



Prevention and Health Promotion Administration CONQUEST 2023

A Report on the Maryland Cigarette Restitution Fund

February 2023

As we reflect on the 50th anniversary of the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, it is worth noting that the collaborative relationship between State Governors and the Maryland General Assembly and John Hopkins has always existed. In 1989, after learning Maryland and neighboring Washington, D.C., had the highest cancer death rates in the nation, we worked with Governor William Donald Schaefer to form the Maryland Cancer Consortium to address the causes of these high rates. In the late 1990s, when Maryland, 46 other states, Washington D.C., and five U.S. territories, won a lawsuit against major cigarette manufacturers and split \$53 billion in penalties, we worked with Governor Parris N. Glendening and the General Assembly to establish the Maryland Cigarette Restitution Fund (CRF). Maryland was unique, named by the U.S. Congress as a national model. As most states engaged in lengthy battles over how to use the funds, Maryland got to work, investing its settlement funds to fight cancer, and Johns Hopkins investigators leveraged their grants, earning research funding and other support more than ten times the CRF investment.

Over the years, we continued to work with new governors and changing legislative bodies, and their commitment to the CRF never wavered. Together, we built a successful model for cancer prevention and control. Maryland has dropped to 34th nationally for cancer death rates, but emerging issues, such as changing demographics of our Maryland communities, command our attention so we may ensure progress against cancer extends to all Marylanders. We look forward to continuing this important work with you as we take on the task of ensuring our marginalized communities, which often suffer disproportionately from cancer and its consequences, remain a priority. We are grateful for the State's ongoing commitment to the CRF and are honored to present the work of our CRF-supported faculty.

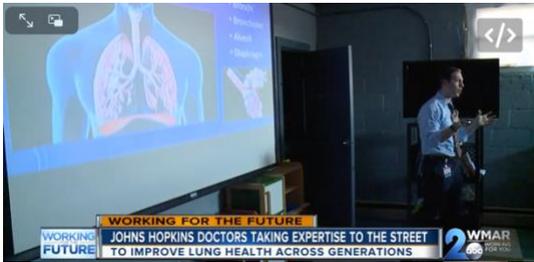
William G. Nelson, M.D., Ph.D.
Marion I. Knott Professor and Director
Johns Hopkins Kimmel Cancer Center

John D. Groopman, Ph.D.
Edyth H. Schoenrich Professor of Preventive
Medicine and Associate Director
Bloomberg School of Public Health

CRF: Turning Research into Results for All Marylanders



Empowering Vulnerable Populations: Better communication was shown to lead to improved identification of health issues, symptom control, more efficient use of health resources, and longer survival for cancer patients. **Claire Snyder, Ph.D., M.H.S.**, Program Director of Building Lifestyle, Outcomes, Care Services Research in Cancer, initiated the PRO (patient reported outcomes)-cision Medicine study for patients to self-report how they feel, function, live their lives, and survive. The goal is to facilitate individualized care based on the specific needs of each patient, particularly underserved and marginalized citizens, and to alert patients' doctors to new symptoms occurring between visits. Currently, 212 patients are being followed in the initial study, which has been most favorably received by patients of color. Dr. Snyder says the PROcision Medicine model empowers and engages vulnerable populations. She is hopeful it will improve patient care, reduce emergency room visits and hospitalizations, and extend survival.



Helping Marylanders Quit Smoking: Tobacco use is the leading cause of preventable death, and it disproportionately impacts marginalized and underserved communities, so Johns Hopkins Tobacco treatment clinic director **Panagis Galiatsatos, M.D.**, is taking his clinics on the road to public housing communities throughout Baltimore. He combines medicine and counseling to help people quit smoking and also offers lung cancer screening, when indicated. School-based tobacco education curriculums, including e-cigarettes, were launched in Baltimore City and Baltimore, St. Mary's, and Calvert counties. A link between mental health and smoking was presented to the Maryland Cancer Collaborative's Tobacco Committee. Current smokers were almost twice as likely to report depression, and 63% more likely to report two or more weeks of poor mental health in a month. Dr. Galiatsatos reports that people often smoke to alleviate anxiety, depression and isolation, and that relapse among those who have quit occurs when personal struggles arise. To address this, our tobacco treatment clinics provide mental health support and help with coping mechanisms.

WMAR2 News report, Johns Hopkins Doctors Take Their Expertise to the Streets

Watch here: <http://bit.ly/3HHqIii>

WYPR interview, What Does it Take to Quit Smoking and Why it's so Hard to Quit

Listen here: <http://bit.ly/3jeqikR>



Environmental Carcinogens Stored in Fat Cells: **John Groopman, Ph.D.**, Edyth H. Schoenrich Professor in Preventive Medicine, is leading the Baltimore Fat Study, the first measurement of compounds released over time by stored fat as people lose weight. Compounds already identified include several that have been banned by the U.S. due to adverse effects on health. Dr. Groopman, an expert in environmental health and engineering and cancer epidemiology, is working with biostatisticians to identify the most concerning compounds and potential ways to intervene to stave off health consequences.



Reducing Cancer Risk Through Weight Loss: Being overweight or obese is linked to cancer development and cancer recurrence among survivors. ASPIRE, a free program that uses smartphones, apps, and email, brings remote weight loss guidance for overweight and obese cancer survivors to communities throughout Maryland. The



study is led by **Jessica Yeh, Ph.D.**, who builds upon an earlier CRF-support study called SPIRIT that demonstrated the feasibility of a remote weight loss program. The ASPIRE study expands the program to larger populations. Dr. Yeh recently met with the Maryland Department of Health to discuss deploying ASPIRE broadly throughout Maryland.



Understanding Why Black Women Get Deadlier Breast Cancers: Although the lifetime risk of breast cancer among Black women is lower than White and Asian women, Black women have the highest rate of breast cancer death among all races. One reason is that Black women more often develop an aggressive type of



cancer known as triple negative breast cancer. **Dipali Sharma, Ph.D.**, is studying the tumor microenvironment—the cells in and around tumors—and microbes or germs inside tumors to identify differences in tumors among races. In recent research, she identified race-specific microbial biomarkers linked to tumor aggressiveness, including tumor growth, and spread. Dr. Sharma says the study provides a comprehensive understanding of racial disparities in breast cancer and warrants further exploration.



Health Inequity as a Driver of Prostate Cancer Disparities: Prostate cancer exerts a greater toll on African American men than on White men of European descent, and this disparity in incidence and mortality is greater than that of any other common cancer, finds a study by **William Nelson, M.D., Ph.D.**, **Otis Brawley, M.D.**, **William Isaacs, Ph.D.**, **Elizabeth Platz, Sc.D.**, **Srinivasan Yegnasubramanian, M.D., Ph.D.**, **Karen Sfanos, M.D.**, **Tamara Lotan, M.D.**, and **Angelo De Marzo, M.D., Ph.D.** The disproportionate impact, the researchers report, is due to genetics of African ancestry, diet and lifestyle, and unequal access to quality health care. Social determinants of health appear to ignite prostate inflammation and subsequent genetic damage that fuels cancer growth. However, they find, when Black men and White men are treated equally, they have similar

treatment outcomes. The risk factors coupled with poorer access to high-quality treatment, and these inequities result in a greater burden of prostate cancer on African American men.

Prostate Cancer Education for Black Men: The Kimmel Cancer Center’s Outreach and Community Engagement Program collaborated with the Prostate Health Education Network on a prostate cancer clinical trials learning session for Black men.



New Drug Discovery Launches Start Up: CRF investigator **Ravi Anchoori, Ph.D.**, developed a drug called Up284 that blocks RPN13, a protein linked to cancer growth and spread. As a result of this research, Dr. Anchoori founded the start-up company Up Therapeutics to further study the drug and bring it to market.

Provisional patents have been filed for the drug, which is being studied in lung, ovarian, breast, prostate, and glioblastoma cancers. The drug appears to have an advantage over other drugs aimed at blocking RPN13, with less cancer resistance to the drug and fewer toxicities. It’s ability to get through the brain’s protective blood brain barrier shows promise for the treatment of the deadly brain cancer glioblastoma multiforme. RPN13 was also associated with a type of breast cancer known as quadruple negative breast cancer (QNBC), which disproportionately affects African Americans and is the breast cancer subtype with the worst prognosis.



Stopping Fats from Feeding Cancers: Tumors require lipids, or fats, to grow and thrive. When they can’t get them, they develop a workaround, manipulating genetic pathways to acquire lipids. **Peter Espenshade, Ph.D.**, professor of cell biology, found that one pathway, called SCAP, helps tumors to grow. Using drugs to block SCAP stopped tumor growth in laboratory studies. Development of SCAP inhibitors as a cancer therapy have begun with initial studies planned in

pancreatic cancer.



Clinical Health Educators, from left: Theron Scott, Asst. Director Community Education, Oliva Sandford, and Tiffini McGronan

Community Health

Education: In 2022, the Kimmel Cancer Center Community Outreach and Engagement Program’s Clinical Health Educators launched a community health education program, providing live webinars and in-person

sessions to educate communities about healthy living, ways to reduce cancer risk, and cancer screenings. The program was launched with a series of sessions offered to the more than 900,000 Johns Hopkins Community Physicians (JHCP) patients through its network of community practices that extend to 40 locations throughout Maryland and Washington, D.C., allowing our Clinical Health Educators to reach more underserved communities. Between March 2022 and January 2023, they hosted ten events and reached more than 1,600 citizens with presentations on colorectal and breast cancer awareness, cancer risk reduction, HPV

awareness, cancer and nutrition, and the dangers of vaping. Upcoming sessions include nutrition and exercise.



Redlining and GI Cancer Deaths, A Cancer Disparities Podcast with

Dr. Otis Brawley: International expert on cancer disparities and Associate Director of the Kimmel Cancer Center’s Community Outreach and Engagement Program speaks with **Qasim Hussaini, M.D.**, Chief Fellow in the

Hematology and Medical Oncology Fellowship Program about his recent study in the journal Gastroenterology on the impact of historical housing discrimination, called redlining, on present-day colon cancer death rates.

Listen to the podcast here: <http://bit.ly/3HmZW8a>



Dr. Hussaini also presented findings at the American Association of Clinical Oncology on rising cases and deaths from gastrointestinal cancer (GI) among adolescents and young adults. He uncovered significant social and demographic factors and regional variation. Notably, he found that U.S. counties with high levels of food insecurity also have higher rates of GI cancer deaths, pointing to an important relationship between nutrition and cancer death. He says, these data highlight the need to better understand risk factors (diet, environmental, and other), screening

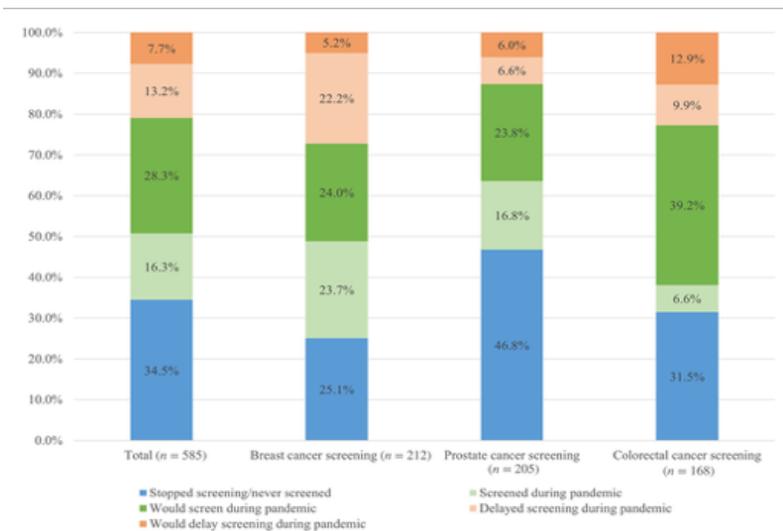
trends, and variations in the level of care to ensure appropriate and equitable risk reduction and cancer management in adolescents and young adults.



Comprehensive Cancer Network Forum on Diversity, Equity and Inclusion:

The Kimmel Cancer Center’s Deputy Associate Director of Community Outreach and Engagement, **Dina Lansey, M.S.N., R.N.**, was named to the National Comprehensive Cancer Network Forum on Equity. Recent studies have found the cancer mortality rate is 19% higher for Black men in America than White men, and 12% higher for Black women over White women. The study concluded that there are many different reasons for these disparities,

including the impact of structural and interpersonal racism and social determinants of health. Research shows that following clinical guidelines is one way to reduce this imbalance in outcomes. Having diverse representation among health care providers—increasing trust and reducing opportunity for bias—is another. The Forum on Equity will share challenges and best practices in advancing diversity, equity and inclusion and will make recommendations for the development of new and updated policies and practices.



Addressing COVID-19 Impact on Cancer Screening:

Despite studies showing a decline in cancer screening rates among older adults at higher risk for severe COVID-19 infection, new research is showing a rebound. A new study of 585 adults by **Nancy Schoenborn, M.H.S., Cynthia Boyd, M.D., M.P.H., and Craig Pollack, M.D., M.H.S.,** finds high interest in cancer screening among older adults, suggesting clinicians should

recommend continuing or resuming cancer screening, while highlighting safety of screening.

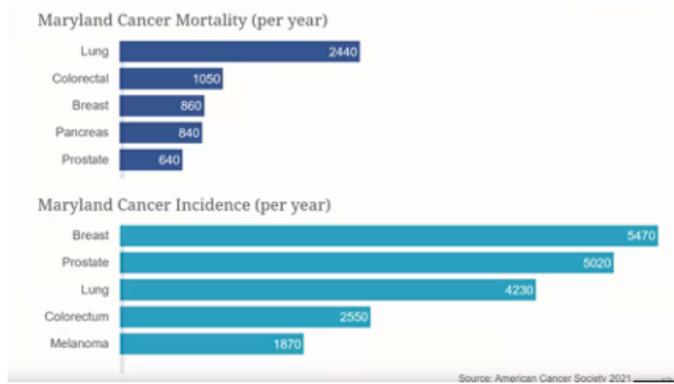
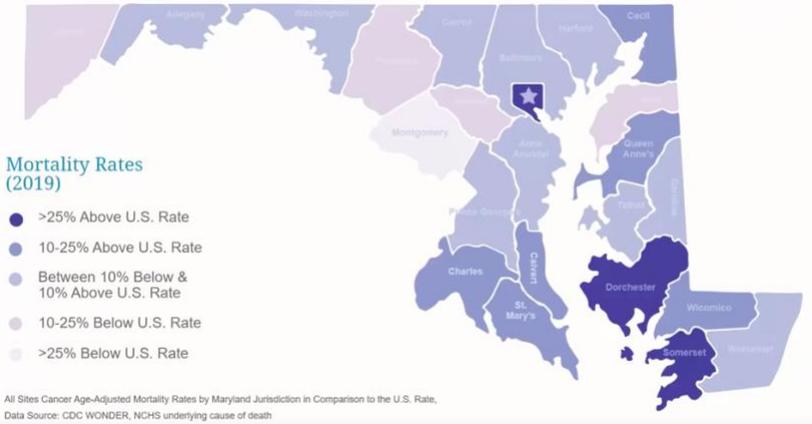
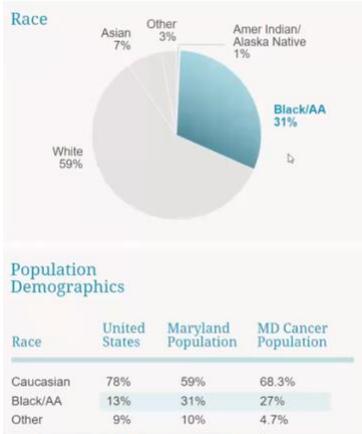
Pharmacist Intervention for Quitting Smoking: Tobacco use is the foremost preventable cause of death, disease, and disability in the United States. Continued tobacco use among cancer patients contributes to treatment failure and disease progression. Pharmacists are pivotal to tobacco cessation counseling, management, and follow up. A new study, led by **Catherine Burdalski, Pharm.D., B.C.O.P.,** found that pharmacy-led smoking cessation using nicotine replacement therapy helped lung cancer patients to quit smoking.



Listen to Our Cancer Prevention Podcasts: Dina Lansey, M.S.N., R.N., and Otis Brawley, M.D., discuss the Maryland Cigarette Restitution Fund and their work to overcome barriers to clinical trial participation Listen to the podcast: bit.ly/3HLzruv

CRF at Johns Hopkins co-directors **William Nelson, M.D., Ph.D.,** and **John Gropman, Ph.D.,** discuss progress in cancer prevention made at the Kimmel Cancer Center, including how researchers and State officials worked together to address cancer risk factors resulting from Maryland industries. Listen to the podcast: bit.ly/3HdCjPs

UNDERSTANDING THE DEMOGRAPHICS AND NEEDS OF MARYLAND COMMUNITIES



2023 AWARDS

FY23 Awards
\$2,134,600

Grants:	All	New	FY Target
Translational Research	18	14	18
Faculty Recruitment	5	1	8
Faculty Retention	2	2	1
TOTAL	25	16	27

2023 AWARDS CONTINUED

Kassandra Alcaraz, Ph.D.: *Place-based social influences on smoking behavior among socially and economically disadvantaged smokers in Maryland* **FACULTY RECRUITMENT, CONTINUATION**

Rebkha Atnafou, M.A.: *Applying narrative theory to raise community awareness and support to promote healthy behaviors and cancer screening in Baltimore* **TRANSLATIONAL RESEARCH, NEW**

Anna Beavis, M.D., M.P.H. and Anne Rositch, Ph.D.: *Scaling a social needs screening program to decrease cancer care disparities* **TRANSLATIONAL RESEARCH, NEW**

Otis Brawley, M.D.: *Reduction of the cancer burden in the SKCCC catchment area through disparities elimination* **FACULTY RECRUITMENT, CONTINUATION**

Robert H. Brown, M.D., M.P.H.: *Morbid obesity, bariatric surgery, and adductomic measurements of the reduced risk of liver cancer* **TRANSLATIONAL RESEARCH, CONTINUATION**

Jenna V. Canzoniero, M.D., M.S.: *Utility of circulating tumor DNA to inform treatment of patients with metastatic breast cancer* **FACULTY RECRUITMENT, NEW**

Dulce Cruz-Oliver, M.D.: *Developing and pilot testing culturally-based educational videos for Puerto Rican and African American home hospice caregivers* **TRANSLATIONAL RESEARCH, NEW**

Michael Desjardins, Ph.D., M.A.: *Using spatiotemporal analysis to define and analyze SKCCC's catchment area(s) to improve cancer care accessibility, preventative screening, and disease outcomes* **TRANSLATIONAL RESEARCH, NEW**

Hari Easwaran, Ph.D.: *Elucidating the role of the colonic epigenome and microbiome in the association of obesity with colorectal cancer* **FACULTY RETENTION, NEW**

Alejandra Ellison-Barnes, Ph.D.: *Obesity among emerging adults aged 18-25: Contributing social factors and implications for cervical cancer screening* **FACULTY RETENTION, NEW**

Panagis Galiatsatos, M.D.: *Tobacco Free Community: Expanding efforts for cessation and lung cancer screenings in high-risk populations of Baltimore City* **FACULTY RETENTION, CONTINUATION**

John Groopman, Ph.D. and Norma Kanarek, Ph.D.: *Enhancing cancer-related implementation science at JHU* **FACULTY RETENTION, NEW**

2023 AWARDS CONTINUED

Christine Hann, M.D.: *TNIK as a novel therapeutic target to overcome therapy resistance in small cell lung cancer* **FACULTY RETENTION, NEW**

Miranda Jones, Ph.D.: *Environmental justice and racial/ethnic cancer disparities in nonsmoking and smoking adults: Investigating the role of exposure to ambient air pollution and multi-pollutant mixtures in urban and rural communities* **FACULTY RETENTION, NEW**

David Kamson, M.D., M.P.H.: *Developing non-invasive label-free methods to study pharmacokinetics and pharmacodynamics in vivo to characterize interindividual differences in drug delivery and effect in obese and non-obese animal models and humans* **FACULTY RECRUITMENT, CONTINUATION**

Noel Mueller, Ph.D.: *Elucidating the role of the colonic epigenome and microbiome in the association of obesity with colorectal cancer* **FACULTY RETENTION, NEW**

Joseph C. Murray, M.D., Ph.D.: *Revealing mutational signatures that modify lung cancer risk and treatment* **FACULTY RECRUITMENT, CONTINUATION**

Elizabeth Platz, Sc.D. and John Groopman, Ph.D.: *Organizing and supporting applied cancer control research in Maryland* **FACULTY RETENTION, NEW**

Ana Rule, Ph.D.: *Exposure to metals from electronic cigarette use* **FACULTY RETENTION, NEW**

Ana Rule, Ph.D., M.H.S. and Joseph Bressler, Ph.D.: *Development and validation of a method to measure metals in human single cells* **TRANSLATIONAL RESEARCH, NEW**

Nancy Schoenborn, M.D.: *Estimating individualized breast cancer screening benefit in older women to inform patient-centered care* **TRANSLATIONAL RESEARCH, NEW**

Claire Snyder, Ph.D.: *PRO-cision Medicine: Improving Patient-Reported Outcome (PRO) collection and use in breast cancer care* **TRANSLATIONAL RESEARCH, CONTINUATION**

Jessica Yeh, Ph.D. and Lawrence Appel, M.D.: *Behavioral weight loss for overweight or obese cancer survivors in Maryland: ASPIRE Study* **TRANSLATIONAL RESEARCH, CONTINUATION**

Jessica Yeh, Ph.D. and Lawrence Appel, M.D.: *Scaling up behavioral weight loss opportunities for overweight cancer survivors in Maryland* **TRANSLATIONAL RESEARCH, NEW**

Jelani Zarif, M.D., Ph.D.: *Exposure to metals from electronic cigarette use targeting prostate tumor glutamine metabolism as a means of enhancing positive immunotherapy responses* **FACULTY RETENTION, NEW**