National Cancer Advisory Board (NCAB)
***ad hoc* Subcommittee on Population Science, Epidemiology, and Disparities**

8 February 2024
10:00 a.m.–11:00 a.m. EST

Virtual Meeting

SUMMARY

Subcommittee Members
Dr. Karen M. Winkfield, Chair
Dr. Nilofer S. Azad
Dr. Philip E. Castle, Executive Secretary
Dr. Luis Diaz (absent)
Ms. Ysabel Duron
Dr. Christopher R. Friese (absent)
Dr. Nikan Khatibi (absent)
Dr. Ana Navas-Acien
Dr. Fred K. Tabung
Dr. Susan Thomas Vadaparampil (absent)

Other Participants
Dr. Anna D. Barker, NCAB
Dr. Richard Boxer, NCAB
Dr. John D. Carpten, Chair, NCAB
Dr. Katrina A.B. Goddard, National Cancer Institute (NCI)
Dr. Paulette S. Gray, NCI
Dr. Andrea Hayes Dixon, NCAB
Dr. Michelle Heacock, NCAB
Dr. Amy B. Heimberger, NCAB
Dr. Douglas R. Lowy, NCI
Ms. Anne Lubenow, NCI
Ms. Thu Nguyen, NCI
Dr. W. Kimryn Rathmell, Director, NCI
Mr. Ricardo W. Rawle, NCI
Ms. Joy Wiszneauckas, NCI
Dr. Tamara Korolnek, The Scientific Consulting Group, Inc., Rapporteur

Welcome and Opening Remarks
Dr. Karen M. Winkfield, Executive Director, Meharry-Vanderbilt Alliance, Ingram Professor of Cancer Research, Professor of Radiation Oncology, Vanderbilt University School of Medicine

Dr. Karen M. Winkfield, Subcommittee Chair, welcomed the participants to the NCAB *ad hoc* Subcommittee on Population Science, Epidemiology, and Disparities (Subcommittee) meeting. She invited the Subcommittee members to briefly introduce themselves. Dr. Winkfield invited Dr. Philip E. Castle, Executive Secretary, to provide an overview of the mission and goals of the Subcommittee.

Overview of the Subcommittee Mission and Goals
Dr. Philip E. Castle, Director, Division of Cancer Prevention, NCI

Dr. Castle reminded the participants that the purpose of the Subcommittee is to advise the NCAB and the NCI Director on strategic approaches and opportunities to enhance NCI's contribution to population science, epidemiology, and disparities. The Subcommittee is responsible for identifying opportunities to address populations facing disparities through multidisciplinary programs in research, surveillance, patient care, primary prevention, education, and cancer control. Dr. Castle introduced Dr. W. Kimryn Rathmell, NCI Director, and welcomed her to the meeting.

NCI Director's Remarks
Dr. W. Kimryn Rathmell, Director, NCI

Dr. Rathmell noted that population science outcomes are a major NCI priority and highlighted the importance of this Subcommittee in addressing the needs of people who historically have been overlooked in cancer research efforts. She recognized the efforts of Dr. Castle and Dr. Katrina A.B. Goddard, Director, Division of Cancer Control and Population Sciences (DCCPS), NCI, to address the cancer-related needs of underserved populations across the country.

Update on the NIH Working Group Efforts to Define and Measure Social Determinants of Health and Assess Their Effects
Dr. Katrina A.B. Goddard, Director, Division of Cancer Control and Population Sciences, NCI

Dr. Goddard provided an update on the NIH-wide Social Determinants of Health (SDOH) Research Coordinating Committee (RCC). Dr. Goddard noted that SDOH account for approximately half of the variation in health outcomes and highlighted the growing recognition that scientific approaches to improving health must account for SDOH. She added that SDOH are an increasingly high priority of the Biden Administration, Congress, the U.S. Department of Health and Human Services, and other federal agencies. The federal plan to address SDOH rests on three pillars: (1) expanding data gathering and sharing capabilities, which involves advancing data collection and interoperability among health care, public health, social care services, and other data systems; (2) supporting flexible funding to address social needs, which involves identifying how flexible funding could finance community infrastructure, empower communities to address social needs, and encourage coordination to improve health outcomes, and (3) supporting community backbone organizations, which involves support for community infrastructure to link health care systems to community-based organizations and ongoing programs to provide such services as housing assistance and food access. Dr. Goddard noted the plan's emphasis on the importance of community engagement and support for social needs.

Advancing the understanding of SDOH was included in the *NIH-Wide Strategic Plan for Fiscal Years 2021–2025*, and the SDOH RCC was approved by NIH Leadership in 2021 and established in 2022. The Committee comprises three co-chairs; two executive secretaries; and members from 25 NIH Institutes, Centers, Offices (ICOs) and programs, as well as other federal agencies. Five coordinators manage SDOH RCC activities. The Committee is advised by an Executive Committee, which helps to identify and set strategic priorities. The goal of the Committee is to accelerate NIH-wide SDOH research across diseases and conditions, populations, life-course stages, and SDOH domains. The SDOH RCC also focuses on effectively leveraging SDOH investments and innovations across NIH ICOs to advance discoveries in this dynamic multidisciplinary scientific field, including foundational research, intervention research, and implementation science.

One of the first tasks of the Committee was developing and defining a unified conceptual framework for SDOH to support effective communication within NIH and with the scientific community. The NIH SDOH conceptualization was released in 2023. This framework notes that SDOH are the conditions in which people are born, grow, learn, work, play, live, and age—in addition to the wider set of structural factors that shape the conditions of daily life. SDOH can improve or hinder health via multiple direct, indirect, and interacting mechanistic pathways. SDOH result in varying health consequences within and across populations due to differences in exposure or susceptibility to health-promoting or health-compromising conditions. The unequal distribution of power and resources based on ethnicity, gender identity, geography, race, sex, sexual orientation, socioeconomic position, and their intersections manifests in inequitable conditions of daily life, contributing to the large and persistent health disparities in this country and highlighting the importance of intersectional approaches to SDOH research.

Addressing SDOH is relevant to population, community, and individual health and to reducing health disparities and advancing health equity.

Dr. Goddard emphasized that effectively advancing health equity in cancer prevention and control requires examining multiple levels of influence: SDOH at the societal level (e.g., structural racism, food deserts, persistent poverty, lack of services in rural areas), social risk at the family and individual level (e.g., food insecurity, housing instability), and social needs at the individual level (e.g., low income, lack of transportation, low health literacy). DCCPS priorities for SDOH research to address cancer control inequalities include building the evidence base on multilevel interventions (especially those that operate at two or more levels), advancing research methods and measurements to effectively assess the effects and mechanisms of influence on cancer prevention and control; and developing resources and tools to enhance research on SDOH interventions.

Dr. Goddard highlighted several NCI initiatives related to SDOH. In partnership with the Center to Reduce Cancer Health Disparities, DCCPS has established the Advancing Cancer Control Equity Research through Transformative Solutions (ACCERT) Consortium (RFA-CA-23-026 and RFA-CA-23-027), which will leverage a community-engaged approach to build the capacity of both researchers and community partners and promote sustainability, acceptability, and adherence of interventions in underserved communities experiencing cancer inequalities. A U24 Coordinating Center and up to four U19 Research Centers will form the ACCERT Consortium, with a focus on developing interventions that target the multilevel pathways by which SDOH impact adverse cancer outcomes; developing measures and methods to assess community-level SDOH, community engagement, and cancer-control equity processes and outcomes; and building capacity and engagement among scholars from diverse backgrounds—including those from underrepresented groups in the biomedical sciences—and community partners to implement interventions that incorporate the lived experiences of those who face cancer inequities.

In fiscal year 2023, the NIH Common Fund Community Partnerships to Advance Science for Society (ComPASS) program funded 26 awards to community organizations and a Coordinating Center, totaling approximately $171 million over 5 years. ComPASS is an innovative, community-led research program for studying ways to address the underlying structural factors within communities that affect health. In partnership with the Common Fund, which will provide the funding for the ComPASS UC2 Research Hubs (RFA-RM-23-012), DCCPS staff have played a key role in conceptualizing and managing the awards. The Hubs will serve as a centralized research resource, providing tailored scientific, technical, and collaborative support for sustainable community engagement, research capacity building, and training to assigned Community-Led, Health Equity Structural Interventions (CHESI) projects that address SDOH and structural factors to improve health outcomes. Dr. Goddard highlighted a CHESI project of the Arkansas Cancer Coalition that is developing transportation-related strategies to reduce cancer and chronic disease in the Arkansas Delta. Through these awards, ComPASS will enable research into sustainable solutions that promote health equity to support lasting change in communities across the nation.

Discussion

Dr. Winkfield thanked Dr. Goddard for her presentation—especially for providing concise definitions of SDOH and social risks.

Ms. Ysabel Duron expressed support for the efforts described by Dr. Goddard but added that communication with the wider community must be improved to ensure awareness of these programs. The results of NIH research should be disseminated to the wider community, and studies should incorporate feedback from the community about research questions and directions. She strongly recommended that

diverse community voices and patient advocates be included in SDOH-related programs (e.g., as members of the SDOH RCC Executive Committee). Ms. Duron expressed support for more funding mechanisms to build community capacity and added that using the phrase "empower" implies that federal agencies are the source of community power. She noted that the public already has the power to address these issues and merely requires backing from federal agencies to address these challenges. Dr. Goddard agreed that community participation is essential and confirmed that she would relay the suggestion regarding community and patient voices to the SDOH RCC.

Dr. Winkfield asked Dr. Goddard about SDOH RCC efforts related to the dissemination of their results and wider education regarding SDOH. Dr. Goddard answered that the Committee's current focus is on effective communication within the NIH. She agreed that accountable dissemination of scientific research outcomes to the public should be a future priority, recognizing the public's fundamental role as both a benefactor and beneficiary of SDOH research.

Dr. Fred K. Tabung asked about the coordination of efforts across federal agencies in an all-of-government effort to address crosscutting SDOH and other structural challenges in cancer prevention and health equity (e.g., housing insecurity, lack of transportation). He inquired whether the Committee has considered developing standardized SDOH measures to minimize miscommunication and duplicated efforts. Dr. Goddard noted that the NIH research community—in partnership with other agencies and the wider scientific community—has successfully developed such measures for other areas of research and expressed her belief that the advancement of new methods and measures will continue.

Dr. Castle mentioned the Cancer Moonshot℠ goal of reducing the cancer death rate by 50 percent within 25 years and commented that the majority of this effort will involve addressing issues related to SDOH and health equity. He added that new tools must be developed, validated, and implemented to address these challenges. The last stage of the pipeline—implementation—likely will be the most difficult for the NCI to address, and the SDOH RCC will be critical in this area.

In response to a question from Dr. Winkfield, Dr. Goddard agreed that the SDOH RCC should develop an index of social vulnerability to serve as a standardized measure that will help investigators evaluate the effects of interventions and further unify research in the SDOH field.

Dr. Tabung asked whether the SDOH RCC is considering how studies of health disparities at multiple levels (e.g., biological, behavioral, familial, community, societal) will be integrated to accurately understand what is driving disparities. He noted that many study cohorts lack data related to upstream or downstream causes of disparities and emphasized that the development of next-generation epidemiological cohorts should include improved data collection techniques. Dr. Goddard explained that the members of the Committee are embedded within the research community and will convey novel information and approaches from their respective positions to the SDOH RCC.

Dr. Castle commented that traditional epidemiology methods are insufficient. Dynamic techniques that capture the ever-changing complexity of health risks and SDOH exposures must be developed to address current and upcoming challenges. At Dr. Castle's request, Dr. Ana Navas-Acien shared examples of structural factors that influence environmental exposures. For example, Hispanic and Black communities are more likely to be exposed to the carcinogen arsenic, and the association between racial/ethnic composition and arsenic exposure differs in magnitude and direction between communities and across regions. Such measures can incorporate data from multiple federal agencies and advance health equity efforts by identifying mechanisms of exposure and environmental injustice. Dr. Navas-Acien added that many NIH programs already have experience in community engagement (e.g., NCI-Designated Cancer Centers, the NIEHS Superfund Research Program), which will be critical for the NIH-wide SDOH initiative.

Dr. Anna D. Barker mentioned a new report from the World Health Organization in which more than 35 million new cancer cases are predicted for 2050, a 77 percent increase from the estimated 20 million cases in 2022. This issue is global and will necessitate an integrated international approach. With respect to environmental exposures, Dr. Barker highlighted The Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act (or PACT Act), which expands U.S. Department of Veterans Affairs (VA) health care for veterans exposed to toxic substances. In 2022, President Joseph R. Biden announced the launch of the PROject for Military Exposures and Toxin History Evaluation in U.S. service members (or PROMETHEUS) program, a triagency effort among the NCI, the VA, and the U.S. Department of Defense to transform the way exposure-related scientific data are used to improve health care for military members, veterans, and the public. Dr. Barker recommended that the SDOH RCC engage with researchers and other professionals associated with such programs.

Dr. Winkfield noted that health equity research will progress only if funding is awarded to diverse institutions. She added that support for policy research in the field also will be critical.

Subcommittee Discussion and Future Agenda
Dr. Karen M. Winkfield

Dr. Winkfield reminded the meeting participants of the report previously published by the Subcommittee's *ad hoc* Working Group on Strategic Approaches and Opportunities for Research on Cancer Among Racial and Ethnic Minorities and Underserved Populations, which assessed the status of the NIH-funded research portfolio on cancer in racial and ethnic minorities and underserved populations. She requested that the Subcommittee members and other meeting participants provide input on SDOH-related priorities and other concerns for the Subcommittee to address.

Workforce Training and Support for Early Career Investigators

Ms. Duron commented on growing public health needs, which will require a larger community health care and research workforce. More training programs are needed to support careers in public health policy, research, and implementation—especially for people from marginalized and underrepresented communities. Dr. Winkfield suggested inviting members of the ComPASS team to the June 2024 Subcommittee meeting to present an overview of their community-based activities to the Subcommittee.

Dr. Tabung asked about training opportunities and whether a catalogue of NCI training programs and activities (e.g., T32 awards, career development programs) has been compiled and made available. Dr. Winkfield noted a discussion of training activities had occurred during the June 2023 Subcommittee meeting and agreed that more efforts in this area were needed.

Bidirectional Communication Between Researchers and the Community

Dr. Navas-Acien commented that basic scientists should be more engaged in conversations about SDOH and community engagement. Examples of successful engagement efforts—where community partners helped steer the direction of basic and translational research—and related benefits should be disseminated within the scientific and broader communities. Dr. Navas-Acien offered to share several such examples with the Subcommittee.

Dr. Castle commented on the growing recognition in the basic science community of the effects of SDOH. He cited research demonstrating that mutations alone do not trigger carcinogenesis. He noted the challenge of convincing young researchers that a career in basic or translational science can be built by evaluating connections between molecular mechanisms and epidemiology. Dr. Castle provided an example of engineering wearable technology or developing biomarkers to enable monitoring exposures in real time.

Dr. Barker agreed that the field of molecular carcinogenesis offers immense opportunities for research supported by community engagement. The basic science community requires adequate training support and research resources to make much-needed progress.

Adjournment

Dr. Winkfield noted that the discussion of priorities to address will continue during the June 2024 Subcommittee meeting. She thanked the participants for their comments and adjourned the meeting at 11:00 a.m. EST.

Dr. Karen M. Winkfield Chair	Date	Dr. Philip E. Castle Executive Secretary	Date