DCCPS FELLOWS SYMPOSIUM 2025

Abstracts and Biosketches for Oral Presentations

Title: *Alcohol-Cancer Awareness: Correlates of "Don't Know" Responses in a Nationally Representative Survey of U.S. Adults*
Presenter: Emma Jesch, PhD, MPH, Office of the Associate Director, BRP
Co-authors: David Berrigan, PhD, MPH; William Klein, PhD
Mentor: William Klein, PhD, Office of the Associate Director, BRP

Background: Alcohol is a known cause of cancer at seven sites, including breast and colon. Nevertheless, public awareness of the relationship between alcohol and cancer is relatively low—with many survey respondents selecting "don't know" (DK). In this study, we examine correlates of DK responding, including sociodemographic factors (e.g., age, education), health beliefs (e.g., fatalism), and abilities (e.g. numeracy). **Methods:** We used data from HINTS Cycle 7 (Health Information Trends Survey), a nationally representative, cross-sectional survey of U.S. adults (n = 7,278), collected March-September 2024. Alcohol-cancer awareness was assessed with the following item: "In your opinion, how does drinking alcohol affect the risk of getting cancer?" (1=decreases risk; 2=has no effect; 3=increases risk; 4=DK). We assessed associations with sociodemographic characteristics through weighted, multivariate logistic models of DK versus all other responses (increases/decreases/no effect). **Results:** Over half of respondents (52.9%) answered DK; 37.1% answered that alcohol increases the risk of cancer, 0.9% decreases, and 9.1% no effect. Adjusting for demographic factors, *lower* health-related self-efficacy, numeracy, and information seeking; and *higher* fatalism and information overload (e.g., there's not much you can do to lower your risk of cancer) were associated with DK responding ($p<0.05$). **Conclusion:** DK responding is common and is associated with factors beyond lack of knowledge or education. Future work should continue to explore the dynamics of DK responding—including predictors of inaccurate versus DK responses—and work towards building public awareness campaigns that differentially target misbeliefs (e.g., alcohol decreases risk) versus lack of knowledge (DK).

Biosketch: Emma Jesch, PhD, MPH, is a Cancer Prevention Fellow (CPF) in the Office of the Associate Director of the Behavioral Research Program. Her research focuses on health and science communication related to cancer prevention, tobacco control, and most recently, COVID-19 – spanning routine media exposure and campaign development. Her dissertation work looked at the effects of conflicting health information: how might ongoing exposure to contradictory messages (is red wine really good for you or not?) impact receptivity to health campaigns? Dr. Jesch received her PhD in communication from the Annenberg School for Communication at the University of Pennsylvania in 2023, and her MPH in quantitative methods at the Harvard T.H. Chan School of Public Health in 2024.

Prior to graduate school, she was a research associate at Cornell University, where she facilitated data collection aboard a mobile eye-tracking lab. She also received her BS in communication from Cornell in 2016.

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Title: *Group-Level Sleep Estimates from Fitbit Devices in the All of Us Research Program*
Presenter: Caitlin Bailey, PhD, MS, Risk Factor Assessment Branch, EGRP
Co-authors: Kevin W. Dodd, PhD; William Wheeler, PhD; James J. McClain, PhD, MPH; Isabell Seo, MPH; Dana L. Wolff-Hughes, PhD
Mentor: Dana L. Wolff-Hughes, PhD**,** Risk Factor Assessment Branch, EGRP

Study Objectives: Short sleep duration has been linked to increased risk for several cancers, typically in studies using self-reported measures. Such measures can suffer from recall and social desirability biases. Wearable devices offer an objective way to identify at-risk populations and inform public health interventions, but existing protocols that average over multiple sampled days focus on obtaining individual-level, rather than population-level, estimates of sleep. This study compared population-level sleep estimates obtained from up to seven days of monitor data. **Methods:** Data from the *All of Us* Research Program Fitbit cohort (version 8) were used. The sample consisted of 6,871 adults (≥18y) with 7 days of Fitbit data between days 15-21 post-primary consent date. Fitbit sleep measures included: sleep duration, duration of sleep stages (light, deep, REM), time in bed, and sleep onset (clock time). Estimates from the 7-day protocol were assumed to be unbiased at the population level. Absolute and relative bias (%) were calculated for each of 25 alternative protocols: 1-6 randoms days, Saturday plus 1-5 random weekdays, Sunday plus 1-5 random weekdays, 1 random weekend day plus 1-5 random weekdays, and both weekend days plus 1-4 random weekdays. Sensitivity analyses were conducted by age group, BMI status, race/ethnicity, and device series. **Results:** The 7-day sample mean for sleep duration was 410.7 ± 50.6 minutes. Protocols of 1-6 random days had -0.02% to 0.02% relative bias. Protocols with nonrandom inclusion of ≥1 weekend day generally evidenced small but statistically significant bias, with relative biases ranging from -0.6% to 1.6%. Trends were similar across sleep outcome measures and sensitivity analyses. **Conclusion:** One random day of monitoring is enough to accurately estimate population-level sleep parameters. Sampling schemes with nonrandom inclusion of weekend days may introduce bias into population-level sleep estimates. Thus, sampling procedures should align with research questions.

Biosketch: Caitlin Bailey, PhD, MS, is a Cancer Prevention fellow in the Risk Factor Assessment Branch of EGRP. In this role, she works with Dr. Dana Wolff-Hughes on projects to advance cancer-related risk factor assessment through the use of novel technologies and data science approaches. She is especially interested in research leveraging digital health technologies to improve the assessment of physical

activity, sleep, and circadian rhythm in cancer research. This year, she received the NIH Fellows Award for Research Excellence (FARE) for her sleep research. Dr. Bailey received her PhD in public health from The George Washington University and her MS in nutrition interventions from Tufts University. Her dissertation work, which was supported by an NIH F31 training grant, examined associations between the timing of physical activity and health outcomes in young adults. During her doctoral studies, she received two Research Excellence Awards from the Society of Behavioral Medicine, including the Karen Calfas Award for physical activity research. Prior to earning her PhD, Dr. Bailey was a Cancer Research Training Award (CRTA) fellow in DCCPS, where she worked with Dr. Linda Nebeling to support the activities of the Trans-NCI Obesity and Cancer Working Group.

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Title: *Artificial Intelligence and eHealth Literacy in Cancer Survivors: a Cross-Sectional Online Assessment*
Presenter: Maria A. Rincon, PhD, MPH, Office of the Associate Director, BRP
Co-author: Roxanne Jensen, PhD, Outcomes Research Branch, HDRP
Mentor: Richard P. Moser, PhD, Office of the Associate Director, BRP

Background: The expanding role of artificial intelligence (AI) in healthcare warrants a better understanding of how patients perceive its impact on their healthcare services. eHealth literacy is a critical skill towards the acquisition, appraisal and understanding of health information online. This study assesses the association between eHealth literacy and perceptions on AI in healthcare in a sample of cancer survivors. **Methods***:* Respondents (n= 275) recruited through Prolific (18 years or older US residents, who could read/reply in English and had a history of cancer diagnosis) completed an online survey focused on eHealth literacy, use of eHealth technology and patient outcomes. Adjusted binary logistic regressions were performed to assess the relationship between the 7 domains of the eHealth Literacy Questionnaire (eHLQ) and 4 questions assessing patients' perceptions of AI in healthcare.
Results: Higher scores in domain 5 ("motivated to engage with digital services") were associated with increased odds to agree that AI in healthcare will lead to better outcomes (aOR=14.4, p<.001). Higher scores in domain 4 ("feel safe and in control") were associated with greater odds to agree health data will be kept secure while using AI in healthcare (aOR= 6.9, p<.001). Higher scores on domain 2 ("understanding of health concepts and language") were associated with greater odds to disagree that AI will increase medical errors (aOR= 6.3, p=.001) and greater odds to disagree AI will hurt patient-provider relationships (aOR= 3.1, p<.001). **Conclusions:** Increasing eHealth literacy scores in a sample of cancer survivors was associated with higher odds to agree with positive perceptions and to disagree with negative perceptions regarding AI in healthcare. eHealth literacy domains at the intersection of user and technology show the most variability across outcomes, underscoring the relevance of better understanding users' motivations, engagement and sense of control when interacting with digital health resources.

Biosketch: Maria Rincon, PhD, MPH, is a Cancer Research Training Award Fellow (CRTA) in the Office of the Associate Director of the Behavioral Research Program. Under the mentorship of Dr. Richard Moser, Maria's work focuses on assessments and methods, particularly involving the Health Information National Trends Survey (HINTS), and HINTS-related resources, including the HINTS Data Linkage Project (HDLP). Maria earned her PhD in Social and Behavioral Sciences from Temple University. For her dissertation, Maria assessed the eHealth Literacy Questionnaire (eHLQ) in a low-income, urban minority population of cancer patients in Philadelphia, PA. Prior to her doctoral studies, Maria completed a 2-year internship in health communications in the Outcomes Research Branch with DCCPS's Healthcare Delivery Research Program. Maria received a Master of Public Health in epidemiology from the Yale School of Public Health. Maria's research interests focus on perceptions and outcomes in cancer, eHealth literacy, and leveraging use of digital health technology to enhance care experiences across the cancer continuum.

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Title: *An Uncertain Recovery Versus Certain Hospice Bliss: How Uncertainty and Certainty are Used to Persuade Surrogates to Discontinue Treatment*
Presenter: Jackelyn Payne, PhD, MPH, Office of the Associate Director, BRP
Co-authors: Kristen Pecanac, PhD, RN; Paul Han, MD, MA, MPH
Mentor: Paul Han, MD, MA, MPH, Office of the Associate Director, BRP

Background: When seriously ill patients in the hospital are unable to make their own decisions, surrogates (family members or friends) are called to make decisions. Sometimes, these are life-or-death decisions involving whether to continue life-sustaining treatment (leading to patient survival but potentially an unwanted quality of life) or discontinue treatment (leading to patient death). Our overall aim was to see how surrogates and healthcare practitioners attend to the inherent uncertainty in these decision-making conversations. This analysis examines how both uncertainty and certainty are used by healthcare practitioners to persuade surrogates to discontinue treatment. **Methods**: We audio-recorded 27 healthcare practitioner-surrogate conversations about life-or-death decision-making of an adult patient in 2 hospitals in the Midwest, USA. We used conversation analysis to analyze sequences in which healthcare practitioners described the options of continuing treatment and discontinuing treatment. **Results**: Overall, healthcare practitioners would first describe an uncertain recovery associated with electing to continue treatment followed by the certainty of comfort associated with discontinuing treatment. Regardless of the treatment (ventilator, feeding tube), healthcare practitioners conveyed uncertainty in whether the treatment would be needed only temporarily (and the patient would recover) or permanently (with minimal or no recovery). The recovery process itself was usually described as being "long," "difficult," and potentially associated with patient suffering. Conversely, discontinuing treatment with hospice care was described with blissful language of making "absolute certain that they're not suffering." Healthcare practitioners conveyed certainty about what hospice would do: get rid of "burdensome" devices, give medications to "maximize people's comfort," and allow
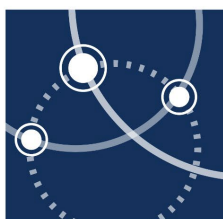
a "natural death." **Discussion:** Even when healthcare practitioners conveyed uncertainty about a poor prognosis, their discourse—contrasting an uncertain, difficult recovery with the certain achievement of comfort with hospice care—manifested the persuasive nature of these descriptions. These findings can be applied to decision-making in serious illnesses, including cancer.

Biosketch: Jackelyn Payne, PhD, MPH, is a Cancer Prevention Fellow in the BRP Office of the Associate Director studying risk and uncertainty communication, including in clinical interactions and public messaging. Before joining BRP, she was a graduate student in the Social and Health Psychology Program at Stony Brook University. For her dissertation, she worked with Stony Brook Cancer Center's Clinical Trials Office to implement tracking of patients' reasons for declining to participate in clinical trials and collected quantitative and qualitative data from patients, providers, and study coordinators regarding systemic and organizational barriers to research participation. Dr. Payne received her Master of Public Health in Behavioral Sciences and Health Education from Emory University. While there, she worked on Project DECOY (Documenting Experiences with Cigarettes and Other Tobacco in Young Adults) and the AWAKE (Achieving Wellness After Cancer in Early Life) intervention. Following the MPH, Dr. Payne managed the non-therapeutic research branch of Emory's Winship Cancer Institute's Lymphoma Program before pursuing her PhD.

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Title: *Assessing the American Diet through Economic Indicators*
Presenter: Audrey Goldbaum, PhD, MPH, Risk Factor Assessment Branch, EGRP
Co-authors: Kevin W. Dodd, PhD; Kirsten A. Herrick, PhD MSc; Amelia M. Willits-Smith, PhD, MS; Edwina Wambogo, PhD; Lisa Kahle, BA; Dana DeSilva, PhD, RD; Jill Reedy, PhD, MPH, RDN
Mentor: Jill Reedy, PhD, MPH, RDN, Risk Factor Assessment Branch, EGRP

Introduction: Because intake of foods and beverages has a profound effect on health, the American diet was examined to inform the Scientific Report of the 2025 Dietary Guidelines Advisory Committee. We present a subset of the data analysis here. **Methods:** The NCI method was applied to dietary data from 24-hour recalls obtained from the 2011-18 U.S. National Health and Nutrition Examination Survey. We assessed estimates of usual intake distributions by food security (FS) and Poverty-Income Ratio (PIR ≤1.85, >1.85) in 7 guidance-based food groups (Vegetables, Fruits, Whole Grains, Refined Grains, Dairy and Fortified Soy Alternatives, Protein Foods, Added Sugar) and stratified by age (children and adolescents 1-18 years, adults 19+ years). Group-level distribution curves were compared using inspection of pointwise 99.3% confidence intervals (CIs) for a comprehensive range of percentiles. CIs are centered on the comparator estimate but have widths based on the difference between the comparator and the reference. **Results:** Overall, except for Whole Grains, differences in estimates of usual intake distributions by FS and PIR were only seen among adults, and not for children and

adolescents. Adults categorized as food secure or had PIR >1.85 generally consumed more Vegetables, Fruits, Whole Grains, and Protein Foods, and less Refined Grains and Added Sugars. There were no differences in consumption of Dairy and Fortified Soy Alternatives. **Conclusion:** Comparing estimations of usual intake distributions by FS and PIR rather than relying on single point estimates allows for a more nuanced examination of population level dietary patterns and can provide context regarding the differences in dietary intake that may be influenced by economic factors.

Biosketch: Audrey Goldbaum, PhD, MPH, is a Cancer Prevention fellow in the Epidemiology and Genomics Research Program's (EGRP) Risk Factor Assessment Branch (RFAB). In this role, she works on a variety of projects related to methods used to measure and model how lifestyle factors such as nutrition influence or predict cancer development and how these methods can be applied in research to improve public health and impact public policy. Prior to joining NCI, Audrey pursued her PhD at Purdue University where she used animal models to examine the independent and interacting effects of obesity, diet, and the gut microbiota in colorectal cancer development. To broaden her research background into the realm of public health, she earned an MPH from the Harvard T.H. Chan School of Public Health.

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Title: *Patient and Provider Attitudes, Beliefs, and Perceptions of Cancer-Related Cognitive Impairment (CRCI): Findings from a Scoping Review*
**Presenter: Molly Frauenholz, BS,** Health Behaviors Research Branch, BRP
Co-authors: Kara L. Hall, PhD; Todd Horowitz, PhD; Jennifer Zink, PhD, MPH; Caroline Crown, BS; Yusra Afzal; Neha Mupparapu; Mallory O'Quinn; Caroline Rodriguez; Ella Rosenthal, BS; Christine Nyugen, MPH; Jennifer Brooks, MPH
Mentor: Kara L. Hall, PhD, Health Behaviors Research Branch BRP

Acknowledgements: Westat: Sophia Tsakraklides, Jewel Bernard-Hunte, Ashley Eure, Bria Berry, Shaima Bereznitsky, Paula Lipman, Teri Davis; NCI: Susan Czajkowski; NIH Library: Gisele Butera

Background: CRCI is a common but underrecognized concern throughout cancer care. While research highlights the prevalence and impact of CRCI, the phenomenon remains poorly integrated into standard survivorship care and is often dismissed or misunderstood in clinical settings. This review examines the patients, caregivers, and providers perspectives of CRCI centered around four broad questions: (1) Do participants believe CRCI is real? (2) Do participants believe CRCI is important, problematic, and/or a priority? (3) How is CRCI being supported: assessed, addressed, and/or treated? (4) What are the research needs, gaps, barriers, and future directions for CRCI? **Methods:** This review followed PRISMA-ScR guidelines. Reviewers independently screened and coded articles, reconciling discrepancies through group discussion. Descriptive statistics were used to analyze study characteristics, and thematic analysis was used to explore how studies addressed the research questions. **Results:** Out of 8452 abstracts
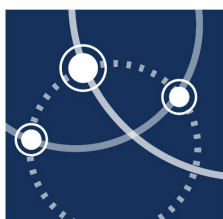
screened and 269 full texts reviewed, 112 studies met inclusion criteria. Preliminary analyses are based on 63 articles. The majority of studies were cross-sectional (81%) and qualitative (75%). Most included only patients (62%), with fewer including providers (14%) and both patients and caregivers (13%). A large proportion (49%) centered on a single cancer type and, among these, 51% focused specifically on breast cancer. Chemotherapy (70%) and radiation (51%) were the most frequently reported treatments. How CRCI was conceptualized and prioritized varied widely across studies, reflecting differing levels of understanding and integration within survivorship care. Patterns of key themes, such as perceived causes of CRCI, dismissal of symptoms by providers, lack of knowledge to support CRCI, reported across studies and participant types will be highlighted. **Conclusion:** This review underscores the fragmented understanding of CRCI across cancer care, with notable gaps in recognition, assessment and support. Findings highlight the need for more inclusive, multi-perspective research to legitimize and address CRCI in both clinical practice and research.

Biosketch: Molly Frauenholz, BS, is a Cancer Research Training Award (CRTA) Fellow in the Health Behaviors Research Branch (HBRB) of the Behavioral Research Program. Ms. Frauenholz earned a Bachelor of Science in Community Health with a minor in Global Poverty as a student with high honors from the University of Maryland at College Park in May 2023. She looks forward to starting her MHS degree in Health, Behavior and Society at Johns Hopkins University in the fall. Her interests include researching health disparities, improving quality of life among cancer survivors, and the intersection of sleep and cognition.

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Title: *Factors Associated with Self-Sampling Preferences for Cervical Cancer Screening Among Women in the US*
Presenter: Jacqueline Hua, MPH, PhD, Basic Biobehavioral and Psychological Sciences Branch, BRP
Co-authors: Laurel P. Gibson; Amanda M. Acevedo; William M. P. Klein, PhD
Mentors: Amanda M. Acevedo, PhD, Basic Biobehavioral and Psychological Sciences Branch, BRP and William M. P. Klein, PhD, Office of the Associate Director, BRP

Background: It is estimated that 4,320 US women will die from cervical cancer in 2025. Until recently, screening for cervical cancer has involved pelvic exams in which a healthcare provider collects vaginal samples. The option to self-sample has emerged in which patients collect vaginal samples themselves using a swab or brush. Self-sampling may increase cervical cancer screening rates, as it addresses barriers that patients may face to provider-collected sampling. Thus far, research on self-sampling acceptability has been largely conducted before FDA approval of self-sampling kits and with non-representative samples. The present research examines associations of sociodemographic, health-, and healthcare-related factors with preference for self-sampling in a nationally representative sample of US

women. **Method**: The 2024 Health Information National Trends Survey (HINTS) was used. Participants included 2,325 women eligible for cervical cancer screening (i.e., aged 21-65). Weighted logistic regression examined associations of self-sampling preference with age, race, marital status, SES, sexual orientation, rurality, lack of transportation, having a primary care provider, insurance status, trust in the healthcare system, perceptions of changing health recommendations, perceived quality of communication with healthcare providers, and experienced discrimination in healthcare. **Results:** Overall, 20.2% of US women preferred self-sampling over provider-collected sampling. Most of those who preferred self-sampling cited multiple reasons for their preference (e.g., privacy, not wanting to take time off work to attend screening). Results from the logistic regression model suggested that experienced discrimination in healthcare was positively associated with preference for self-sampling (OR=1.89, 95% CI=1.11-3.23, *p*=.02). No other associations emerged as significant. **Conclusion**: These findings suggest that 1 in 5 US women prefer self-sampling for cervical cancer screening. Moreover, self-sampling may provide the most benefit to those who have experienced discrimination in healthcare settings. Further research is needed to assess the role of sociodemographic and health-related factors in preferences for self-sampling.

Biosketch: Jacqueline (Jacky) Hua, MPH, PhD is a Cancer Prevention Fellow in the Basic Biobehavioral and Psychological Sciences Branch in the Behavioral Research Program. Dr. Hua's research focuses on the intersection of social and health psychology. Specifically, she is interested in how psychological and social factors, such as cultural values, self-affirmation, and identity influence cancer-related decision making and health behaviors. She is also interested in the factors that contribute to differences in cancer risk and mortality between racial/ethnic groups and identifying strategies for reducing such differences. Before joining the NCI, Dr. Hua earned a PhD in psychological sciences with a concentration in health psychology from the University of California, Merced. Her dissertation proposed and tested a theoretical model informed by research in health psychology and behavioral economics to predict decisions to avoid health information. As part of the Cancer Prevention Fellowship, she also earned a Master of Public Health degree in epidemiology from the University of California, Berkeley, where she conducted a systematic review of interventions to improve cervical cancer screening among Vietnamese populations.

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