Por La Vida*, an Educational Intervention to Increase Colorectal Cancer Screening in Federally Qualified Health Centers in Puerto Rico

Authors:
Jimenez-Gonzalez, J.[1,2]; Betancourt, F.[1,3]; Valencia-Torres, I[4]; Sánchez-Cabrera, Y. [1,3];. Pericchi, L., Ph.D. [1,2]; Fernández, M., Ph.D.[4]; and Colón-López, V. [1,5], Ph.D.

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Target Population and Cancer Site:
Non-adherent patients aged 50 to 75; colorectal

Introduction:
Colorectal cancer (CRC) is the leading cause of cancer-related deaths in Puerto Rico (PR) and third among Hispanics in the United States (U.S.). Screening rates in PR are relatively low compared to the mainland U.S.

Objective:
To evaluate the effectiveness of "***¡Salud! por la Vida,"*** an evidence-based educational intervention designed to increase CRC screening (CRCS).

Methods:
The educational intervention ***"¡Salud! por la Vida"*** (SPLV) was implemented in 10 Federally Qualified Health Clinics (FQHC) in PR to increase CRCS rates in non-adherent patients aged 50 to 75. SPLV was conducted as a group randomized controlled trial from July 2017 to July 2020. The intervention included a baseline survey collecting 198 variables and a follow-up survey 4 to 6 months later, which included 148 variables to measure the effectiveness of the educational program in increasing CRCS. The initial surveys had some changes to improve the data entry process. Consequently, the database required an updated data analysis consisting of data exploration, data cleaning, and statistical analysis. Prior to calculating results, data cleaning included identifying missing variables, inconsistencies in the data, and missing data. The final dataset for this project concerns participants who completed the follow-up survey, divided into intervention and control groups. The analysis calculated basic demographics in proportions, such as age, education, sex, marital status, annual income, health insurance coverage, and first-degree family history of CRC. Furthermore, the two groups were compared regarding CRCS rates, specifically those of colonoscopy, fecal occult blood test (FOBT), and having completed any CRCS.

Results:
A total of 445 individuals participated in the study. At baseline, 332 were from the control group and the rest from the intervention group. The follow-up survey was completed by 295 participants in the control group and 78 participants in the intervention group, for a total of 373 at follow-up. The mean age of participants who completed the study was 58.9, with 68.9% of participants being women. 62.5% had an education of high school or less, 45.3% were married or living together, 93% earned less than $20,000 a year, 87.9% had government health insurance, and 88.2% had no first-degree family history of CRC. CRCS tests were completed by 60.2% of those in the intervention group and 38.3% of control group participants (p-value 0.001). FOBTs were done by 55.1% and 36.9% of the intervention and control group participants, respectively (p-value 0.005). In the intervention group, 10% of the participants completed a colonoscopy, while in the control group, 3% had completed a colonoscopy (p-value 0.02).

Conclusion:
CRCS rates were higher in the intervention groups, for both colonoscopy (p-value 0.008) and FOBT (p-value 0.003), as well as any CRCS test (p-value 0.0004). The *SPLV* intervention significantly increased CRC screening rates and provided evidence to disseminate this educational effort to FQHCs in PR.

Funding:
This research was supported the National Cancer Institute of the National Institutes of Health under award numbers U54CA096300 and U54CA096297.

20: Addressing *Helicobacter* Pylori Health Disparities by Evaluating the Role of the GI Microbiome on Inflammation and *H. Pylori* Colonization in Patients on the Navajo Nation

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Target Population and Cancer Site:
Native Americans; stomach

Introduction/Background:
Helicobacter pylori (*H. pylori*) plays a role in healthy human digestion as a component of the microbiome, but is also associated with the development of duodenal or stomach ulcers, stomach cancer, and stomach mucosa-associated lymphoid-tissue (MALT) lymphomas. In Arizona, *H. pylori* prevalence is 60% among Navajos who are affected by disproportionately high rates of stomach cancer, coupled with lower cancer survival rates than other racial or ethnic groups. This research aims to determine the role of gastric microbiome with development of gastric diseases.

Methods:
DNA from gastric biopsies from patients (Navajo IRB NNR-16.263T) attending the Winslow Indian Health Care Clinic (WIHCC) were identified for use in this study. The V4 region of the 16S rRNA gene in paired antrum and fundus gastric biopsies was amplified and sequenced to evaluate the gastric microbiome in participants with and without *H. pylori* associated gastric disease. Data were analyzed using QIIME2.

Results:
A total of 89 gastric samples from 45 participants had sufficient amplicon for sequencing. Faith's phylogenetic and Shannon diversity (alpha diversity) were significantly reduced in *H. pylori* colonized gastric samples ($p<0.05$, Kruskal Wallis). At the genus level, *H. pylori* dominated the gastric microbiome in colonized individuals.

Conclusions:
Our results so far suggest that presence of *H. pylori* results in a decrease in microbiome diversity. Further studies will define if microbiome changes are associated with the type of infecting *H. pylori.*

Future Directions (Opportunities and Challenges):
We will continue to enroll patients at a different the University of Arizona Clinics and into the TRGHET biorepository. Gene content from gastric samples reported on here will be predicted using PICRUSt2.

Funding Support:
U54CA143925 – Pilot project, 1R21CA248804-01A1

21: Bacterial Composition and Diversity in the Cervical Tumor Microbiome Are Closely Associated With HPV Serotype and Immune Profiles in an International Patient Cohort

Authors:
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Target Population and Cancer Site:
Hispanics; cervical cancer

Introduction/Background:
Hispanic women are 40 percent more likely to be diagnosed with cervical cancer and 30 percent more likely to die from cervical cancer than non-Hispanic White women. Since human papillomavirus (HPV) infection, vaginal microbiome, and dysfunctional immune responses are known contributing factors to cervical cancer development and responses to cancer therapy, we hypothesized that these factors may contribute to disparities in Hispanics. Therefore, in an international collaborative study, we analyzed a multi-institutional cohort of patients with cervical cancer and dysplasia from different geographical locations and ethnicities to identify associations between HPV serotypes, bacterial composition, and immune responses in the cervix.

Methods:
Cervical swabs were collected before treatment from 216 patients diagnosed with cervical cancer in three locations: Houston, USA (TX; N=94), Ethiopia (ETH; N=85), and Botswana (BOT; N=37) for HPV serotyping and bacterial composition analysis. Cervical cytobrushes were collected from 71 cervical cancer patients in Houston at baseline and 5 weeks after chemoradiation for immune profiling by flow cytometry. We compared HPV types among ethnic groups and analyzed bacterial composition alpha diversity (ANOVA) and beta diversity (principal coordinates analysis [PCoA] with PERMANOVA) for HPV types. We used Linear Discriminant Effect Size (LEfSe) analysis to compare taxa and HPV types. We also compared the frequencies of T cell subsets and their activation state by ethnicity.

Results:
Hispanic patients in TX (16%) and PR (23%) had lower prevalence of HPV16 compared to US Non-Hispanic (33%), while PR Hispanic patients had the highest rates of other HPV types (73%). Patients with HPV16 had significantly higher bacterial alpha diversity across locations. Bacterial composition also differed by HPV type across locations (all $p<0.01$). The bacterial genera enriched in HPV16 samples were Bacteroides, Clostridium, and Prevotella ($p<0.01$). Non-HPV16 tumors were enriched in Lactobacillus and Gardnerella, and HPV18 tumors and those from patients with high-risk HPV types were enriched

in Escherichia. Hispanics with cervical cancer showed a lower frequency of proliferating CD8+ T cells at baseline with an increased frequency of regulatory T cells in the cervix after 5 weeks chemoradiation compared to other racial groups.

Conclusions:
In this international cohort of cervical cancer and dysplasia patients, bacterial composition was closely associated with cervical virome, with Hispanics having a higher prevalence of Non-HPV16 types which show a disturbed tumor microbiome and immune microenvironment.

Future Directions:
These findings have implications for the development of biomarkers and interventions aimed at improving cancer therapies through manipulation of the microbiome and/or immune system.

Funding Support:
U54 CA09297-CA096300 and MD Anderson HPV moonshot

22: Evaluation of Data From a New Mobile HPV Vaccination Program in South Carolina, U.S.

Authors:
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Target Population and Cancer Site:
Rural and medically underserved populations ages 9-18 years, HPV-related cancers

Introduction/Background Including Hypothesis/Objectives:
Human papillomavirus (HPV) infections are linked to at least six different types of cancer. The Medical University of South Carolina (MUSC) Hollings Cancer Center (HCC) and Department of Pediatrics leaders identified less-than-optimal HPV vaccination rates in rural and medically underserved communities in South Carolina (SC) (80% in urban areas vs. 62% in rural areas). To address this major public health issue, the MUSC HCC and Department of Pediatrics created a statewide community engagement-focused HPV Vaccination Van Program with funding from the HealthyMe/Healthy SC (HMHSC) program and MUSC HCC.

Methods:
The Program launched in October of 2021. It provides HPV and other childhood vaccinations in school districts, HMHSC health clinics, and other community settings throughout SC, focusing on children aged 9–18 years who are eligible for the U.S. Centers for Disease Control and Prevention's Vaccines for Children Program. Community partners participate in the development of pre-vaccine clinic Town Hall meetings at the sites to inform parents about the importance of the HPV vaccine, and to answer their questions. Counties are prioritized for inclusion in the Program based on geospatial analyses highlighting the current HPV vaccination rates in each county, and the rurality of the county.

Results:
As of June 5, 2023, the Program administered childhood vaccinations to 825 participants in 24/46 counties (52%) of SC. Three-hundred and eighty-five (47%) of the participants received HPV vaccinations. They were predominantly female (56.1%), aged 4–18 years (97.4%), and self-identified as non-Hispanic/Latine White (37.9%), non-Hispanic/Latine Black (36.2%), Hispanic/Latine (17.5%), Asian American (1.2%), Multiracial (3.4%), or Other (1.4%), with 2.4% of the participants not reporting their racial/ethnic identification. Approximately half of the participants (50.1%) had Medicaid insurance and 28.7% reported having no insurance coverage.

Conclusions:
The Program provides a model for delivering mobile HPV vaccinations to rural and medically underserved children, thus reducing their cancer risk. The number of children receiving the HPV vaccine through the Program is expected to expand as the Program's relationship with SC's school districts and other community-based organizations grows.

Future Directions (Opportunities and Challenges):
Despite facing challenges caused by initiating the program during the COVID-19 pandemic, the Program is proving to be successful in establishing community-engaged partnerships. Therefore, the Program staff anticipate continued growth in the number of HPV vaccines that are delivered in future years, as well as an expansion of the Program's community partnerships.

Funding Support:
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23: Impact of Shorter CAG Repeats in the Androgen Receptor on Transcriptional Activation of Lipid Biosynthesis Pathways in Prostate Cancer Among Men of African Ancestry

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Target Population and Cancer Site:
Prostate cancer in men of African ancestry

Introduction:
While men of European ancestry (EA) make up the majority of prostate cancer (PCa) patients, men of African ancestry (AA) experience higher prevalence and worse outcomes. The androgen receptor (AR) plays a crucial role in PCa development. Genetic differences, particularly in the AR gene have been established between EA and AA men. In the AA population, the AR protein exhibits shorter glutamine repeats (coded by CAG repeats) in its N-terminal domain. This study aims to investigate how the shorter CAG repeats affect AR global transcriptional activity and determine their significance in PCa response to different therapies.

Methods:
CRISPR-Cas9 gene editing was utilized to generate isogenic cell lines with a shorter CAG repeat of the AR in LNCaP PCa cells. Immunoblotting and ChIP-qPCR approaches were employed to examine AR protein stability and chromatin binding. RNA-seq analyses were used to determine AR transcriptomes.

Results:
Two LNCaP PCa cell clones were created with a shorter CAG repeat of the AR. Interestingly, while AR transcript levels remained similar among these clones and the parental cells, there was a significant increase in AR protein levels, which were attributed to reduced protein degradation. As a result, enhanced AR chromatin binding occurred at androgen-responsive elements, along with increased recruitment of epigenetic cofactors. RNA-seq analysis revealed a significant upregulation of classic AR target genes and AR-regulated genes involved in fatty acid/cholesterol synthesis.

Conclusions:
This study reveals that the AR protein with a shorter poly-Q track exhibits enhanced resistance to proteasome-dependent degradation and stronger chromatin binding, and contribute to enhanced activation of fatty acid and cholesterol synthesis pathways in prostate cancer cells.

Future Directions:
Future research efforts will focus on examining AR activity in additional AA PCa models, such as patient-derived xenografts (PDXs).

Funding Support:
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24: Viewing Native American Cervical Cancer Disparities Through the Lens of the Vaginal Microbiome: A Pilot Study

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Target Population and Cancer Site: Women (18+ y/o) with or without HPV; cervical cancer.

Introduction/Background Including Hypothesis/Objectives:
Cervical cancer disproportionally affects Native American (NA) women. This cancer disparity is primarily attributed to a lack of screening and unequal access to healthcare; however, other factors in NA women might contribute. Vaginal dysbiosis has been implicated in persistent HPV infection and cervical cancer. Yet, there is a paucity of data on the HPV infection patterns and the vaginal microbiota composition in NA communities. Here, we aimed to elucidate the relationships between HPV, microbiome, and genital inflammation to better understand how these factors relate to increased cervical cancer risk in NA women.

Methods:
Thirty-one women were enrolled at the Native American for Community Action clinic (Flagstaff, AZ). Participants provided two self- or physician-collected vaginal swabs and vaginal pH. Vaginal swabs were used for HPV genotyping, 16S rRNA gene sequencing and Bio-Plex analysis for 48 immune mediators. The microbiome analysis was conducted using QIIME 2.

Results:
Most participants identified as American Indian or Alaska Native (n=16), White (n=11) or Hispanic (n=5). The average age was 29 years old (ranging from 18 to 46). High-risk HPV genotypes (HPV 39, 45, 52, 53, 58, 59) were detected in 23% of women. Vaginal microbiota profiles were dominated by *Lactobacillus* (mostly *L. crispatus* or *L. iners*) in 56% of NA women, which was similar to levels observed in non-NA participants but overall lower than in previously reported non-Hispanic White cohorts. *Lactobacillus*-depleted profiles consisted of typical communities of anaerobes associated with bacterial vaginosis: *Gardnerella*, *Fannyhessea*, *Prevotella*, and *Sneathia*. *Lactobacillus* dominance was highly associated with low (≤4.5) vaginal pH ($p=0.0017$). Moreover, HPV-positive women tended to have lower *Lactobacillus* abundance compared to HPV-negative women, though this relationship was not statistically significant ($p=0.07$). Immune marker profiles also related to the vaginal microbiota composition with proinflammatory cytokines (IL-1β, IL-12, IL-15 and TNFα) being significantly elevated ($p<0.05$) in women with *Lactobacillus* depletion. In addition, GM-CSF levels were decreased in women with *Lactobacillus* depletion, as well as in HPV-positive women.

Conclusions:
Our pilot study suggests an interplay between HPV, vaginal microbiota, and host defense may play a role in cervical cancer health disparity among NA women.

Future Directions (Opportunities and Challenges):
Future longitudinal studies are ongoing to determine the mechanistic role of vaginal microbiota in HPV persistence, toward the long-term goal of reducing health disparities between White and NA populations.

Funding Support: Partnership of Native American Cancer Prevention Grant (U54CA143924).

25: Prognostic Relevance of ARFGAP1 Expression in Clear Cell Renal Carcinoma: Implications for Patients of African Ancestry

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Target Population and Cancer Site:
Blacks and Kidney Cancer

Introduction/Background Including Hypothesis/Objectives:
The rate of renal cancer is rising in the US. Blacks are second only to Native Americans in terms of having the higher incidence of renal cancer. Thus, it is imperative that candidate genes as well as corresponding protein products be used for early detection of ccRCC in patients across various demographics. As part of the training objective to enhance genomics research capacity at Hampton University, HU researchers were introduced to open-source web-based bioinformatic tools that could be used to study gene expression in clear cell renal carcinoma, an aggressive, understudied form of renal cancer.

Methods:
In-silico analysis of the KIRC (clear cell renal carcinoma) TCGA dataset using UALCAN and UCSC XENA bioinformatics software revealed that ARFGAP1, a GTPase- ($p<1E-12$) is overexpressed in ccRCC patients.

Results:
Higher ARFGAP1 transcripts levels were found in patients with higher stages, grades and metastatic cancer ($p<0.01$). Overexpression was also associated with more unsatisfactory overall patient survival ($p<0.0001$; HR = 2.1370 (1.7775 to 2.5691) with a mean survival of 2079.677 days for the high expression group compared to 3422.299 days for the low expression, lower Disease Specific Survival [$p<0.0001$ HR= 2.409 (1.9466 to 2.9813)] and shorter progression free disease time [$p<0.0001$, HR= 1.8322 (1.4924 to 2.2493). Higher levels of ARFGAP1 transcripts were also associated with the need for additional pharmaceutical therapy ($p = 0.022$ ($t = -2.301$)). In addition, we observed that Blacks exhibited higher expression of ARFGAP1 transcripts relative to Whites ($p=1.98E-04$). Analysis of the CPTAC database revealed ARFGAP1 protein levels are indeed higher in ccRCC patients ($p= 5.9 E-10$).

Conclusions:
Taken collectively, our data indicates that higher levels of ARFGAP1 are associated with cancer progression and more aggressive ccRCC subtypes. Data also suggests ARFGAP1 may be a possible oncogene or biomarker. Moreover, our research further provides a pathway whereby scientists at lower resource institutions can enhance their genomics, bioinformatic and big data analysis skills as well as generate preliminary and publishable data that will address cancer disparities.

Future Directions (Opportunities and Challenges):
Future directions will include validating these findings in tissues derived from patients with ccRCC. Functional studies will be conducted in ccRCC cellular models. A major challenge for this research is the scarcity of ccRCC tissues available from patients of color to perform validating molecular analyses. Moreover, small sample size and/or nonexistent samples in TCGA and CPTAC databases limit the ability to perform bioinformatic analysis across different populations. Thus, our data underscores the need for collection of ccRCC tissues from patients of color as well as the need for additional studies that focus on ccRCC disease presentation in underserved groups.

Funding Support:
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Funding Support:
Partnership of Native American Cancer Prevention Grant (U54CA143924).

26: The Impact of Sociodemographic and Lifestyle Factors on the Vaginal Microbiome and Cervical Cancer Disparities in Native American Women

Authors:
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Target population and cancer site:
Women (18+ y/o) to assess human papillomavirus (HPV) and cervical cancer

Introduction/Background including hypothesis/objectives:
Cervical cancer morbidity and mortality are continually experienced by Native American (NA) women compared to white women. HPV is the most common sexually transmitted infection and is the leading cause of cervical cancer. Depletion of *Lactobacillus* species in the vaginal microbiome (VMB) is linked to HPV acquisition and persistence of HPV infection and development/progression of cervical neoplasm. Most *Lactobacillus* spp. protect the host against invading pathogens of the genital mucosa, including the cervix. Changes in the VMB composition to dysbiotic anaerobes decrease an individual's ability to clear HPV, increasing susceptibility to malignancy. Depletion of lactobacilli is associated with race and ethnicity, despite research showing genetics to be statistically similar across ethnicities. However, there may be other factors that drive changes in the microbiome, including demographic, socio-economic, lifestyle and sexual and reproductive health factors. Here, we aim to determine which demographic, socioeconomic, lifestyle and sexual and reproductive health factors impact the microbial community within the VMB, regardless of race and ethnicity. These factors have not been studied in the context and inclusion of NA women.

Methods:
In this study, 31 women at the Native American for Community Action Clinic in Flagstaff, Arizona, U.S. were enrolled, and participants completed self-reported surveys. The survey assessed the individual's socioeconomic, demographics, lifestyle, reproductive health, as well as their knowledge on HPV and VMB. Vaginal swabs were also collected for microbiome analysis via 16S rRNA sequencing.

Results:
Most women identified as NA (n=16), white (n=11), and Hispanic (n=5). We identified bacterial profiles of 28 of the 31 participants to be *Lactobacillus*-dominant (n=16) and non-*Lactobacillus*-dominant (n=12) and stratified them into two groups. Significant differences were observed, suggesting association of multiple people in a household (p=0.0228), lower level of education (p=0.0093), and high parity (p=0.0283) to undesirable non-*Lactobacillus*-dominant VMB. The non-*Lactobacillus* group tended to have more women with high-risk HPV infection. There were no differences between groups regarding other sociodemographics such as race/ethnicity, age, body mass index, marital status, etc. Yet, ongoing analysis includes global health and perceived stress data in relation to the VMB and HPV status.

Future directions (opportunities and challenges):
Upon full analysis, we will report on trends between the VMB composition and sociodemographic, lifestyle factors, and quality of life. The findings will improve ways for people to find solutions to decrease HPV infections and cervical cancer in Native American populations.

Funding Support:
Partnership for Native American Cancer Prevention NIH/NCI grant # U54CA143925

27: Educating the Next Generation of Cancer Researchers: Evaluation of a Cancer Research Partnership Training Program

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Target Population and Cancer Site: NA.

Introduction/Background Including Hypothesis/Objectives:
The underrepresentation of minorities in cancer research hampers efforts to address disparities among minority populations. To tackle this issue, early mentorship of emerging scientists from underrepresented communities is crucial. The Synergistic Partnership for Enhancing Equity in Cancer Health (SPEECH) is a collaboration between Temple University/Fox Chase Cancer Center, and Hunter College (TUFCCC/HC), funded by the National Cancer Institute. SPEECH aims to reduce cancer health disparities through research, community outreach and engagement, and training/mentorship for underrepresented investigators and students. The Research Education Core (REC) within SPEECH focuses on enhancing training and mentorship, including the Summer Cancer Research Institute (SCRI), providing opportunities for underrepresented minority students in cancer research.

Methods:
We conducted a cross-sectional survey with accepted SCRI applicants (i.e., participants) and their peers whose applications to the SCRI were not accepted (non-participants) from four cohorts of undergraduate and graduate students (2019–2022). Email invitations with a link to a REDCap survey were sent to 51 SCRI participants and 488 non-participants with the goal of investigating any differences between the two groups in knowledge in cancer and health disparities and career goals. In total, 32 SCRI participants and 47 non-participants responded to the survey. One SCRI participant was excluded due to missing data, yielding 31 SCRI participants. About 70% of the participants identified as Black/African American, Asian American, Hispanic/Latinx or multi-racial.

Results:
SCRI participants had significantly higher knowledge scores in health disparities ($p < 0.001$), cancer biology ($p < 0.001$), and cancer prevention ($p < 0.05$) than non-participants. SCRI participants also had slightly higher levels of interest in pursuing a graduate-level degree in cancer biology or cancer health disparities-related discipline (42% reporting “very interested”) and in pursuing a career in cancer biology or cancer health disparities (42% “very interested”), than the non-participants (36% and 36%, respectively), but the differences were not statistically significant. The two groups had similar rates of pursuing a career in cancer biology, cancer health disparities research, or teaching in academia. In addition, over 90% reported that they “agreed” or “strongly agreed” that the SCRI experience had a positive influence on their plans for continued education (90.3%), increased skills in cancer or cancer health disparities research (93.6%), increased skills on scientific writing (93.6%), increased skills on presenting at a conference (100%) and had a positive impact on their future career goals and plans (90.3%).

Conclusions:
Findings indicate that an intensive 8-week cancer research training institute can increase students' knowledge and capacity in cancer research, demonstrating an overall positive impact of the program on students' perceived scientific skills and future career plans.

Future Directions (Opportunities and Challenges):
Future opportunities for this research training lie in scaling up the Summer Cancer Research Institute (SCRI) program to reach more underrepresented students across a wider geographical area, increasing its impact on diversifying the cancer research field. It would also be beneficial to extend the follow-up period with participants to track long-term career outcomes and gauge the program's enduring impact on their career path. One challenge might be securing consistent funding to expand and maintain the program in the long run. The program sustainability will be our priority.

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28: An Organoid System Tailored to Studying Lung Cancer in Black/African American Subjects

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Target Population and Cancer Site:
Black/African American (B/AA), lung

Introduction:
Black/African American (B/AA) men have the highest rate of lung cancer death compared to any other group; they show a 12% higher lung cancer incidence rate and a 15% higher lung cancer death rate than White/European (W/E) men. This disparity is caused by numerous factors including genetic differences, which may affect nicotine metabolism, detoxification, therapeutic responses, cancer driver gene mutations, and more. To address the disparities in lung cancer deaths, we need *in vitro* lung cancer model systems that appropriately reflect genetic/racial diversity and therapeutic agents that are effective for all groups. Unfortunately, there are few lung cancer cell lines from B/AA subjects, and no *in vitro* lung cancer model systems to aid in therapeutic drug development.

Methods:
The Specific Aims of our project are (1) To create a novel collection of B/AA cell lines specifically tailored to the study of lung adenocarcinoma (LUAD, the most common lung cancer histological subtype), including new LUAD cell lines and immortalized alveolar epithelial cells, (2) To use 3D bioprinting technology to engineer a perfusable alveolar organoid system for rapid drug testing, and (3) To test polyisoprenylated cysteinyl amide inhibitors (PCAIs), agents developed in the Lamango lab and shown to disrupt the RAS-mediated signaling (a pathway frequently altered in LUAD) in ethnically/racially diverse cell lines. We have used CRISPR/Cas9 and lung adenocarcinoma cell line NCI-H23 (derived from a male B/AA patient, and carrying a heterozygous *KRAS*^{G12C} mutation) to engineer isogenic cell lines carrying heterozygous *KRAS*^{G12A} and *KRAS*^{G13C} mutations. We have also bio-printed 3D gelatinous organoids and tested their cytocompatibility with lung adenocarcinoma cell lines. Using NCI-H23 cells, we have carried out cytotoxicity studies of PCAIs and these indicate significant changes in RAS signaling. Work is underway to produce additional B/AA lung cancer cell lines with various *KRAS* mutations to further test PCAI efficacy and decipher the molecular mechanisms of action of PCAIs using the perfusable 3D lung organoid model.

Funding:
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29: African American Patient-Specific Novel Molecular Targets of Pancreatic Ductal Adenocarcinoma

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Target Population and Cancer Site:
African American patients, pancreas

Introduction:
Pancreatic ductal adenocarcinoma (PDAC)) is the third leading cause of death, with an overall 5-year survival rate <8%. In the U.S., there are racial disparities in PDAC incidence and mortality, higher among B lacks than W hites. In addition to socioeconomic status, lifestyles, and age, genetics also contributes to these disparities. Thus, we conducted transcriptomic analyses (RNA-seq) of PDAC samples collected from African Americans (AA) and Caucasians (CA) and their corresponding uninvolved/ normal to identify race/ethnicity-specific gene expression profiles and their related pathways to find determinants that specifically contribute to the aggressive phenotypes of PDACs in AAs. This study is relevant to the UAB catchment area, since about 30% of patients with PDAC are AAs.

Methods:
Retrospectively collected and histologically confirmed PDACs (n=40) from AA (9 PDAC and 3 matching normal tissues) and CA (31 PDAC and 5 matching normal tissues) were included in this study. Formalin-fixed, paraffin-embedded sections of PDACs and normal tissues were macro-dissected for RNA isolation. Whole transcriptomic sequencing was performed with a NextSeq 500/550 (Illumina) platform. Trimmed reads were mapped to a human reference genome (hg38) using HISAT, and gene level read count data were obtained using HTSeq. Differential expression analysis was performed using the DESeq2 bioconductor package. ClusterProfiler/ DOSE R packages were used for gene ontology and KEGG pathway enrichment analyses. Genes with log 2-fold change of ≥1 and adjusted P-value <0.05 were considered as differentially expressed.

Results:
Among the top upregulated genes altered in AA PDACs, compared to their normals, were RNF144B, TESPA1, KLHL17, H2AX, MDGA1, CDK20, PHLDA3, SLC6A16, PARVG, GATD3, NUDT16, RENBP, RTL8C, C1QTNF1, HLA−DRB5, PARP15, PPP1R16B, RASGRP2, and CHST15. Of note, targeting CHST15, by an RNA oligonucleotide, STNM01 in Phase I/IIa trial on unresectable PDAC patients showed improved overall survival. Additionally, inhibition of KLHL17, an upstream activator of Ras/MAPK, could be a candidate target in PDAC. The KEGG pathways altered in AA PDACs were glycerophospholipid metabolism; bile secretion; retinol metabolism; regulation of lipolysis in adipocytes; and pantothenate and CoA biosynthesis.

Conclusions:
Findings of this study showed distinct gene expression profiles and differentially modulated pathways in AA PDAC patients. These results will aid in identifying aggressive phenotypes and new targets for developing AA race-based therapeutic interventions.

Future Directions:
Key upregulated genes will be validated by immunoprofiling tissue micro-arrays constructed for AA PDACs to establish them as potential molecular targets.

Funding Support:
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30: Rural-Urban Disparities in Uptake of Low-Dose Computed Tomography Lung Cancer Screening in Alabama

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Target Population and Cancer Site:
African American, lung cancer

Introduction:
In Alabama, lung cancer is the leading cause of cancer death. High lung cancer incidence and mortality rates are attributed to high smoking rates among underserved, low-income, and rural populations. Residents in rural Alabama tend to be older, engage in risky health behaviors, and have lower adherence to preventive care than their urban and suburban counterparts. Disparities in mortality rates between rural and urban areas are substantial for lung cancer. It can be explained by increased tobacco use and the preponderance of late-stage diagnoses following the lack of uptake of lung cancer screening (LCS). Therefore, we examined factors associated with LCS uptake among patients referred for screening at the University of Alabama at Birmingham (UAB).

Methods:
A retrospective cohort of patients at UAB who were eligible for lung cancer screening between 01/01/2015 and 12/31/2020 was used to define the cohort. Eligibility was defined as individuals between 55-80 years old, without diagnostic codes for lung cancer (ICD-9 162.9 or ICD-10 C34.90 within the past ten years), and had a smoking history. Patient demographic variables included Age, Sex, Race/Ethnicity, RUCA codes, and distance from UAB. Chi-square tests and Student t-tests were used to compare screening uptake across patient demographic and clinical variables. Bivariate analyses were used to determine significant predictors of LCS uptake at UAB.

Results:
Of the 67,355 identified as eligible for LCS, only 1147 (0.017%) were screened. Sixteen individuals were not AL residents and therefore were not included in further analysis. Of those 1129 individuals screened, the mean age was 67.02, male (54.92%) and Non-Hispanic White (57.77%). Compared to those not screened (97.86%), those screened (2.14%) were more likely to live in an urbanized area. Additionally, compared to those not screened (50.52 mi), those screened were more likely to live closer to UAB (22.06 mi).

Conclusions:
Findings show a substantial disparity between adults living in rural areas and those living in more urbanized areas regarding LCS use. Furthermore, the study provides evidence that LCS has not reached all subgroups and that additional targeted efforts are needed to increase lung cancer screening uptake.

Future Directions (Opportunities and Challenges):
Qualitative exploration of barriers and facilitators at the individual, physician and healthcare system for intervention development.

Funding Support:
U54CA118948

31: Attitudes Regarding Lung Health Promotion Among Black Male Smokers

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Target Population and Cancer Site:
Black Men and Lung Cancer

Introduction:
Black men who smoke are disproportionately impacted by lung cancer. However, little is known about the attitudes of Black men regarding engagement in lung health promotion activities (smoking cessation and lung cancer screening). The purpose of this study was to qualitatively examine knowledge and attitudes about lung health promotion among Black male smokers in a large Midwestern city in the United States.

Methods:
Semi-structured, in-depth interviews were conducted with 25 study participants. Each interview lasted approximately 45 minutes. Participants also completed a brief (5–10 minute) survey measuring demographic characteristics, smoking experiences, and knowledge and attitudes about lung health promotion activities. Descriptive statistics were used for quantitative data, and deductive thematic analysis for qualitative data analysis.

Results:
The mean age of study participants was 57.5 years. Eighty-four percent of participants were current smokers, with the majority being daily smokers. Perceived risk for lung cancer was mixed, with 56% of participants endorsing that they considered themselves to be at high or moderate risk and the remaining 44% at low or no risk for lung cancer. Forty percent of participants reported having had a test to check their lungs for cancer. Participants were aware of the health risks associated with smoking but reported limited assistance from providers regarding the receipt of smoking cessation treatments. Awareness of lung cancer screening was limited, but participants expressed openness to screening; however, barriers were anticipated, including costs, fear, and a reduced willingness to be screened in the absence of symptoms.

Conclusions:
Study participants reported limited experiences with lung health promotion activities. Knowledge about the facilitators and barriers can be used to develop health promotion interventions targeting smoking cessation and lung cancer screening.

Funding Support:
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32: Exploiting the Biomechanics of Acinar to Ductal Metaplasia as a Potential Early Event in Pancreatic Cancer Development and Therapeutic Target

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Target Population and Cancer Site:
Pancreas

Introduction/Background Including Hypothesis/Objectives:
The tumor microenvironment compromises immune cells, extracellular matrix, as well as other cell types. These varying components alter the rate of passive diffusion of pharmacological agents and are shown to be one of the main causes of chemoresistance. Acinar to ductal metaplasia (ADM)—the process by which pancreatic acinar cells transdifferentiate into ductal epithelial cells, is considered to be one of the earliest events in pancreatic ductal adenocarcinoma (PDAC) development.

Methods:
Our lab has developed a 3D organoid assay to culture pancreatic acini on the extracellular matrix, Matrigel, to study ADM using primary, mouse, and human pancreatic acinar cells.
Results: Bulk- sequencing analysis of RNA isolated from our organoid cultures undergoing ADM shows significant upregulation of type 1 and 2 collagen and cancer-signaling pathways such as pancreatic cancer, cancer invasiveness, and TGFβ, as a result of ADM. We therefore hypothesized that during the process of ADM, ECM stiffens. We have integrated the use of fluorescent nanoparticles and multiple particle tracking analysis into our assay to determine the biomechanical properties of the ADM microenvironment in relation to mutant mouse strains, race, and drug response.

Conclusions:
Preliminary data shows a higher increase in microenvironment stiffness as a result of oncogenic ADM from our Kras ($p48^{Cre/+}$LSL-$Kras^{G12D/+}$) mouse model, followed by Cre, then wild-type mice.

Future Directions (Opportunities and Challenges):
1. Measuring this stiffness of human ADM as a function of race.
2. Studying of novel compounds (histone deacetylase inhibitor, YAP/TAZ inhibitor) decrease mechanical stiffness.
3. Further optimization of our video acquisition system to collect higher resolution data.

33: Educating the Future Leaders in Cancer Science

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Target population and cancer site:
Hispanic students

Introduction/Background including hypothesis/objectives:
The Research Education Core (REC) encompasses a wide scope of experiences for students, at all educational levels, academic and hands-on research experiences. REC's main goal is to increase the number of Hispanic physicians, physician scientists, and Ph.D.s to lead the cancer research and cancer medicine fields. Since 2018, the REC experiences have focused on infection driven malignancies, following along the UPR and UT MD Anderson Cancer Center Partnership's main objective, Infection-Driven Malignancies Program for Advancing Careers and Translational Sciences (IMPACT). The REC initiatives have been extremely successful.

Methods:
The hands-on experiences are executed under the guidance of a mentor during the semesters at UPR and a summer experience at MD Anderson Cancer Center. Between the years 2022 and 2023, 17 undergraduate and graduate students have participated in semester assistantships; 14 in the summer research experience 2022 and 9 students in 2023. A concurrent degree's physician scientist program was instituted in 2008; the students conduct medicine studies at UPR School of Medicine while the Ph.D. studies are performed at UT MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, Houston. Other academic offerings include seminars, workshops, and elective courses.

Results:
The most impressive outcomes are those of the M.D./Ph.D. concurrent degrees program. Twelve students have successfully completed the dual degrees program. They have produced 132 publications and have been awarded 41 scholarships, fellowships, and supplements. The greatest impact is increasing the Hispanic physicians-scientists with formal education in cancer. This summer two of the M.D./Ph.D. Program alumni were recruited as faculty by the UPR Comprehensive Cancer Center; one pathologist and a pediatric oncologist.

Future directions (opportunities and challenges):
An important challenge is the need to increase financial support to M.D./Ph.D. students, comparable to the one received by the students in institutions under NIH's Medical Scientist Training Program (MSTP). Future directions include the submission of a T32 grant proposal to close the gap. An opportunity arose during the COVID Pandemic, to offer seminars and courses in online and hybrid modalities. Virtual learning modules are being prepared, with pre and post-test, which are housed in an online platform specifically built for the REC.

Funding Support:
The M.D./Ph.D. dual degree program has been institutionally supported by UPR with tuition fees waiver, medical insurance, and a stipend.

34: Targeting Centrosome–Mitotic Kinases as a Novel Therapeutic Approach Against Breast Cancers in Hispanic/Latinas

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Target Population and Cancer Site:
Hispanic/Latina (H/L) from Florida and Puerto Rico (PR) and non-Hispanic Black (NHB) women with breast cancer (BC)

Introduction/Background Including Hypothesis/Objectives:
NHB and H/L women have greater BC-related mortality than non-Hispanic whites (NHW) in part due to higher rates of triple-negative BC (TNBC). The centrosome/mitotic kinases TTK and NEK2 are dysregulated in TNBCs and women with over 50% African ancestry. We will test the hypothesis that TTK and NEK2 dysregulation in H/L and NHB women with BC contributes to their poor survival outcomes by driving cancer cell survival and metastasis.

Methods:
We leverage data from over 1,000 patients to identify molecular variations associated with African ancestry, the expression of mitotic kinases and metastasis drivers, and poor outcome. We leverage a novel multi-ethnic tissue microarray and demographic dataset to confirm altered protein expression four groups of women. We associate additional potential drivers of BC outcomes, such as socioeconomic factors, as well as reproductive factors (e.g. parity, first menarche, hysterectomy) with novel molecular findings. We assess single and combinatorial inhibition of TTK, and NEK2 in TNBC cell lines from NHB BC using Western blots, real-time PCR, and Boyden chamber assays to detect how they influence early metastasis.

Results:
NHB women in our cohort of women have a significantly higher body-mass index, higher employment rates, and lower marriage rates than other groups; PR-H/L have higher rates of parity and marriage, while NHW women are more educated. Co-inactivating TTK/NEK2 significantly reduced the invasion of TNBC.

Conclusions:
Results will help reduce BC disparities by identifying actionable targets (e.g., TTK and NEK2) against the aggressive growth and early metastatic progression in NHB and H/L women with TNBC.

Future Directions (Opportunities and Challenges):
(1) To identify kinases overexpressed specifically in different racial/ethnic groups. (2) To address how the co-inactivation of these kinases suppresses metastasis of cell lines and PDX models of TNBC derived from H/L and NHB women.

Funding Support:
R01CA266046, U54CA163071 (PHSU), U54CA163068 (MCC)

35: Health Belief Model of *Helicobacter Pylori* Screening and Stomach Cancer Among Navajo Adults

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Target Population and Cancer Site:
Self-identified Navajo men and women who are 18 years and older. Cancer site is stomach cancer.

Introduction/Background Including Hypothesis/Objectives:
A common bacteria that grows in the stomach's mucus layer may become infected by risk factors that may result in *Helicobacter pylori* (*Hp*) infection. If *Hp* is left untreated it may progress to stomach cancer. The Navajo Epidemiology Center report Navajo adults are 3 to 4 times likely to be diagnosed with stomach cancer than Non-Hispanic White. The Partnership for Native American Cancer Prevention between Northern Arizona University and the University of Arizona team applied Health Belief Model with open-ended questions about *Hp* perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, cues to action, and self-efficacy. Open ended semi-structured interviews and focus groups on Navajo Nation in Arizona and New Mexico had 50 Navajo participants.

Methods:
Qualitative interviews with in-person focus group and semi-structured interviews in-person and by phone on the Navajo Nation in Arizona and New Mexico. Interviews included recording discussions with copious notes.

Results:
The results showed general lack of knowledge about *Hp*. However, participants who had experience with *Hp*, gastritis, or ulcers had some knowledge about *Hp*. Others talked about relatives passing away from stomach cancer. The benefit of seeing a doctor meant treatment of gastritis, *Hp* infection, or stomach cancer including receiving prescription medications to relieve pain. Barriers included COVID-19 shutdown, an inability to schedule appointments with doctors, and no transportation.

Conclusions:
Culturally relevant educational materials and an oral presentation about *Hp* infection and stomach cancer are needed.

Future Directions (Opportunities and Challenges):
Continue to conduct *Hp* community qualitative study in different regions of the Navajo Nation. Also, interview those with *Hp* and stomach cancer about treatment procedures and follow through.

Funding Support:
Partnership for Native American Cancer Prevention, U54 NCI grant.

36: Role of the Leucine Zipper Tumor Suppressor 2 (LZTS2) in Ovarian Cancer

Authors:
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Target Population and Cancer Site:
Ovarian cancer patients; ovarian

Introduction:
Ovarian cancer is often diagnosed at advanced stages because early disease is asymptomatic or has non-specific symptoms, resulting in high mortality even with aggressive treatment. This is especially true for women with limited access to healthcare. Five-year (2016-2020) U.S. age-adjusted mortality rates for ovarian cancer are 5.7 and 6.7 per 100,000 for African Americans and W hite Americans, respectively. Incidence of ovarian cancer is lower for African Americans at younger ages (from 7 to 23.6 per 100,000; ages 40 to 60) compared to W hite Americans (from 8.6 to 27.5 per 100,000; ages 40 to 60), which may be due to delayed diagnosis, given that incidence does not significantly differ above age 65 at Medicare qualification. Risk factors including chronic stress, smoking, unhealthy nutrition, dehydration, hypoxia, circadian disturbances, and frequent infections could further impact health in vulnerable populations. We hypothesize that LZTS2 may interact with risk factors to influence cellular pathways, disease progression, and treatment response. However, its role in ovarian cancer is not known. Our objective in this study is characterization of the role of LZTS2 in the context of its interacting proteins with known roles in cell proliferation and DNA damage response.

Methods:
Co-immunoprecipitation experiments were performed to identify binding partners of LZTS2 in the context of DCAF7-depleted U2OS cells and T98G cells expressing cloned fragments of LZTS2.

Results:
Full-length LZTS2 interacts with DYRK1A, SIPA1L1, DCAF7, LZTS1, and beta-catenin while the fragment 1 (aa 1-332) did not bind these proteins. Fragment 2 (aa 333-669) that contains the Fez1, Smc, NES and PDZ domains interacted with LZTS1 and SIPA1L1 but not with DYRK1A or DCAF7. In the absence of DCAF7, LZTS2 was not able to bind DYRK1A.

Conclusion:
These results suggest that LZTS2 provides different roles in the cell, due to its binding partners that regulate the cell cycle (DYRK1A, DCAF7, LZTS1) or cytoskeleton (beta-catenin, SIPA1L1). These findings provide scientific grounding for further characterization of LZTS2 aimed at better understanding and treatment of ovarian cancers.

Funding Support:
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37: Ginger Attenuates Proliferation of Liver Cancer Cells Derived From Caucasian, Asian, and African American Patients Through Modulating Interferon-1 Signaling Pathway

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Target Population and Cancer Site:
Caucasian/Asian/African American patients, liver

Introduction/Background:
Hepatocellular Carcinoma (HCC) is a highly fatal disease in which race/ethnicity plays a vital role in determining incidence, mortality, and survival rates. The incidence of HCC is highest in Asia and Africa. Furthermore, there is a statistically significant increase in incidence and mortality and a decrease in 5-year survival rates in African American (AA)/Black patients compared to non-Hispanic White patients. To understand the underlying cause, we performed bioinformatics on existing gene expression data. We found that type I Interferon (IFN-I)-inflammatory signaling pathway showed statistically significant activation in AA/Black patients compared to White patients. Due to the severe toxicity of the currently available cancer treatments, there is also a demand for the development of alternative therapies with high efficacy and low side effects to treat liver cancer.

Hypothesis:
We hypothesized that dietary compounds, because of their anti-inflammatory property, might modulate the IFN-I signaling pathway in HCC.

Objectives:
To determine (a) effects of anti-inflammatory ginger extract on proliferation of HepG2 (White patient), Hep3B and O/20 (Black patient), and HuH-7 (Asian patient) cell lines and investigate ginger effects on the INF-1 mediated signaling pathway.

Methods:
A dose-response of these extracts was used to determine IC50s on these cell lines using an MTT cell proliferation assay. Activation of INF-1-mediated downstream signaling proteins, including JAK1, TYK2, STAT1, and STAT2 phosphorylation status, was determined on a Western blot analysis. The expression of Interferon Signaling Genes (ISGs), including Myxovirus resistance gene 1 (MX1), 2',5'-oligoadenylate synthetase (OAS1), Interferon-alpha inducible protein 6 (IFI6), and Interferon stimulated gene 15 (ISG15) was assayed using a quantitative Real-Time Polymerase Chain Reaction (RT-PCR).

Results:
Ginger has a significantly ($P<0.05$) lower IC50s (µg/ml) on cell lines from Black patients (Hep3B=160 ± 3, and O/20=162 ± 3) than cell lines from white (HepG2=176±5) or Asian (Hu7=174 ± 5) patients. Ginger treatment reduced the phosphorylation of IFN downstream mediators in all HCC cell lines. Furthermore, expression of MX1, ISG15, IF16, and OAS1 was also reduced in all HCC cells lines in a dose-dependent manner; however, the effects on gene expression were more sensitive to a lower concentration of ginger extract in Black patients derived HCC cell lines than other HCC cell lines.

Conclusions:
Considering the role of pro-inflammatory and immunosuppressive functions of IFN-I, AA/Black HCC patients might benefit from combination of dietary anti-inflammatory agents and chemo/immunotherapy.

Future Directions (Opportunities and Challenges):
Currently, research is underway to identify the active chemical agent in ginger and test it on other patient-derived HCC lines and in an *in vivo* model.

Funding Support:
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38: Developing an mHealth Intervention to Increase Colorectal Cancer Screening Among Black Men in Virginia

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Target Population and Cancer Site:
Black/African American men aged 45-74 years; colorectal cancer

Introduction/Background Including Hypothesis/Objectives:
Colorectal cancer (CRC) is one of the few cancers that can be identified before it becomes cancer. Compared to all racial/ethnic minority groups Black men experience 20% higher incidence, 45% higher mortality, and have the lowest screening participation. Virginia has 1 of 3 enduring CRC hotspots in the U.S. We report on our multi-step process to translate our experiences implementing the NCI Screen to Save program into a culturally tailored mHealth intervention to increase completion of CRC screening (any test) by Black men at 3 months using a scalable, community implemented, and easily sharable mHealth platform.

Methods:
A theoretically and empirically informed translational science public health intervention was developed using the Behavioral Design Thinking Approach. Data to inform how Screen 2 Save should be tailored was collected from empirical literature, survey, and a community advisory board of Black men (n=7).

Results:
CAB identified changes for delivery and topics for content including addressing medical mistrust, access delays for referrals and appointments, lack of local information, misinformation; role of families. Empirical literature identified the need for local health clinic involvement as critical to screening uptake. To date, our survey has enrolled n=48 men, 13% are cancer survivors, 29% have a family history of CRC, and 45% believe they are not at risk of developing CRC in their lifetime. Preliminary analyses show that 30% binge drink weekly, 27% use tobacco, and 62% have used cannabis in their lifetime.

Conclusions:
Working with a third-party developer, a prototype mHelath application that is downloadable, optimized for iPhone and android users, and uses familiar sharing, video, and text messaging modalities was created. Guided by our results, we created four short videos (1:30-2 mins) including a survivor vignette, animated videos about CRC and the type of screening tests, and a message from a community clinic partner. Men will also receive tailored feedback and direct navigation to local FQHC partners including via school-based family clinics.

Future Directions (Opportunities and Challenges):
In partnership with the CAB and clinic leaders, we launched a pilot of the mHealth application in summer 2023. We will recruit 30 Black men aged 45-75 years and track engagement with video materials. At 3 months, we will assess whether any CRC test was obtained. Preliminary success will be indicated if: a) most (≥60%) complete CRC screening and b) among those unscreened >80% acknowledge their intent to complete screening.

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39: Knowledge, Attitudes, and Beliefs About Colorectal Cancer Screening in Puerto Rico

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Target Population and Cancer Site:
Puerto Ricans aged 50 and older, colorectal cancer

Introduction:
Colorectal cancer (CRC) is the leading cause of cancer death in Puerto Rico (PR) and third among U.S. Hispanics. The age-adjusted incidence rate by county in PR between 2012-2016 was 51.6 and 34.8 per 100,000 men and women, respectively. The Behavioral Risk Factor Surveillance System (2018) indicates that only 9.5% of adults aged 50-75 living in PR have had a fecal occult blood test (FOBT) within the past year, and 51.2% had a colonoscopy in the past ten years. We aim to describe the psychosocial factors influencing CRC screening (CRCS) participation in PR.

Methods:
We conducted seven (7) focus groups in metropolitan and rural areas with adults aged 50-80 (using gender-specific groups) who were non-adherent to CRCS guidelines. Discussion included questions about CRC and CRCS knowledge, attitudes, and beliefs. We analyzed data using a modified grounded theory approach to identify emergent themes.

Results:
50 individuals participated. The mean age was 61.9±6.8, and 56% were women. 77.1% had an education of high school or less, 76% were unemployed, 87.8% earned less than $15,000 per year, and 72% had government health insurance. Reported factors influencing CRCS included lack of knowledge regarding CRCS, lack of time and transportation, embarrassment, financial burden, low perceived benefits of CRCS, and fatalism.

Conclusion:
Participants presented misconceptions about CRC and CRCS. Participants' low levels of knowledge, negative attitudes concerning CRCS, and lack of provider recommendations were important deterrents to screening. Given the high CRC mortality and low screening rates, it is essential to understand why they are so low and develop interventions to increase screening and follow-up care.

Future Directions (Opportunities and Challenges):
Findings suggest the need for educational efforts to increase knowledge and attitudes about CRCS and improve patient-provider communication to reduce missed opportunities for recommendations.

Funding Support:
This research was supported by the National Cancer Institute of the National Institutes of Health under award numbers U54CA096300 and U54CA096297.

40: Development of Multisectoral Partnerships in the Quest to Target Effective HPV Vaccination Strategies in Puerto Rico

Authors:
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Target Population and Cancer Site:
Puerto Ricans aged 9-45. HPV-caused cancers.

Introduction:
Human Papillomavirus (HPV) is the most common sexually transmitted infection worldwide. Puerto Rico (PR) has the highest incidence (12.1) of cervical cancer among the US and territories, for which HPV infections cause 91%. The Puerto Rico Community Cancer Control Outreach Program (PRCCCOP) and UTHealth, have developed HPV vaccination educational materials tailored to be used by clinical and public health workers or as a standalone. Our goal is to create a network of multisectoral collaborators to facilitate the dissemination of HPV prevention educational campaigns and HPV vaccination uptake in PR.

Methods:
From 2019 to March 2023, the PRCCCOP established a network of island-wide collaborators. Collaborators were offered workshops on HPV prevention and received educational materials and continued assistance.

Results:
A descriptive assessment of collaborators was documented and categorized into 5 groups: academic (11.3%), health services/FQHCs (36.5%), community-based (7%), private sector (25%), and government (20.4%). Our team has participated in 129 community events in 39 (50%) municipalities, and the educational campaigns were distributed in 65 (83.3%) municipalities.

Conclusion:
The PRCCCOP expanded its reach by developing partnerships with diverse organizations, allowing us to reach the most vulnerable populations effectively. These partnerships helped increase program visibility and the availability of workshops and educational materials to different organizations in PR.

Future efforts:
With these partnerships, we aim to raise awareness about HPV prevention and increase knowledge and vaccination uptake. We will keep growing our network in the next year to reach all municipalities in Puerto Rico.

Funding:
This research was supported by the National Cancer Institute of the National Institutes of Health under award numbers U54CA096300 and U54CA096297.

41: The Role of Multisectoral Partnerships in the Dissemination of HPV Vaccination Campaigns in Puerto Rico

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Target Population and Cancer Site:
Puerto Ricans aged 9-26. HPV-caused cancers.

Introduction:
Despite the availability of an effective vaccine, Human Papillomavirus (HPV) vaccination uptake is suboptimal in Puerto Rico (PR). Knowledge and understanding of the benefits of HPV vaccination can influence the intention to vaccinate. The Puerto Rico Community Cancer Control Outreach Program (PRCCCOP) and our network of multisectoral partners disseminated an HPV vaccination educational campaign to promote vaccination people aged 9-26. We aim to effectively disseminate prevention campaigns to increase HPV vaccination uptake in PR.

Methods:
Collaborators distributed materials to their clientele in person, online, or via email. In addition to printable materials, PRCCCOP-developed HPV prevention public service announcements were played at Federally Qualified Health Centers (FQHC). The PRCCOP provided all collaborators with continued training, assistance, and educational materials.

Results:
Our program impacted 65 municipalities (83.3% of the island). Electronic and printed versions of the educational materials were disseminated in 40 clinics and vaccination centers across the island, including all 22 FQHCs in PR. Over 2,000 people were reached via in-person events and health fairs. Additionally, 18 workshops were imparted in clinical and academic settings.

Conclusion:
Community outreach can be an expensive and labor-intensive task. By establishing partnerships and sharing resources, the PRCCCOP lowered costs while widely disseminating educational campaigns and expanding its network outside the traditional academic/health services arena.

Future efforts:
We will continue collaborating with multisectoral organizations to increase our presence in PR, diversify dissemination mediums, and reach vulnerable and hard-to-reach populations.

Funding:
This research was supported by the National Cancer Institute of the National Institutes of Health under award numbers U54CA096300 and U54CA096297.

42: ATM and MSH2 Regulate Non-Homologous End Joining in Class Switch Recombination

Authors:
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City College of New York, CUNY[1], The Graduate Center, CUNY[2], Memorial Sloan Kettering Cancer Center[3]

Class switch recombination (CSR) produces secondary immunoglobulin isotypes and requires AID- dependent DNA deamination of intronic switch (S) regions within the immunoglobulin heavy chain gene locus. Non-canonical repair of deaminated DNA by mismatch repair (MMR) or base excision repair (BER) creates DNA breaks that permit recombination between distal S regions. ATM-dependent phosphorylation of AID at serine-38 (pS38-AID) promotes its interaction with APE1, a BER protein, suggesting that ATM regulates CSR through BER. However, pS38-AID may also play a role in MMR during CSR, although the mechanism remains unknown. To examine whether ATM modulates BER- and/or MMR-dependent CSR, $Atm^{-/-}$ mice were bred to mice deficient for the MMR gene *Msh2*. Surprisingly, the predicted Mendelian frequencies of $Atm^{-/-}Msh2^{-/-}$ adult mice were not obtained. To obtain *ATM*- and *MSH2*-deficient B cells, *ATM* was conditionally deleted on an $Msh2^{-/-}$ background using a floxed ATM allele [Atm^{F}] and B cell-specific Cre recombinase expression (CD23-cre) to generate a deleted ATM allele (Atm^{D}). As compared to the $Atm^{D/D}$ and $Msh2^{-/-}$ mice and B cells, the $Atm^{D/D}Msh2^{-/-}$ mice and B cells display a reduced CSR phenotype. Interestingly, Sμ-Sγ1 junctions from $Atm^{D/D}Msh2^{-/-}$ B cells that were induced to switch to IgG1 *in vitro* revealed a significant loss of blunt end joins and an increase in insertions as compared to wildtype, $Atm^{D/D}$, or $Msh2^{-/-}$ B cells. This data suggests that the absence of both ATM and MSH2 blocks NHEJ and leads to inefficient end joining and the reduced CSR. We identify complementary roles for ATM and MSH2 in NHEJ during CSR and propose a model whereby ATM and MSH2 function cooperatively to regulate A-EJ during CSR through pS38-AID.

43: Building Community Engagement Capacity in Research Is an Innovation to Increase Accruals and Eliminate Barriers to Clinical Trial Studies Among Pacific Islanders

Authors:
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[1]The University of Hawai'i Cancer Center (UHCC)

Target population and cancer site: Pacific Islander women; breast

Introduction/Background including hypothesis/objectives:
There is a need to improve Pacific Islanders' participation in clinical trials. The University of Hawai'i Cancer Center (UHCC) is now actively recruiting Pacific Islanders for clinical trial studies in Hawai'i. Historically, Pacific Islanders' involvement in clinical trial studies has been low; therefore, UHCC has promoted several clinical trials, including a mammogram screening study the Tomosynthesis Mammographic Imaging Screening Trial (TMIST) to recruit Pacific Islander women residing in Hawaii aged 45 to 74. The UHCC acknowledges and emphasizes the importance of multi-ethnic participation in clinical trial studies in Hawaii. However, social, structural, and historical health determinants put a toll on the recruitment of ethnic minority women to TMIST. Pacific Islander women have the highest percentage of women who have never had a mammogram. Breast cancer incidence and mortality are highest among Pacific Islander women including Native Hawai'ians. Community Health Workers (CHW) recognized the community mistrust in research and applied ways to resolve it. This paper aims to highlight the importance of building capacity in community engagement and research to improve recruit of these women to research.

Methods:
The UHCC understands the barriers to clinical trial accruals and goes beyond the standard "not interested" response to address many other contributing factors. The successful recruitment of Pacific Islander women to TMIST by the use of CHW from the Pacific Islander community. The CHW's role in promoting clinical trial studies fosters improved accruals of Pacific Islander women by understanding issues such as language barriers, cultural, structural, and social health determinants contributing to low study accruals. The CHW understood the community mentality and explained the nuances of clinical trial studies in simple language, and sometimes in the native language, to eliminate community doubts. Presentations with pre and post-surveys were translated or interpreted into some Pacific Island languages. UHCC collaborate with church leaders for support.

Results:
The involvement of CHW makes a positive impact on TMIST. Stakeholders are aware of cultural barriers and innovative ways to assess the community, and the community learned and became aware of the importance of the clinical trial study, which eliminates doubt and increases accruals from 1 to 50 from 2018 to 2023.

Conclusions:
The role of the CHW in clinical trial studies is prominent to reducing cultural and language barriers, gaining trust, and creating relationships.

Future directions (opportunities and challenges):
The collaboration between the community and researchers should be supported, and the roles of the CHW in clinical trial studies should be prioritized, especially in the communities that have high mistrust in research due to historical trauma.

Funding support: NCI- 3 P30 CA071789-20S1

44: Screen to Save Colorectal Cancer Education for Native Hawaiian and Pacific Islander Communities: A Targeted Approach to Increase Screening Knowledge Within These Communities in Hawai'i

Authors:
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Target population and cancer site:
Native Hawaiians and Pacific Islanders, colorectal cancer

Introduction/Background:
According to the National Cancer Institute, colorectal cancer (CRC) is the fourth most common cancer in the U.S. and the second leading cause of cancer death; individuals 50 years and older from racially/ethnically diverse communities often demonstrate lower screening rates than the general population. Native Hawaiians and other Pacific Islanders (NHOPIs) have limited access to cancer prevention and control programs. In comparison to other ethnic groups, these communities have higher rates of alcohol consumption, smoking, and obesity related to inactive lifestyles, food intake higher in saturated fats, loss of cultural ties due to active lifestyles, and unequal access to resources such as health knowledge and medical insurance. These behaviors increase the conditions for non-communicable and communicable diseases such as various types of cancers, thus indicating a need for culturally-tailored cancer control initiatives. One such approach is the utilization of CRCHD's Screen to Save (S2S) initiative, which provides tailored education for outreach efforts that increase access to resources for those who are disproportionately affected by CRC. It is hypothesized that a tailored S2S for NHOPIs will increase their knowledge and provide the foundation to increase screening for this cancer.

Methods:
Between September 2021 and March 2023, our team provided tailored S2S education to NHOPIs in person through various venues where they gather in Hawai'i such as health/wellness fairs, Pacific Islander cultural events, and churches. S2S includes a 14-item pretest, CRC education and screening recommendations, and a post-test administered immediately after the education. Community champions and key stakeholders aided in identifying locations and recruiting friends and families to take part in the education. Data was analyzed utilizing SPSS pair-sample means testing.

Results:
A total of 97 NHOPIs received the S2S education and completed a pre- and post-test. The pre- and post-test consisted of 14 questions. Positive increases in means were found for all 14 questions from pre- to post-tests. Participants also indicated they were more likely to talk to a healthcare provider, family, and friends about CRC screening and improve risk factors such as healthier eating and increased physical activity.

Conclusions/Future Directions:
S2S offers a convenient initiative to increase knowledge concerning CRC and updated screening recommendations for NHOPIs who have increased cancer incidence and mortality, and a way of identifying community champions to train in these activities through their social networks. Challenges include collecting identifying information and successful follow-up to determine if CRC screening was completed or if there were any barriers.

45: Evaluating a Bidirectional Academic–Community Partnership With Multiple Racial/Ethnic Communities for Cancer Prevention Initiatives and Cancer Health Disparities Research

Authors:
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Target population and cancer site: N/A

Introduction/Background Including Hypothesis/Objectives:
The Temple University Fox Chase Cancer Center and Hunter College Cancer Health Disparity Partnership (TUFCCC/HC Cancer Partnership) is a comprehensive collaborative cancer health research infrastructure in Pennsylvania, New Jersey, and New York City (PNN) Region. Its goals are to enhance equity in cancer health through rigorous and sustainable cancer research, train the next generation of researchers, and establish community outreach programs. Establishing and strengthening a bidirectional academic-community partnership is a key component of this partnership. While such collaborative relationships have been strongly endorsed by the National Institutes of Health (NIH), little has been documented demonstrating how such partnership can be created and maintained. Building on previous established collaborative relationships with the community-based organizations (CBOs), we created and expanded a bidirectional, academic–community partnership in African American, Asian American, and Latinx communities in the PNN region to 1) assess the level of awareness of cancer prevention knowledge; 2) identify community needs and barriers to cancer prevention healthcare services; and 3) jointly develop and implement culturally appropriate community-based educational initiatives to promote cancer prevention in medically underserved communities.

Methods:
In this presentation, we established a comprehensive evaluation metric to assess the bidirectional partnership. The metric, its outputs, and outcomes were adapted from the Evaluation Metrics Manual published by the National Institute of Environmental Health Services of NIH. We also formed a Community Advisory Board (CAB) to guide our bidirectional communication and jointly develop a community-driven cancer education agenda.

Results:
The CAB played a critical role in the development of the bidirectional partnership. They provided key inputs in identifying the goals and benchmarks of the educational initiative, and in facilitating the recruitment and implementation of the initiative. Our evaluation indicated that a bidirectional partnership is an interactive and non-linear process that requires constant feedback and communication. We identified several successes and challenges during our co-learning and co-implementing process. We also identified areas for improvement, specifically, establishing a more effective strategy for building community capacity and an efficient channel for information and resource sharing, and greater efforts on dissemination of scientific findings to the community.

Conclusions
Actively engaging CAB and CBOs in the cancer prevention educational initiatives from the onset enhanced the efficacy of the initiatives and strengthened the research training capacity of the academic institutions. We will share best practices in our bidirectional, academic–community partnership building and discuss next steps in adaptation and further development of the partnership.

Future Directions (Opportunities and Challenges):
As the Temple University Fox Chase Cancer Center and Hunter College Cancer Health Disparity Partnership (TUFCCC/HC Cancer Partnership) progresses, we envision opportunities including extending partnerships to other communities, integrating advanced technologies for improved community cancer research capacity, communication, and broadening the scope of our initiatives to address more areas of health disparity. Concurrently, we will address challenges such as enhancing information and resource sharing channels, improving the dissemination of scientific findings, maintaining sustained community engagement, and securing consistent funding for our initiatives.

Funding Support:
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CRCHD Resources

CRCHD Resources

Overview

- Website
- Contact Information and Staff Bios
- Twitter: @NCICRCHD
- LinkedIn: NCI Center to Reduce Cancer Health Disparities (CRCHD)

CRCHD Funding Opportunities

- **Disparities Research**

  - **Basic Research in Cancer Health Disparities (R01 Clinical Trial Not Allowed)**
    Tiffany Wallace, Ph.D.
    Program Director
    tiffany.wallace@nih.gov

  - **Exploratory/Developmental Grants Program for Basic Research in Cancer Health Disparities (R21 Clinical Trial Not Allowed)**
    Tiffany Wallace, Ph.D.
    Program Director
    tiffany.wallace@nih.gov

  - **Basic Research in Cancer Health Disparities (R03 Clinical Trial Not Allowed)**
    Tiffany Wallace, Ph.D.
    Program Director
    tiffany.wallace@nih.gov

  - **Exploratory Grant Award to Promote Workforce Diversity in Basic Cancer Research (R21 Clinical Trial Not Allowed)**
    Laritza M. Rodriguez, M.D., Ph.D.
    Program Director
    laritza.rodriguez@nih.gov

    Sangeeta Ghosh, Ph.D.
    Program Director
    sangeeta.ghosh@nih.gov

  - **Patient Derived Xenograft (PDX) Development and Trial Centers (PDTCs) Network (U54 Clinical Trial Not Allowed)**
    Tiffany Wallace, Ph.D.
    Program Director
    tiffany.wallace@nih.gov
    Note: This program is not currently accepting applications.

  - **Feasibility and Planning Studies for Development of Specialized Programs of Research Excellence (SPOREs) to Investigate Cancer Health Disparities (P20 Clinical Trial Optional)**
    Tiffany Wallace, Ph.D.
    Program Director
    tiffany.wallace@nih.gov
    Note: This program is not currently accepting applications.

CRCHD Resources

- **Diversity Training**
  - **Mentored Career Development Awards:**
    - **NCI Mentored Research Scientist Development Award to Promote Diversity (K01 Independent Clinical Trial Not Allowed) and (K01 Clinical Trial Required)**
      Shahrooz Vahedi, Ph.D.
      Program Director
      shahrooz.vahedi@nih.gov

    - **NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08 - Independent Clinical Trial Not Allowed) and (K08 Clinical Trial Required)**
      Laritza M. Rodriguez, M.D., Ph.D.
      Program Director
      laritza.rodriguez@nih.gov

  - **Non-Mentored Career Development Award:**
    - **NCI Transition Career Development Award to Promote Diversity (K22 Independent Clinical Trial Not Allowed) and (K22 Clinical Trial Required)**
      Shahrooz Vahedi, Ph.D.
      Program Director
      shahrooz.vahedi@nih.gov

  - **Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research (Parent F31-Diversity)**
    Anthony DiBello, Ph.D.
    Program Director
    anthony.dibello@nih.gov

    Sangeeta Ghosh, Ph.D.
    Program Director
    sangeeta.ghosh@nih.gov

  - **Notice of Special Interest (NOSI): Research Supplements to Promote Re-Entry and Re-Integration into Health-Related Research Careers (Admin Supp - Clinical Trial Not Allowed)**
    Belem López, Ph.D.
    Program Director
    belem.lopez@nih.gov

- **Research Supplements to Promote Diversity in Health-Related Research (Admin Supp - Clinical Trial Not Allowed)**
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  Fulera Salami, M.P.H.
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  Chantel Fuqua, Ph.D.
  Program Director
  chantel.fuqua@nih.gov

  Jiexin (Jason) Liu, Ph.D., M.B.A., M.S.
  Program Director
  liuj9@mail.nih.gov

- **Workforce Diversity**

  - **Cancer Moonshot Scholars Program**
    LeeAnn Bailey, M.B.B.S., Ph.D., M.S.
    Chief, Integrated Networks Branch
    leeann.bailey@nih.gov

    Tiffany Wallace, Ph.D.
    Program Director
    tiffany.wallace@nih.gov

  - **Early Investigator Advancement Program (EIAP)**
    JoBeth McCarthy, D.H.Sc.(c), M.P.H., CPH (contractor)
    Program Director
    jobeth.mccarthy-jean@nih.gov

    Maria Jamela (Jay) R. Revilleza, Ph.D., M.Sc.
    Program Director
    mariajamela.revilleza@nih.gov

CRCHD Resources

CRCHD Programs and Initiatives

- **Intramural Continuing Umbrella of Research Experiences (iCURE)**
  Jessica Calzola, Ph.D., P.M.P.
  Program Director
  iCURE@nih.gov

  Gregory Adams, Jr., M.S., Ph.D.
  Program Director
  iCURE@nih.gov

- **Administrative Supplement for Strengthening Research, Training, and Outreach Capacity of the Geographic Management of Cancer Health Disparities Program (GMaP)**
  Anil Wali, Ph.D.
  Program Director
  walia@mail.nih.gov
  Note: This program is not currently accepting applications.

- **Administrative Supplements to Strengthen NCI-Supported Community Outreach Capacity through Community Health Educators (CHEs) of the National Outreach Network (NON)**
  Sandra L. San Miguel-Majors, Dr.P.H., M.S.
  Program Director
  sandra.sanmiguel@nih.gov
  Note: This program is not currently accepting applications.

- **Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE) (U54 Clinical Trial Optional)**
  H. Nelson Aguila, D.V.M.
  Deputy Director
  aguilah@mail.nih.gov

  Behrous Davani, Ph.D.
  Chief, Diversity Training Branch
  behrous.davani@nih.gov

- **Training Navigation (TN)**
  Anil Wali, Ph.D.
  Program Director
  walia@nih.gov
  Note: This program is not currently accepting applications.

- **Transformative Educational Advancement and Mentoring Network (TEAM)**
  Whitney (Barfield) Steward, Ph.D.
  Program Director
  whitney.barfield@nih.gov
  Note: This program is not currently accepting applications.

CRCHD Resources

- **Youth Enjoy Science (YES) Research Education Program (R25)**
  Belem López, Ph.D.
  Program Director
  belem.lopez@nih.gov

- **Administrative Supplements to Support Cancer Disparity Collaborative Research (Clinical Trial Optional)**

- **Connecting Underrepresented Populations to Clinical Trials (CUSP2CT)**

  - **A Multilevel Approach to Connecting Underrepresented Populations to Clinical Trials (CUSP2CT; U01 Clinical Trial Optional)**
    Sandra L. San Miguel-Majors, Dr.P.H., M.S.
    M.S. Program Director
    sandra.sanmiguel@nih.gov
    Note: This program is not currently accepting applications.

  - **Data, Evaluation and Coordinating Center for: A Multilevel Approach to Connecting Underrepresented Populations to Clinical Trials (CUSP2CT) (U24 Clinical Trial Not Allowed)**
    Whitney Barfield Steward, Ph.D.
    Program Director
    whitney.barfield@nih.gov

    Sandra L. San Miguel-Majors, Dr.P.H.,
    M.S. Program Director
    sandra.sanmiguel@nih.gov
    Note: This program is not currently accepting applications.

- **Feasibility Studies to Build Collaborative Partnerships in Cancer Research (P20 Clinical Trial Not Allowed)**
  Behrous Davani, Ph.D.
  Chief, Diversity Training Branch
  behrous.davani@nih.gov
  Note: This program is not currently accepting applications.

- **Notice of Special Interest in Research on the Health of Sexual and Gender Minority (SGM) Populations**
  LeeAnn Bailey, M.B.B.S., Ph.D., M.S.
  Chief, Integrated Networks Branch
  leeann.bailey@nih.gov

  Whitney Barfield Steward, Ph.D.
  Program Director
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CRCHD Resources

- **Research on the Health of Transgender and Gender Nonconforming Populations: R21, R01**
  LeeAnn Bailey, M.B.B.S., Ph.D., M.S.
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  leeann.bailey@nih.gov

  Whitney Barfield Steward, Ph.D.
  Program Director
  whitney.barfield@nih.gov

NIH Resources and Tools

NIH Grant Application Resources

- NIH Grants and Funding Information: grants.nih.gov
  - Find funding
  - How to apply
  - Explore NIH-funded research (RePORT)
- Center for Scientific Review: public.csr.nih.gov/
- Early Stage Investigator Policies: grants.nih.gov/policy/early-stage/index.htm

NIH/NCI Training Resources

NCI Resources for Researchers: cancer.gov/research/resources

Extramural

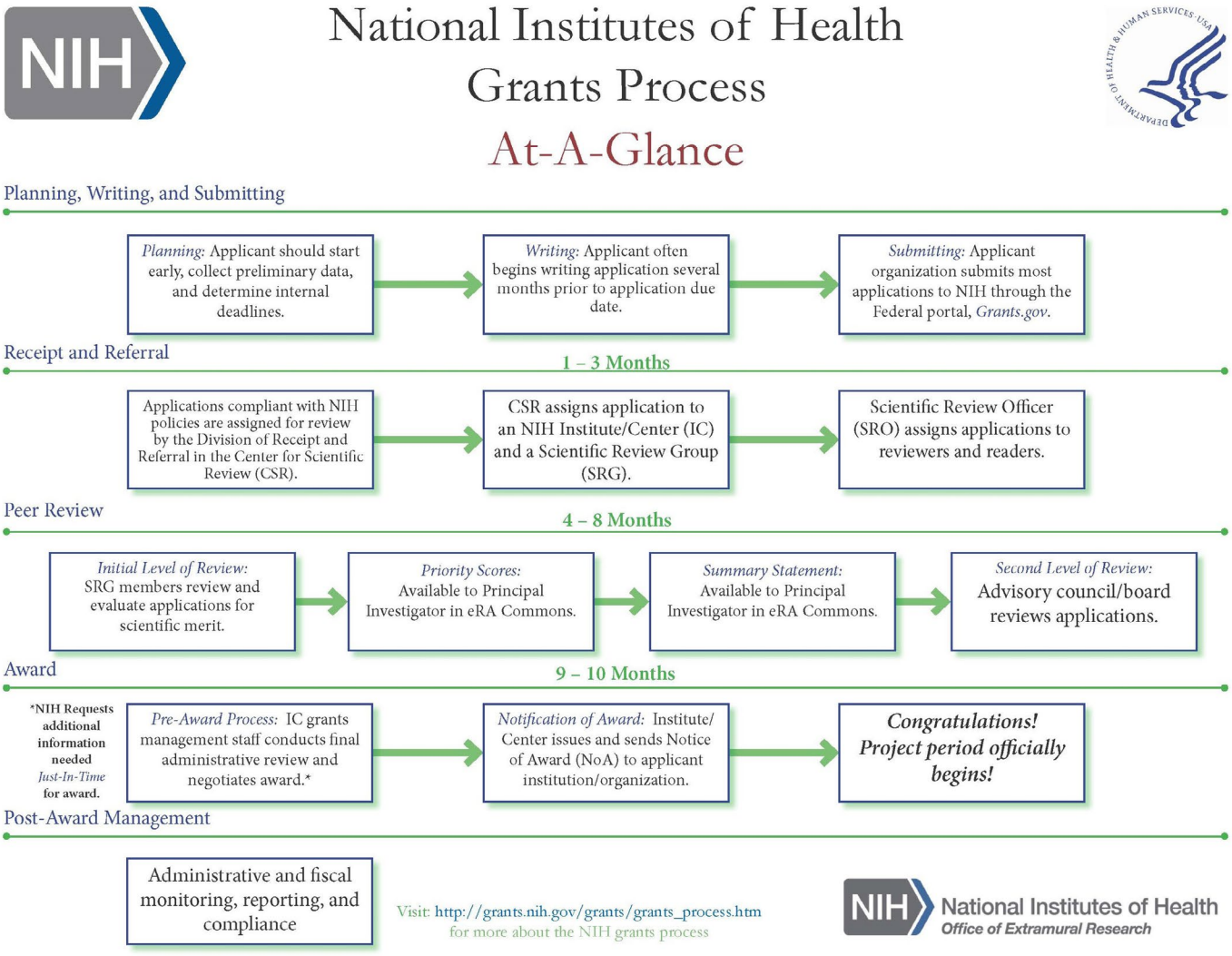
- Continuing Umbrella of Research Experiences (CURE): cancer.gov/about-nci/organization/crchd/diversity-training/cure
- NIH Extramural Diversity: extramural-diversity.nih.gov
- Center for Cancer Training: cancer.gov/grants-training/training/about

Intramural

- Intramural Continuing Umbrella of Research Experiences (iCURE): cancer.gov/about-nci/organization/crchd/diversity-training/icure
- Office of Intramural Training and Education: training.nih.gov/
- NIH Intramural Research Program: irp.nih.gov/
- NCI Center for Cancer Research: ccr.cancer.gov
- NCI Division of Cancer Epidemiology and Genetics: dceg.cancer.gov
- Cancer Prevention Fellowship Program: cpfp.cancer.gov
- Lasker Clinical Research Scholars: nih.gov/research-training/lasker-clinical-research-scholars
- Stadtman Tenure Track Investigators: irp.nih.gov/careers/trans-nih-scientific-recruitments/stadtman-tenure-track-investigators

See our fact sheets for additional information about CRCHD programs, initiatives, and funding opportunities.

NIH Grants Process



Acknowledgments

PACHE Honorees

NIH NATIONAL CANCER INSTITUTE
CENTER TO REDUCE CANCER HEALTH DISPARITIES

The Center to Reduce Cancer Health Disparities (CRCHD) would like to recognize the following individuals for their outstanding leadership and seminal contributions to the development of the Partnerships to Advance Cancer Health Equity (PACHE) Program.

H. Shelton "Shelley" Earp, M.D.—Director, University of North Carolina (UNC) Lineberger Comprehensive Cancer Center, Lineberger Professor of Cancer Research, and Director, UNC Cancer Care

Dr. Earp has helped develop basic, clinical, and public health research and cancer care at one of the country's premier public universities and academic medical centers. He serves as Multi-Principal Investigator of the UNC Breast Cancer Specialized Program of Research Excellence (SPORE) and was the co-PI with his partner of the U54 Partnership with North Carolina Central University. His group has discovered and studied genes involved in a range of cancers, published over 210 biomedical research articles, and has been continuously funded by NIH for over 45 years. He collaborated with the UNC Chemical Biology Center in the Eshelman School of Pharmacy to develop a new, first-in-class drug targeting one of the cancer genes discovered in his lab. Inhibition of this gene may stimulate cancer patients innate immunity against their cancer. Dr. Earp has received UNC School of Medicine and University awards and chaired national review committees for the American Cancer Society and NCI. He has served as a past president of the American Association of Cancer Institutes and as a member of multiple NCI Cancer Center External Advisory Boards, and is currently serving a second term on the NCI Board of Scientific Advisors.

Bernard Levin, M.D., F.A.C.P.—Professor Emeritus, University of Texas MD Anderson Cancer Center

Dr. Levin earned his medical degree from the University of the Witwatersrand Medical School in Johannesburg, South Africa. He held academic appointments in the Department of Medicine at the University of Chicago and then served as Chair of the Department of Gastrointestinal Medical Oncology and Digestive Diseases at the University of Texas MD Anderson Cancer Center until his appointment in 1994 as its first Vice President for Cancer Prevention and Population Sciences. He retired from MD Anderson Cancer Center in November 2007 and was appointed as Professor Emeritus. Dr. Levin has served as Chair of the American Cancer Society's National Advisory Task Force on Colorectal Cancer, founding Co-Chair of the National Colorectal Cancer Roundtable, President of the International Society of Gastrointestinal Carcinogenesis and founding Chair of the World Gastroenterology Organization Foundation, whose mission is to raise funds for the training of gastroenterologists in low-resource countries. He was co-editor, with the late Dr. Peter Boyle, of the *World Cancer Report* published by International Agency for Research on Cancer/World Health Organizationin December 2008.

Dr. Levin currently serves on the editorial board of the *Journal of the National Cancer Institute*. He has recently retired as Co-Chair of the Scientific Review Panel of the Prevent Cancer Foundation, Alexandria, Virginia. He served for over a decade as Chair of the Program Steering Committee of the CPACHE U54 Partnership between Meharry Medical College, Vanderbilt-Ingram Cancer Center, and Tennessee State University. His research interests include molecular markers for early detection of colorectal cancer and better methods for enhancing public awareness of colorectal cancer prevention. His public health interests lie in enhancing cancer prevention and care in low-resource areas. He has lived in Manhattan with his wife, Ronelle A. DuBrow, M.D., since 2007.

PACHE Honorees

Juanita L. Merchant, M.D., Ph.D.—Chief of Gastroenterology and Hepatology, Regents Professor of Medicine, Associate Director for Basic Science, University of Arizona Cancer Center

Dr. Merchant is a molecular gastroenterologist whose primary research interests include transcriptional control mechanisms regulating cell growth and differentiation and microbial-host interactions in the gastrointestinal tract. She has published over 160 research publications and is the editor or co-editor of four books and multiple book chapters. She is currently an associate editor for *FASEB J*, *Cellular and Molecular Gastroenterology*, *Nature Reviews Gastroenterology/Hepatology,* and *Annual Review of Physiology*. She has remained continuously funded by NIH for 30 years. She has received several mentoring awards and serves as an external advisor for Digestive Disease Centers for Vanderbilt and Columbia Universities.

Dr. Merchant was chair of the Program Steering Committee for the San Diego State University/University of California, San Diego NCI-funded U54 Cooperative Cancer Grant for 8 years and an active committee member for 20 years. She is a prior member of the National Institute of Diabetes, Digestive, and Kidney Diseases (NIDDK) Advisory Council and the Council of Councils. She is the prior Chair of the Gastrointestinal Cell and Molecular Biology NIH study section (2005) and is past Chair of the NIDDK Board of Scientific Counselors (BSC, 2016-2021). She was also a member of the 2020 NIDDK Blue Ribbon Panel (2020-2021). Dr. Merchant is a member of several professional associations, including the Association of American Physicians (AAP) and the American Society for Clinical Investigation (ASCI). She was inducted into the National Academy of Medicine in 2008 and, in 2017, she was elected to the American Academy of Arts and Sciences and currently serves as an elected member of AAP and the National Academy of Medicine Councils. Dr. Merchant was recently named to the Ludwig Institute for Cancer Research Scientific Advisory Council and to the Scientific Advisory Board for Yale School of Medicine.

William G. Nelson, M.D., Ph.D.—Marion I. Knott Professor of Oncology and Director, Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins University

Dr. Nelson currently holds professorships in Oncology, Medicine, Pharmacology, Pathology, Radiation Oncology, Urology, and Environmental Health Sciences, as well as adjunct appointments at the Howard University School of Medicine and the Taipei Medical College.

Dr. Nelson's laboratory discovered one of the first genes subject to epigenetic silencing in human cancer, *GSTP1*, inactivated in nearly all prostate cancer cases. *GSTP1* DNA methylation assays approved by the U.S. Food and Drug Administration serve as adjuncts for prostate cancer diagnosis, the first epigenetic laboratory tests in common use. In addition, working with longtime collaborators Angelo M. DeMarzo, Srinivasan Yegnasubramanian, Elizabeth A. Platz, William B. Isaacs, and others, Dr. Nelson's research has transformed understanding of the earliest steps in prostate cancer development, highlighting the molecular consequences of lifestyle choices in prostate tissues.

Outside of Johns Hopkins, Dr. Nelson is a recognized leader in cancer research, organizing national and international meetings in cancer health disparities, cancer prevention, and prostate cancer. He serves on the Board and as a Scientific Advisor for the V Foundation, as Chair of the Board of the Break Through Cancer Foundation, as a Scientific Co-Chair for Stand Up 2 Cancer, and on the Scientific Advisory Board for the Prostate Cancer Foundation. He also works as Executive Editor of *Cancer Today*, authoring a column with each issue. Owner of 12 issued patents, he is a co-founder of Digital Harmonics, Brahm Astra Therapeutics, and DH CytoAcoustics, and a Board Member of Armis Biopharma.

Acknowledgments

CRCHD would like to give a special thanks to NCI Leadership and to the 2023 Planning Committee members. We appreciate their contributions, commitment, and dedication in organizing the 2023 Partnerships to Advance Cancer Health Equity (PACHE) Biennial Program Meeting.

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NCI Center to Reduce Cancer Health Disparities

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Ms. Dawn Reid

Dr. Scott Rosas

Acknowledgments

CRCHD would also like to thank this year's speakers and moderators for lending their expertise and time to continue enhancing the PACHE Program.

Speakers	Moderators
Dr. Sanya A. Springfield	Dr. Mariana Stern
Dr. Douglas R. Lowy	Dr. Sora Park Tanjasiri
Dr. Ana Patricia Ortiz	Dr. Neal Palafox
Dr. Carolyn Fang	Dr. Vanessa Sheppard
Dr. Francine Gachupin	All in-person and virtual moderators from CRCHD
Dr. Sara Bolduc	
Ms. Kelli Maddock	
Dr. Karriem Watson	
Dr. Samson Gebreab	
Dr. Jill Macoska	
Dr. Bao Vuong	
Dr. Brian Rivers	
Dr. Jani Ingram	
All speakers from CRCHD	

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