

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

Gaithersburg Marriott Washingtonian Center
Gaithersburg, MD

June 9, 2019
5:30 – 7:00 p.m. EDT

SUMMARY

Subcommittee Members:

Dr. Electra Paskett, Chair
Dr. Francis Ali-Osman
Dr. Deborah Bruner
Dr. David Christiani
Dr. Judy Garber
Mr. Lawrence Gostin
Dr. Elizabeth Jaffee
Dr. Beth Karlan
Dr. Mack Roach
Dr. Margaret Spitz
Dr. Deborah Winn, Executive Secretary

Dr. Joanne Elena, NCI
Dr. Carol Ferrans, The University of Illinois at Chicago
Dr. Kathy Helzlsouer, NCI
Dr. James Lacey, City of Hope
Dr. Douglas Lowy, NCI
Dr. Julie Palmer, Boston University
Dr. Leslie Robison, NCI
Dr. Vikrant Sahasrabudde, NCI
Dr. Sanya Springfield, NCI
Dr. Shamala Srinivas, NCI
Dr. Mary Ann Van Duyn, NCI
Ms. Audrey Wellons, NCI
Ms. Joy Wiszneaukas, NCI
Mr. Adam Gattuso, The Scientific Consulting Group, Inc., Rapporteur
Ms. Susie Warner, The Scientific Consulting Group, Inc.

Other Participants:

Dr. LeeAnn Bailey, NCI
Dr. Melissa Bondy, Baylor University
Dr. David Chambers, NCI
Dr. Robert Croyle, NCI

Welcome and Opening Remarks

Dr. Electra Paskett, Director, Division of Cancer Prevention and Control, College of Medicine, The Ohio State University

Dr. Electra Paskett welcomed the participants, including Dr. Douglas Lowy, Acting Director, National Cancer Institute (NCI). Participants introduced themselves, and Dr. Paskett reviewed the meeting's agenda. Dr. Paskett thanked Dr. Deborah Winn, Deputy Director, Division of Cancer Control and Population Sciences (DCCPS), NCI, and Ms. Audrey Wellons, Communications Specialist, NCI, for their roles in coordinating Subcommittee activities. Dr. Paskett also thanked Dr. Julie R. Palmer, Associate Director, Slone Epidemiology Center and Professor of Epidemiology, Boston University School of Public Health, and Dr. Leslie Robison, Chair, Department of Epidemiology and Cancer Control, and Associate Director, Cancer Prevention and Control, Comprehensive Cancer Center, St. Jude Children's Research Hospital, for their major roles in preparing the report discussed later in this meeting.

Comments from NCI Leadership

Dr. Douglas R. Lowy, M.D., Acting Director, NCI

Dr. Lowy expressed appreciation to Dr. Paskett for her leadership of this Subcommittee and to Drs. Palmer and Robison for their work in preparing the report on NCI-funded extramural cohort studies

discussed in this meeting. Dr. Lowy remarked that he looked forward to hearing the report's findings and recommendations, as well as a vigorous discussion.

Recap on Subcommittee Functional Statement

Dr. Electra Paskett

Dr. Paskett reviewed this Subcommittee's functional statement 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 was provided four focus areas: health disparities, including the role of cooperative groups to address them; concerns and goals for existing and future cohorts; the science of cancer survivorship; and extramural training programs for scientists in population sciences, epidemiology, and disparities. The Subcommittee convened a Working Group to analyze and provide recommendations on these focus areas.

Report on NCI Extramural Cancer Epidemiology Cohort Studies

Dr. Julie R. Palmer, Associate Director, Slone Epidemiology Center, and Professor of Epidemiology, Boston University School of Public Health

Dr. Leslie Robison, Chair, Department of Epidemiology and Cancer Control, and Associate Director, Cancer Prevention and Control, St. Jude Children's Research Hospital

The NCAB *ad hoc* Working Group on Strategic Approaches and Opportunities in Population Science, Epidemiology, and Disparities has prepared a report to the NCI on near-term concerns and long-term goals for existing and future NCI extramural cancer cohort studies. Working Group Co-Chairs Drs. Julie Palmer and Leslie Robison presented the report's findings to the Subcommittee.

The current NCI-funded cancer cohort portfolio includes 19 etiology/risk cohorts and 10 survivor cohorts. The NCI last funded an etiology cohort in 2002, which accrued participants through 2009. During the past decade, the NCI has funded several survivorship cohorts.

Dr. Palmer outlined the Working Group's timeline of progress and acknowledged the work that the Working Group members contributed to this report. The Working Group was originally charged at its first teleconference on June 19, 2018, by Dr. Norman Sharpless, Former Director, NCI, with providing recommendations on the Subcommittee's four focus areas. The Working Group narrowed its initial task to focus on near-term concerns and long-term goals of existing and future cohorts. The Working Group developed a set of key questions under this focus topic and convened several teleconferences to discuss them. Outside experts presented to the Working Group on the *All of Us*SM cohort, NCI's Division of Cancer Epidemiology and Genetics *Connect* Cohort, the Virtual Pooled Registry (VPR), NCI staff evaluation of the cohorts, and the NCI's Surveillance, Epidemiology, and End Results (SEER) Program. The Working Group convened an in-person meeting January 24–25, 2019, at which Working Group members presented their findings for each of the key questions, which was followed by group discussion. Following this meeting, members circulated drafts and conducted two more teleconferences to complete the report. Dr. Robison noted that he and Dr. Palmer made sure that the different perspectives and input of each Working Group member were addressed in the report.

Dr. Palmer enumerated the Working Group's key questions on the concerns and goals of existing and future cohorts and discussed a subset of the group's recommendations for each. Drs. Robison and Palmer emphasized that the choice of recommendations highlighted in this meeting does not indicate a priority of any recommendation over another. The Working Group did not prioritize the recommendations in the report.

Question 1: The role of cohort studies in etiologic and survivorship research in human populations

The Working Group agreed that cohort studies still play critical and unique roles and will be necessary to address emerging topics in cancer risk and outcomes; therefore, continuing to fund cohort infrastructure is important.

An important adjunct to the existing extramurally funded cohorts is ensuring that new intramural or NIH-wide cohorts be made available to extramural researchers. The continued expansion of the SEER and VPR infrastructure will result in reduced cost for cohort studies.

Treatment data are currently available only in limited quantities, making it difficult for etiology cohorts to transition into survivor cohorts. Although barriers currently exist for obtaining treatment data, these barriers can be surmounted. As more new treatments are becoming available that apply to multiple types of cancer, it is useful for researchers to consider treatment as an exposure when addressing survivorship.

Question 2: Utility of cohorts for addressing cancer health disparities

Additional cohorts are needed to address current and future gaps in participation from underrepresented groups, especially racial and ethnic minorities. Some successful cohort studies have accrued significant numbers of African American participants, but the overall cohort portfolio needs more African American representation. The Working Group emphasized that sufficient participants of minority groups are needed to conduct analyses of within-group differences that help explain why some members of particular demographic groups develop cancer and others do not.

Question 3: Study design considerations for extramural cancer epidemiology and survivor cohorts

At the outset of each intervention study, researchers should consider whether the study could continue as a follow-up cohort study. The Women's Health Study followed such a path.

Serial data and longitudinal biospecimen collection are needed when scientifically justified. Researchers should ensure samples are stored properly for effective future use.

Question 4: Data sharing and collaboration

Guidelines for data sharing should account for the time effort and scientific investment of the investigators who establish and maintain the cohort. A creative solution involves setting initial windows of time for cohort investigators to use the data before they are made more widely available to external researchers.

Funding is needed to maintain data-sharing infrastructure. Supplements have not been the best approach to fund data-sharing because of their short timespans.

For existing cohorts, researchers should note that informed consents might not allow some types of data-sharing and that re-consenting participants may not always be feasible. New cohorts should have participants sign consent forms enabling broad data-sharing, with considerations that some populations might not agree.

Question 5: Funding models for cohorts

The Working Group agreed that the NCI should continue to use a Cohort Infrastructure Program Announcement to fund cohort infrastructure. R01 grants should not be used to fund infrastructure. The 12-page restriction on R01 applications would make describing all of a cohort's activities and scientific

research difficult. Additionally, if the entire cohort infrastructure rests on a single scientific question, a poor score on that question could put the continuity of the whole cohort in jeopardy.

Financial constraints limit the potential number of new cohorts. The NCI should issue a call specifically to fund new cohorts; the applications from such an announcement would be reviewed in their own study sections rather than competing for funding with existing cohorts.

Future productivity and the scientific value of potential findings are just as important considerations as age in deciding whether to stop funding active follow-up of a cohort. A Working Group member emphasized that cohort sunseting should be conducted very carefully with full consideration. Aging cohorts also enable the study of additional conditions besides cancer; the funding mechanism for such research remains an open question.

Discussion

Dr. Robert Croyle, Director, Division of Cancer Control and Population Sciences and Interim Director, Center for Global Health, NCI, asked if the Working Group needed special input on any of the recommendations. Dr. Palmer responded that the group did not. Dr. Robison commented on the importance of reading all of the report's recommendations and that prioritizing them will be a role of the NCI and others.

Dr. Lowy asked for participant input on the degree to which the NCI should consider cohorts of healthy people and those with newly diagnosed cancer, as well as whether cohorts should focus on any particular organs or tissues. Dr. Robison explained that the Working Group discussed how to define a cancer survivor. Studying survivorship from the time of diagnosis would enable researchers to gain insights throughout their cancer experience. The Working Group selected some emerging cancers that should be further studied in etiology cohorts and discussed whether survivorship cohorts should be based on a specific diagnoses or exposures. Particular treatment exposures can cause similar adverse outcomes among patients with diverse cancers. Dr. Palmer noted that liver cancer is one example of an understudied cancer site.

Dr. Lowy inquired whether the usual grant mechanism is appropriate for new etiology cohorts from essentially normal populations. Dr. Palmer responded that the infrastructure grant is the best mechanism to fund these cohorts because they will produce very few scientific papers in their first 5 years. Applicants for infrastructure grants list a broad research agenda with short-term and long-term goals. Dr. Palmer also noted that most researchers now agree that cancer cohorts should start with participants about 40 years of age but there is also a need for some cohorts with people enrolled at even younger ages.

Dr. James Lacey, Director of Health Analytics, City of Hope, explained that the California Teachers Study saw a significant increase in the first 6–7 years in death from cardiovascular disease and other causes, but the rate of death from cancer remained steady. He indicated that scientifically interesting information can be gleaned from the first 5–10 years of a cohort, including screening data and characterizing normal health in addition to incident cancers.

Dr. Robison underscored that a cohort is an investment. The payoff of information gained and papers published by the cohort investigators are delayed at least 5 years. Dr. Judy Garber, Director, Center for Cancer Genetics and Prevention, Dana-Farber Cancer Institute, and Professor of Medicine, Harvard Medical School, indicated that a new mechanism for funding new cohorts would take this initial investment into account.

Dr. David Christiani, Elkan Blout Professor of Environmental Genetics, Harvard T.H. Chan School of Public Health; Professor of Medicine, Harvard Medical School, commented that designing an asymptomatic cohort related to chronic diseases would involve other institutes and agencies besides those focused on cancer research. Dr. Robison remarked that questions relating to cancer might not be the same as questions relating to other diseases. Broad research questions from a cohort such as *All of Us* might be inadequate for specifically studying cancer.

Dr. Deborah Bruner, Robert W. Woodruff Chair of Nursing; Associate Director for Outcomes Research, Winship Cancer Institute, Emory University, commented that an opportunity exists to leverage large studies in cooperative groups. She also expressed that cohorts often intend to recruit significant numbers of minorities but fall short of those goals. Dr. Robison explained that the Working Group did not recommend specific sizes for cohorts because the size depends on the research questions to be addressed. He also indicated that cooperative groups have great potential, but their current funding structure makes leveraging large studies challenging. Investment is needed to determine the methods and logistics for cooperative groups to capitalize on their potentials.

Dr. Paskett explained that early cohorts did not set goals for recruitment of minority participants. She pointed out that minority participants die at higher rates than white participants, making minorities' numbers smaller in follow-up. Recruiting minority participants only in proportion to their populations in catchment areas or in the United States is not enough to answer research hypotheses. Dr. Palmer noted that a few etiology cohorts and at least one survivor cohort have recruited enough minority participants to answer research questions. Participants commented that in order to achieve significant numbers of minority groups, cohorts need to stop recruiting white participants after a certain time.

Dr. Lowy posed the question of whether a major need exists for new adult cancer cohorts for white patients, given the current cohort portfolio that includes the U.K. Biobank. Dr. Robison responded that researchers should consider the research questions they will want to answer in 15 years to determine if a compelling reason exists for a new cohort of white participants. He noted that the current etiology cohorts are aging. Dr. Lowy commented that epidemiology's focus on high-risk groups would support prioritizing studies of African Americans.

Dr. Garber pointed out that changing exposures of populations over time is a factor when considering cohort research questions. Dr. Paskett cited a recent increase in colorectal cancers among younger people as an indicator that changes in exposure need to be further studied.

Dr. Lacey cited the need to examine cancer disparities relating to socioeconomic status. Dr. Paskett noted that rural populations are a high-risk group. Dr. Robison cited a need for more birth cohorts to study how environmental or behavioral determinants influence the development of cancer.

Dr. Carol Ferrans, Chair in Nursing Research, The University of Illinois at Chicago, pointed out that cohorts need a very large number of African American participants to study differences by socioeconomic status within African American populations. She also noted that breast cancer occurs significantly younger in African Americans than in white women.

Dr. Paskett called for a motion to decide on the report. The Subcommittee unanimously accepted the Working Group's report.

Next Charge for the Working Group to Address

Meeting participants discussed the options for the NCAB *ad hoc* Working Group on Strategic Approaches and Opportunities in Population Science, Epidemiology, and Disparities to consider next.

Dr. Paskett began the discussion by suggesting the Working Group next consider disparities. The Working Group has already identified gaps in numbers of underrepresented groups in cohort studies. The next step would be to identify the research areas where more investment is needed in all of the demographic categories that encompass disparities. Dr. Croyle observed that the Working Group agrees that now is the time to examine the entire cohort enrollment portfolio and aim to fill specific gaps.

Participants discussed whether the Working Group should consider the remaining three charges simultaneously by dividing the tasks among the members or continue considering one charge at a time. They deliberated on the level of complexity that could be involved in the disparities topic and how efficiently it could be addressed.

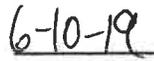
Dr. Lowy advised the Working Group to look for research gaps for which significant scientific opportunities exist. These priority areas would be those that if given sufficient focus would lead to significant advancements in scientific understanding and potentially to interventions that reduce gaps in outcomes. Dr. Lowy commented on the goal to improve the success rate for investigator-initiated research. The Working Group would make a helpful contribution by prioritizing the biggest research gaps that also serve as major opportunities.

Adjournment

Dr. Paskett adjourned the Subcommittee meeting at 7:00 p.m. EDT.



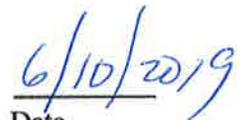
Dr. Electra Paskett
Chair



Date



Dr. Deborah Winn
Executive Secretary



Date