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RESEARCH

Tectonic advances in precision oncology hold the promise of markedly improving the experience and outcomes of patients diagnosed with cancer. This motivates a pressing need to understand how these advances are translated into practice to improve human health. I study how treatment decisions are made between patients newly diagnosed with cancer and their clinicians (www.drstevenkatz.com). My research pinpoints the factors that drive patient treatment decisions. I also study the factors that influence clinician recommendations and how clinicians navigate the decision-making and communication process. My research has advanced methodologies in population and health systems research. I also develop and evaluate interventions to improve decision-making and accelerate the pace of adoption of advances in precision oncology into practice Great science requires inspiration, creativity, gumption, perspicacity, and perseverance. High impact medical science requires a team effort. The Cancer Surveillance and Outcomes Research Team (https://medresearch.umich.edu/labs-departments/centers/cansort) centered at the University of Michigan generates pace-setting research in communication, decision-making, and quality of care for patients with cancer. The goal of this research is to improve the patient experience and maximize health outcomes of treatment and care support into survivorship. The key to the fountain of youth is life-long learning. I thank my colleagues, staff, and the patients and clinicians who participate in our research for the opportunity to stay young.

BIOGRAPHY

Dr. Steven J. Katz is Professor of Medicine and Health Management & Policy at the University of Michigan. He has received a numerous project and program grants from the National Institutes of Health (NIH) to lead research that addresses cancer treatment communication, decision-making, and quality of care. Dr. Katz leads the Cancer Surveillance and Outcomes Research Team (https://medresearch.umich.edu/labs-departments/centers/cansort) centered at the University of Michigan. CanSORT is an interdisciplinary research program focused on population and intervention studies of the quality of care and outcomes of cancer detection and treatment in diverse populations. He directed the Health Behavior and Outcomes (HBO) Program (2011-2021) of the Rogel Comprehensive Cancer Center, UM. Dr. Katz received a National Cancer Institute Established Investigator in Cancer Control, Behavioral and Population Sciences Research Award (2006-2012). Dr. Katz received the UM Department of Medicine Conn Research Award and the UM Medical School Dean's Award for Excellence in Health Services Research. He received his MPH in the Robert Wood Johnson Clinical Scholars Program at the University of Washington, his MD from the University of California, San Francisco, and completed residency in Internal Medicine at the University of California, Los Angeles.

EDUCATION

1976-1979 B.A., Biology/Environmental Sciences, University of California, Santa Barbara, California
1981-1985 M.D., Medicine, University of California, San Francisco, California
1989-1991 M.P.H., Health Services, University of Washington, Seattle, Washington

Postdoctoral Training:
1985-1988 Residency, Internal Medicine, University of California Medical Center, Internal Medicine, Los Angeles, California

1989–1991 Fellowship, Robert Wood Johnson Clinical Scholars Program, University of Washington, Seattle, Washington

POSITIONS AND EMPLOYMENT

1991-1998	Assistant Professor, Departments of Internal Medicine and Health Management & Policy, University of Michigan, Ann Arbor, Michigan
1998–2006	Associate Professor, Departments of Internal Medicine and Health Management & Policy, University of Michigan, Ann Arbor, Michigan
2006-Present	Professor, Departments of Internal Medicine and Health Management & Policy, University of Michigan, Ann Arbor, Michigan
2009-Present	Director, Health Behavior & Outcomes Program, University of Michigan Rogel Cancer Center, Ann Arbor, MI

HONORS AND PROFESSIONAL MEMBERSHIPS

1979	Graduate with Highest Honors, University of California, Santa Barbara, California
1989-1991	Robert Wood Johnson Clinical Scholar
1992	Outstanding Scientific Presentation, SGIM, 15th Annual National Meeting, Washington, D.C.
1994	Labelle Lectureship, McMaster University Health Sciences Center
1995-2000	Robert Wood Johnson Generalist Faculty Scholar
1997	Jerome W. Conn Award for Excellence in Research, University of Michigan Medical Center
1998-1999	Visiting Professor in Health Services Research, Spain Ministry of Education and Culture
2002-2007	NIH Study Section: Health Services Organization Delivery
2008-Present	NIH Study Sections, NCI Ad Hoc: SEP; NCI K; NCORP
2006-2012	National Cancer Institute Established Investigator in Cancer Prevention, Control, Behavioral and Population Sciences Research
2012	Clinical & Health Services Research Award; School of Medicine, University of Michigan
2019-2024	Rogel Scholar, Rogel Comprehensive Cancer Center, University of Michigan

SELECTED PUBLICATIONS (from over 200)

1. **Katz SJ**, Abrahamse P, Furgal A et al. Patient Engagement with Clinicians and Family Members About Genetic Test Results Across Risk Groups in Women with Hereditary Cancer Susceptibility. *JCO Oncology Practice 2026 January 13 Online ahead of print.*
2. Veenstra CM Abrahamse P, Hamilton AS et al. Breast, Colorectal, and Pancreatic Cancer Mortality With Pathogenic Variants in ATM, CHEK2, or PALB2. *J Clin Oncol* 43, 1587-1596(2025) Volume 43, Number 13 DOI: 10.1200/JCO-24-02442
3. **Katz SJ** Abrahamse P, Hofer TP et al. The Genetic Information and Family Testing (GIFT) study: trial design and protocol. *BMC Cancer 2025 Feb 27;25(1):366.*
4. **Katz SJ**, Abrahamse P, Furgal A et a. Genetic counseling, testing and family communication into survivorship after diagnosis of breast cancer. *J. Clin. Oncol 2024 Sep 10;42(260: 3123-3129.*
5. Kurian AW, Abrahamse P, Furgal A, Ward KC, Hamilton AS, Hodan R, Tocco R, Liu L, Berek JS, Hoang L, Yussuf A, Susswein L, Esplin ED, Slavin TP, Gomez SL, Hofer TP, **Katz SJ**. Germline Genetic Testing After Cancer Diagnosis. *JAMA Published online June 5 2023 doi:10.1001/jama.2023.9526*
6. **Katz SJ**, Abrahamse P, Hodan R, Kurian AW, Rankin A, Tocco RS, Rios-Ventura S, Ward KC, An LC. Cascade Genetic Risk Education and Testing in Families With Hereditary Cancer Syndromes: A Pilot Study DOI: 10.1200/OP.22.00677 *JCO Oncology Practice; Published online March 15, 2023.*
7. Kurian AW, Abrahamse P, Hamilton AS, Caswell-Jin JL, Gomez SL, Hofer TJ, Ward KC, **Katz SJ.** Chemotherapy Regimens Received by Women with BRCA1/2 Pathogenic Variants for Early Stage Breast Cancer Treatment. *JNCI Cancer Spectr. 2022 Jul 1;6(4):pkac045. doi: 10.1093/jncics/pkac045.*
8. Kurian AW, Abrahamse P, Bondarenko I, Hamilton AS, Deapen D, Gomez SL, Morrow M, Berek JS, Hofer TP, **Katz SJ***, Ward KC*. Association of Genetic Testing Results With Mortality Among Women With

Breast Cancer or Ovarian Cancer. *J. Nat Cancer Inst*. Published online August 9, 2021 https://doi.org/10.1093/jnci/djab151 Katz SJ and Ward KC shared equally in this work.

9. Kurian AW, Ward KC, Abrahamse P, Bonderenko I, Hamilton AS, Deapen D, Morrow M, Berek, JS, Hofer TP, **Katz SJ**. Time Trends in Receipt of Germline Genetic Testing and Results for Women Diagnosed With Breast Cancer or Ovarian Cancer, 2012-2019. *Journal of Clinical Oncology 39, no. 15 (May 20, 2021) 1631-1640.*
10. Kurian AW, Ward KC, Abrahamse P, Hamilton AS, Deapen D, Morrow M, Jagsi R, **Katz SJ**. Association of Germline Genetic Testing Results With Locoregional and Systemic Therapy in Patients With Breast Cancer. *JAMA Oncol*. Published online February 6, 2020. doi:10.1001/jamaoncol.2019.6400.
11. Kurian AW, Ward KC, Howlader N, Deapen D, Hamilton AS, Mariotto A, Miller D, Penberthy LS, **Katz SJ**. Genetic Testing and Results in a Population-based Cohort of Breast Cancer Patients and Ovarian Cancer Patients. *J Clin Oncol.* 2019 May 20;37(15):1305-1315.
12. **Katz SJ**, Ward KC, Hamilton AS, Abrahamse P, Hawley ST, Kurian AW. Association of Germline Genetic Test Type and Results With Patient Cancer Worry After Diagnosis of Breast Cancer. *JCO Precis Oncol*. Published online December 19, 2018. doi: 10.1200/PO.18.00225.
13. Morrow M, Jagsi R, McLeod MC, Shumway D, **Katz SJ**. Surgeon Attitudes Toward the Omission of Axillary Dissection in Early Breast Cancer. *JAMA Oncol.* 2018;4(11):1511-1516.
14. **Katz SJ**, Bondarenko I, Ward KC, Hamilton AS, Morrow M, Kurian AW, Hofer TP. Association of Attending Surgeon With Variation in the Receipt of Genetic Testing After Diagnosis of Breast Cancer. *JAMA Surg.* 2018;153(10):909-916.
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16. **Katz SJ**, Jagsi R, Morrow M. Reducing Overtreatment of Cancer With Precision Medicine: Just What the Doctor Ordered. *JAMA*. 2018;319(11):1091-1092.
17. **Katz SJ**, Ward KC, Hamilton AS, McLeod MC, Wallner LP, Morrow M, Jagsi R, Hawley ST, Kurian AW. Gaps in Receipt of Clinically Indicated Genetic Counseling After Diagnosis of Breast Cancer. *J Clin Oncol*. 2018;36(12):1218-1224.
18. Hawley ST, Li Y, An LC, Resnicow K, Janz NK, Sabel MS, Ward KC, Fagerlin A, Morrow M, Jagsi R, Hofer TP, **Katz SJ**. Improving Breast Cancer Surgical Treatment Decision Making: The iCanDecide Randomized Clinical Trial. *J Clin Oncol*. 2018;36(7):659-666.
19. **Katz SJ**, Janz NK, Abrahamse P, Wallner LP, Hawley ST, An LC, Ward KC, Hamilton AS, Morrow M, Jagsi R. Patient Reactions to Surgeon Recommendations About Contralateral Prophylactic Mastectomy for Treatment of Breast Cancer. *JAMA Surg*. 2017;152(7):658-664.
20. Kurian AW, Bondarenko I, Jagsi R, Friese CR, McLeod MC, Hawley ST, Hamilton AS, Ward KC, Hofer TP, **Katz SJ**. Recent Trends in Chemotherapy Use and Oncologists' Treatment Recommendations for Early-Stage Breast Cancer. *J Natl Cancer Inst*. 2018;110(5):493-500.
21. **Katz SJ**, Hawley S, Hamilton A, Ward K, Morrow M, Jagsi R, Hofer T. Surgeon Influence on receipt of contralateral mastectomy: Does it Matter who you see for breast cancer surgery? *JAMA Surg*. 2018;153(1):29-36.
22. Morrow M, Abrahamse P, Hofer TP, Ward KC, Hamilton AS, Kurian AW, **Katz SJ**, Jagsi R. Trends in Reoperation After Initial Lumpectomy for Breast Cancer: Addressing Overtreatment in Surgical Management. *JAMA Oncol*. 2017;3(10):1352-1357.
23. Kurian AW, Li Y, Hamilton AS, Ward KC, Hawley ST, Morrow M, McLeod MC, Jagsi R, **Katz SJ**. Gaps in Incorporating Germline Genetic Testing Into Treatment Decision-Making for Early-Stage Breast Cancer. *J Clin Oncol*. 2017;35(20):2232-2239.
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27. Kurian AW, Griffith KA, Hamilton AS, Ward KC, Morrow M, **Katz SJ**, Jagsi R. Genetic Testing and Counseling Among Patients With Newly Diagnosed Breast Cancer. *JAMA*. 2017;317(5):531-534.
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29. Wallner LP, Abrahamse P, Uppal JK, Friese CR, Hamilton AS, Ward KC, **Katz SJ**, Hawley ST. Involvement of Primary Care Physicians in the Decision Making and Care of Patients With Breast Cancer. *J Clin Oncol*. 2016;34(33):3969-3975.
30. Morrow W, **Katz SJ**. Addressing Overtreatment in DCIS: What Should Physicians Do Now? *J Natl Cancer Inst*. 2015;107(12):djv290.
31. **Katz SJ**, Kurian AW, Morrow M. Treatment Decision Making and Genetic Testing for Breast Cancer: Mainstreaming Mutations. *JAMA*. 2015;314(10):997-998.
32. **Katz, SJ.** Cancer Care Delivery Research and the National Cancer Institute SEER Program Challenges and Opportunities. *JAMA Oncol*. 2015;1(5):677-678.

PROJECTS

R01 CA283207 (NCI) Kurian, Katz (PIs) 03/05/24 – 02/28/29

Personalizing genetic test results management and outcomes after diagnosis of cancer: the Georgia-California SEER Genelink Study

The rapid diffusion of genetic testing across adult cancer diagnoses is a unique opportunity to personalize cancer treatment and prevention at the population level. Germline genetic testing guidelines have broadened to encompass nearly all patients with breast, ovarian and pancreatic cancer; all patients with advanced prostate cancer; and many patients with colorectal, endometrial, and other cancer types. The growing use of genetic testing is driving the development of precision oncology: a new paradigm for personalizing prevention and treatment based on genetic testing results in addition to or instead of traditionally-measured tumor features. Increasingly, an inherited pathogenic variant in a specific gene serves as an essential common thread that connects diverse cancer diagnoses and enables genetically-targeted cancer therapy. However, we know virtually nothing about how genetic test results are managed across cancer types. We pioneered the Georgia-California (GACA) Genetic Testing Linkage Initiative, linking industry-provided genetic testing data to SEER registry records for all adults diagnosed with cancer in Georgia and California from 2013-19. We found that genetic testing across cancer conditions has increased but rates are too low relative to clinical recommendations. Our foundational work underscores the urgent need for research about how well genetic testing results are broadly integrated into the management of cancer. We are now completing the next phase of the GACA Genetic Testing Linkage Initiative: merging SEER data for all adults diagnosed with cancer in Georgia or California from 2013-21 (N=1,826,000), with an update planned for cancers diagnosed in 2022-23 (N=456,000), to genetic results through 2025. We will use this unique, population-based data infrastructure to determine whether genetic testing results management is effectively personalized across common cancers with high testing rates. We will also examine cancer mortality by genetic testing results to inform communication about prognosis and personalized treatment. Our hypotheses are as follows: Extensiveness of surgery (e.g., organ preservation vs. removal) is well-personalized: it is strongly associated with clinical indications derived from tumor features, host factors and actionable genetic results, but not with non-actionable genetic results, socioeconomic or healthcare system factors. Receipt of chemotherapy and genetically targeted systemic therapies (immune checkpoint inhibitors and poly(ADP-ribose) polymerase inhibitors) is well-personalized: these treatments are strongly associated with clinical indications and actionable genetic results, but not with non-actionable genetic results, socioeconomic or healthcare system factors. Among cancer

patients treated with systemic therapies, patients with PVs have lower cancer-specific mortality, controlling for tumor features, treatments, comorbidities, socioeconomic and healthcare system factors.

U01CA254822 (NCI) Katz, An, Kurian (PIs) 09/15/20 – 08/31/25

A Population-Based Virtual Solution To Reduce Gaps In Genetic Risk Evaluation And Management In Families At High Risk For Hereditary Cancer Syndromes: The Georgia-California Genelink Trial

There is growing evidence that targeting genetic risk evaluation (GRE) in families where a cancer susceptibility gene pathogenic variant (PV) has been identified may be the most cost-effective approach to reduce the population burden of cancer through prevention. However, there are enormous challenges to implementing successful cascade genetic risk evaluation in families with hereditary cancer syndromes. The clinical context of GRE after cancer diagnosis is increasingly complex: As MGP testing has become the norm, guideline organizations have converged on a list of >40 cancer susceptibility genes in which PVs are clinically actionable, with wide variability in cancer threat and a myriad of strategies for prevention and early detection. A daunting challenge is that the cancer patient is responsible for communication and engagement of relatives for GRE. Despite the shared health threat among at risk relatives (ARRs), the social and contextual factors that affect family communication are complex. Furthermore, ARRs are dispersed world- wide and receive care in disparate health care practices. Importantly, there is little incentive and limited resources for clinicians to engage cancer patients' relatives and genetic counseling services are increasingly strained. Given the lack of guidance for families, it is not surprising that most ARRs of cancer patients with PVs do not undergo GRE. We are uniquely positioned to develop and optimize a direct-to-family virtual genetic risk evaluation and testing solution offered to all at risk relatives of a population-based sample of adults recently diagnosed with cancer in Georgia and California who tested positive for a clinically relevant PV. We will use a unique data infrastructure we pioneered to identify and invite a diverse cohort of cancer patients with clinically relevant PVs and their families to participate in our study. We propose a 2 x 3 factorial randomized trial of 900 patients diagnosed in 2018-2019 in the two states who had a clinically significant PV detected by genetic testing that will offer genetic risk evaluation and testing to all 1st and 2nd degree relatives. We will evaluate the effects of two intervention design features on patient- and relative-centered outcomes: 1) the level of personalized family genetic risk support (a technology assisted personally tailored patient and family member education and communication tool called the Family Genetic Health Program, FGHP) vs. the FGHP plus direct assistance from a human FGHP Navigator); and 2) the price offered to the relatives for the genetic test (standard $200 vs. $100 vs. $50 per test). We will determine the independent effects of the two design features on 1) the cancer patient's appraisal of communication and their engagement with relatives about hereditary cancer and GRE; 2) the invited relative's appraisal of decision-making and receipt of genetic testing; and 3) on the enrolled relative's completion of formal GRE. We will also explore the effect of the features on the outcomes across patient SES subgroups. The findings of this study have enormous potential to improve cancer prevention and early detection in families at high risk of hereditary cancer syndromes in the US.

American Cancer Society RSG-20-025-01 Katz (PI) 09/01/20 – 06/01/24

Gaps in genetic risk prevention in breast cancer patients and their family

Project Summary: Breast cancer is the first common health condition to be subjected to widespread extensive genetic testing after diagnosis. Multigene panel tests - comprising sequencing of at least 20 genes - have become the standard in the US which has resulted in tectonic changes in the distribution of results and the implications for patients and families regarding cancer prevention and control. The broadening of criteria for genetic risk evaluation after diagnosis of cancer combined with the extensiveness of the genes tested has fomented enormous challenges for clinicians, patients, and their families. Objective/Hypothesis: We propose a population-based survey study of patient experiences with germline genetic testing and patient communication with family members about hereditary cancer risk and prevention. We suspect that there is growing mismatch between test results and patient's attitudes and behaviors about hereditary cancer risk and prevention. We speculate that growing variability in the implications of test results on cancer threat may cause gaps and disparities in communication between patients and their relatives – especially in high-risk families. Specific Aims: 1) To examine potential gaps and disparities in patients' attitudes and behaviors about cancer risk reduction strategies (preventive surgery and high-risk surveillance) in relation to their genetic test results; 2) To examine potential gaps and disparities in family communication about genetic test results reported by patients with abnormal test results; and 3) To examine barriers to genetic risk evaluation reported by relatives of

patients with pathogenic variants. Study Design: We propose a population-based survey of patients diagnosed with breast cancer in 2018 in the states of Georgia and California who received germline genetic testing (N=3,140) and their first-degree relatives (FDRs). Patients will be selected based on their genetic test results and race/ethnicity from our Georgia-California Genetic Testing Linkage Initiative data infrastructure. We will survey all FDRs (N= 620) with whom patients with pathogenic variants discussed test results. Survey information will be merged with SEER and genetic test data and a de-identified dataset will be constructed for analyses.

1R01CA237046 (NCI) Hawley ST, Jagsi R (PIs) 12/2/20-11/30/24
Improving Patient-Centered Communication in Breast Cancer: A RCT of a Shared Decision Engagement System (ShaDES).

Project Summary: Improving Patient-Centered Communication in Breast Cancer: A RCT of a Shared Decision Engagement System (ShaDES). The diagnosis of breast cancer triggers a cascade of decisions as patients consider multiple treatment modalities navigated by different specialists. Precise evaluative treatment algorithms have better individualized treatment recommendations, yet sifting through the complexity of the test information and treatment options can be often challenging to patients and can often cause anxiety. Thus, the advances of precision medicine cannot be realized without parallel advances in patient-centered communication (PCC). This rapidly evolving decision context has fueled a pressing need for more patient-centered communication to address the full breadth of issues—both cognitive and emotional—faced by patients in making breast cancer treatment decisions. There is a critical need for tools that can engage the patient both emotionally and cognitively and be integrated into the breast oncology care clinical workflow. This project is a multi-level, factorial study that crosses a patient-level RCT of 700 newly-diagnosed breast cancer patients within 25 breast surgical oncology practices to evaluate a shared decision engagement system (ShaDES) to support PCC. The system links an emotional support-enhanced version of the research group's previously developed iCanDecide patient-facing decision tool with a clinic level trial of a Clinician Dashboard to help clinicians address remaining cognitive and emotional needs in their patients. In collaboration with the Alliance NCORP Research Base and its Statistics and Data Core, the trial will: 1) evaluate the impact of the emotional support enhancements to iCanDecide on primary and secondary outcomes measuring patient appraisal of PCC, 2) evaluate the impact of the Clinician Dashboard on patient appraisal of PCC, 3) examine potential mediators of the patient and clinic interventions, and 4) conduct a process evaluation of the two intervention components to inform revision and future widespread implementation of ShaDES. The results will lay the groundwork for broad implementation of a shared decision engagement system to improve patient-centered communication in breast cancer. Role (Co-I)

1R37CA251464 VEENSTRA, CHRISTINE (PI) 05/01/2021-4/30/2025
A Registry-Based Study of Patterns of Use of Targeted Therapies for Metastatic Cancers in Diverse Populations

One of the most important cancer care advances in recent history is the rapid dissemination of targeted therapies (molecularly targeted kinase inhibitors and immune checkpoint inhibitors) into the care of patients with metastatic cancer. The marked expansion of indications for use of these novel therapies has been fueled by growing enthusiasm among medical oncologists regarding their potential impact on survival for patients with very poor prognosis. Although the survival benefit of these therapies is modest for most patients, a small proportion experience long-term remission and potentially even cure of previously incurable cancer. Despite the exciting promise of these therapies, they are very expensive – sometimes exceeding $10,000 per month. Because of the high cost and high stakes of these therapies, it is critical to understand their patterns of use; yet very little is known about targeted therapy use across diverse populations. Moreover, the impact of clinician factors on variations in use is not known. In the absence of such knowledge it is difficult to develop effective interventions to support equitable delivery of these therapies to the growing population of patients living with metastatic cancer. Therefore, we will investigate patterns of use of targeted therapy among a diverse sample of 2,240 patients diagnosed in 2019 with metastatic non-small cell lung cancer, genitourinary cancer, and melanoma, and ascertained by the Georgia and Los Angeles county SEER registries. We will first characterize patient factors associated with non-receipt, by creating a powerful combination of archival clinical and sociodemographic registry data augmented with additional treatment data that SEER staff will collect directly

from clinicians and practices. We hypothesize that significant variations exist in patient use of targeted therapy across age, race/ethnicity, socioeconomic status, and geography. We will then identify clinician factors that are associated with tendency to prescribe targeted therapy. Informed by qualitative data that we will collect through interviews with medical oncologists, we will survey the medical oncologists (clinicians) who treat these patients, including many who practice in resource-limited settings. We will assess clinicians' knowledge & attitudes about targeted therapy, ask specific details about their practice setting, and use clinical vignettes to measure their tendency to prescribe targeted therapy. We will survey 1025 clinicians and anticipate a 65% response rate, based on our prior work. We hypothesize that certain clinicians are less likely to prescribe targeted therapy, including those with less knowledge around targeted therapy and those who practice in resource-limited settings. Finally, we will merge clinician data with patient data to quantify and explain the influence of clinicians on variations in patients' use of targeted therapy. We hypothesize that most (>50%) of the variation occurs at the clinician level, and that clinician knowledge and attitudes drive most of the variation. The findings from this study will inform the development of multilevel interventions to improve equitable receipt of targeted therapies across diverse patient populations and practice settings.

Bright Pink PROACT (Preventative Risk Outreach and Cascade Testing) Initiative at Stanford and Michigan Medicine.

Investigators: Kurian AW, Caswell-Jin J, Katz SJ, An L

Project Summary: In October 2024, Bright Pink announced a $4.5 million legacy gift to establish the Bright Pink Preventive Risk Outreach And Cascade Testing (PROACT) Program at Stanford Medicine.

One of the most promising opportunities in cancer prevention today is to implement cascade genetic risk evaluation in families with hereditary cancer syndromes. Cascade genetic testing is recommended by professional organizations and clinical experts because it can reduce the burden of disease through targeted early detection and prevention strategies and is a cost-effective approach to reduce the population burden of cancer. The uptake of cascade germline genetic testing in relatives is very low. Services to relatives of patients in whom a clinically relevant pathogenic variant ("mutation") has been detected is largely limited to a "family letter" given to the patient that summarizes the test result and the implications for cancer risk in the family. This method has demonstrated barriers that impede the uptake of cascade genetic testing in clinical settings.

PROACT aims to simplify the process of genetic risk education and cascade germline genetic testing for relatives to increase cascade testing rates. PROACT uses an online platform that provides personalized cancer genetic risk information to family members of those with hereditary cancer risk. Individuals who have had a pathogenic variant identified on genetic testing can invite their first-degree and second-degree relatives to the platform to learn about genetic cancer risk and consider low-cost at-home genetic testing.

PROACT is a multi-site randomized clinical trial studying the effect of online education and optional germline genetic testing for relatives at 50% and 25% chance to have a pathogenic variant in a gene that increases cancer risk. Patients will be invited by multiple clinical cancer genetics sites that serve a diverse population in the US. We aim to understand whether the PROACT platform lowers the burden of cancer for individuals and their families by providing easy access to education and genetic testing. We will study how many initial patients opt to participate in PROACT, how many family members are invited to the platform, how many family members complete the education modules and how many family members choose to proceed with genetic testing.

<u>Recently Completed</u>

R01CA225697 (NCI) Kurian, Katz (PIs) 03/01/18 – 02/28/22
Genetic Testing, Treatment Use, and Mortality After Diagnosis of Breast and Ovarian Cancer: The Georgia-California GeneLINK Initiative

Project Summary: Genetic testing is essential to identify and manage hereditary breast and ovarian cancer syndrome (HBOC), enabling precision prevention and screening and potentially reducing morbidity, mortality, and cost. Testing cancer patients is thus the gateway to population-wide improvements in HBOC care. Yet genetic testing is difficult to integrate into the complex care of a newly diagnosed cancer patient. A major concern is that the increasing volume, complexity and ambiguity of results may worsen gaps in testing use, treatment quality, and health outcomes. To advance precision prevention of HBOC, there is great need to understand deployment of genetic testing and results management. Concerns include potential disparities in test use and results among sociodemographic and clinical subgroups and the impact of results on cancer treatment and mortality. To address these concerns we will examine potential gaps in genetic testing use, test results and treatment (including surgery, radiation and chemotherapy) among newly diagnosed breast and ovarian cancer patients, according to pre-test HBOC risk and sociodemographics. We will study approximately 150,000 breast cancer patients and 12,000 ovarian cancer patients who were diagnosed in 2013 2016 and reported to the statewide Georgia and California SEER registries, and then accrued into a Georgia-California SEER Genetic Testing Linkage Initiative (GeneLINK). We will examine whether more intensive regimens (e.g., anthracyclines or platinums) are more prevalent in mutation carriers than other chemotherapy recipients, controlling for tumor factors. Among ovarian cancer patients with BRCA1/2 mutations who are indicated for targeted therapy with a PARP inhibitor, those with sociodemographic vulnerability factors less often receive it. Among breast and ovarian cancer patients who received chemotherapy, mortality will be lower in pathogenic mutation carriers than in non-mutation carriers.

American Cancer Society Wallner LP. (PI) 7/1/20-6/30/23
Disparities in the Delivery and Quality of Breast Cancer Survivorship Care American Cancer Society Research Scholars Grant.

Project Summary: Background: The care of breast cancer survivors is complex, as it requires coordination among many providers over time and encompasses cancer-related follow-up care, management of late-term effects of treatment and general preventive care. However, coordination among providers and implementation of shared care models where oncologists work together with primary care physicians (PCPs) to deliver survivorship care remain significantly challenging. In addition, many survivors do not receive guideline-concordant survivorship care and significant socioeconomic disparities in the quality of cancer care remain. Yet, whether or not these disparities persist throughout the survivorship period is less clear, particularly as it relates to the delivery and coordination of survivorship care, and the receipt services that reduce the risk of mortality from recurrence and second primary cancers, including genetic testing. Objective: The goal of this study is to further our understanding about the quality of survivorship care by assessing disparities in both the delivery and quality of breast cancer survivorship care and examining whether more PCP involvement in survivorship care results in improved quality, particularly among vulnerable populations. Specific Aims: The specific aims of this project are: 1) to characterize provider roles in the delivery of breast cancer survivorship care among vulnerable populations, 2) examine disparities in the quality and coordination of breast cancer survivorship care and 3) explore whether more PCP involvement in survivorship care improves the quality and coordination of breast cancer survivorship care, particularly among vulnerable populations. We hypothesize that oncologists will lead the delivery of survivorship care for most women, PCP involvement in survivorship care will be lower among vulnerable populations, and significant disparities in the coordination quality of survivorship care will exist across patient-reported sociodemographic factors. However, we hypothesize that these disparities will be reduced among women with high PCP involvement in their survivorship care. Study Design: We will accomplish this by conducting a follow-up survey study 5 years after diagnosis in women who participated in the iCanCare Study, a racially and economically diverse, population-based study of 2502 women with early-stage breast cancer in Los Angeles County and Georgia diagnosed in 2014-15. We will utilize rich patient-reported socioeconomic measures (race, ethnicity, acculturation, literacy, education, and insurance) as well as extensive clinical information collected during initial treatment. Findings from this study will directly inform future cancer care delivery strategies, address how survivorship care delivery patterns impact the quality of survivorship care, identify important disparities in the delivery and quality of survivorship care, and guide the development of culturally-tailored interventions to improve survivorship care. Role (Co-I)