National Cancer Advisory Board (NCAB)
***ad hoc* Subcommittee on Global Cancer Research**

December 5, 2022
1:15 p.m.–2:15 p.m. EST
Virtual Meeting

SUMMARY

Subcommittee Members
Dr. Francis Ali-Osman, Chair
Dr. Luis Alberto Diaz, Jr.
Dr. Satish Gopal, Executive Secretary
Mr. Lawrence O. Gostin (absent)
Dr. Scott W. Hiebert
Dr. Electra D. Paskett
Dr. Nancy J. Raab-Traub (absent)
Dr. Ashani Weeraratna

Other Participants
Dr. Chandrakanth Are, Board of Scientific Advisors (BSA)
Dr. Nilofer S. Azad, NCAB
Mr. Timothy Babich, BSA*
Dr. Karen M. Basen-Engquist, BSA
Dr. Monica Bertagnolli, National Cancer Institute (NCI)
Dr. John D. Carpten, Chair, NCAB
Dr. Nelson J. Chao, BSA
Dr. Mark P. Doescher, BSA*
Dr. Chyke A. Doubeni, BSA
Dr. Shelton Earp, BSA
Dr. Howard J. Fingert, NCAB
Ms. Elise Garton, NCI
Dr. Paulette S. Gray, NCI
Dr. Dorothy K. Hatsukami, BSA
Dr. Amy B. Heimberger, NCAB
Dr. Nikan Khatibi, NCAB
Dr. Patrick Loehrer, Indiana University School of Medicine
Dr. Ana Maria Lopez, BSA*
Dr. Douglas Lowy, NCI
Ms. Anne Lubenow, NCI
Dr. Karen M. Mustian, BSA
Dr. Lisa A. Newman, BSA*
Dr. Thu Nguyen, NCI
Dr. Raymond U. Osarogiagbon, BSA*
Mr. Ricardo W. Rawle, NCI
Dr. Cornelia M. Ulrich, BSA*
Dr. Samuel L. Volchenboum, BSA*
Dr. Karen Winkfield, NCAB
Ms. Joy Wiszneauckas, NCI
Ms. Sally Paustian, The Scientific Consulting Group, Inc., Rapporteur

***pending appointment**

Welcome and Opening Remarks
Dr. Francis Ali-Osman, Margaret Harris and David Silverman Professor of Neuro-Oncology, Professor Emeritus of Neurosurgery, Duke University School of Medicine

Dr. Francis Ali-Osman, Subcommittee Chair, welcomed participants and formally congratulated Dr. Monica Bertagnolli, Director, NCI, on her appointment. Dr. Ali-Osman reminded participants that the NCAB *ad hoc* Subcommittee on Global Cancer Research is charged with advising the NCAB and the NCI Director on strategic approaches to enhance the NCI's contribution to global cancer research. This Subcommittee will provide leadership and expertise with the intent of offering input on various initiatives, concepts, and partnerships, as well as provide information to help determine the prioritization of new prospects for the NCI in global cancer research. The Subcommittee also may cite new opportunities through which the NCI can contribute internationally, such as by advancing clinical cancer research, building and bridging technology and research capacity, and promoting training programs.

NCI Director's Opening Remarks
Dr. Monica Bertagnolli, Director, NCI

Dr. Bertagnolli emphasized that what affects the rest of the world affects participants at this meeting. She stressed that cancer researchers and doctors must address the needs of the worldwide community as well as the needs of their own communities. She commented that all of society should adhere to the mentality that success for one needs to be success for all.

Update on NCI Center for Global Health
Dr. Satish Gopal, Director, Center for Global Health, NCI

Dr. Satish Gopal, Subcommittee Executive Secretary, Director, Center for Global Health (CGH), presented an update on the NCI CGH. Upon the 10th anniversary of CGH in 2021, the NCI worked across the Institute and with partners to refresh the CGH vision in line with the CGH 2021–2025 Strategic Plan. Dr. Gopal emphasized that the current task is to evolve CGH and prioritize cancer within global health. Key elements of the current strategy are oriented around the primary goals of research, research training, dissemination, and partnerships.

Dr. Gopal provided updates on activities within the applied thematic areas under these goals. In technology development, CGH evolved and reissued its Affordable Cancer Technologies Program, which supports late-stage testing and validation of cancer control technologies in low- and middle-income countries (LMICs). One success during the initial phase of the Program was the development of a rapid molecular diagnostic instrument to diagnose Kaposi's sarcoma at the point of care, obviating the need for classical pathology services, which are rare across the African subcontinent.

In the area of implementation science, CGH is expanding its support for implementation science programs in LMICs, as discussed in the September 2021 NCAB meeting. A new award to support implementation science in cancer control for people with HIV in LMICs was approved at the June 2021 BSA/NCAB meeting, and a companion non-HIV implementation science cancer control program in LMICs was approved at the December 2021 BSA/NCAB meeting for funding in fiscal year (FY) 2023.

Another thematic area focuses on extramural research training; a program with eight new D43 awards for FYs 2021 and 2022 supports initiation of global cancer research training networks, encouraging LMIC institutions to develop institutional research training partnerships with NCI-Designated Cancer Centers. CGH also is working with the Fogarty International Center to support an increasing number of cancer applicants to the Fogarty International Center's K01/K43 global health programs and awarded new FY 2022 global mentored research training supplements for LMIC trainees working with established NCI-supported investigators.

Regarding intramural research training, CGH resumed its Short-Term Scientist Exchange Program in fall 2022, with four scientists from LMICs supported by NCI's Center for Cancer Research and Division of Cancer Epidemiology and Genetics. Dr. Gopal noted that one of these scientists, Dr. Mazvita Muchengeti, leads the South African HIV Cancer Match Study and recently was hosted at the NCI. CGH also supported the self-initiation of a Global Health Interest Group for intramural fellows at the NCI; many of these researchers are from LMICs and hope to return to their countries of origin later in their careers.

CGH also is working to advance its dissemination and partnership goals, including celebrating the 10th anniversary of the International Cancer Control Partnership. The Center organized several recent meetings, including the 10th Annual Symposium on Global Cancer Research (ASGCR), the CGH-Division of Cancer Control and Population Sciences Global Cancer Stigma Research Workshop, and NCI's participation in the World Cancer Congress. NCI recently hosted Stella Kyriakides, European Commissioner for Health and Food Safety, and Elisabete Weiderpass, Director of the International Agency for Research on Cancer. CGH is supporting side events at the upcoming U.S.–Africa Leaders Summit and is completing, analyzing, and disseminating the 2021 Global Oncology Survey of NCI-

Designated Cancer Centers, discussed later at this meeting. The ASGCR, which Dr. Gopal noted is the largest and longest-running scientific meeting devoted to cancer research and control in LMICs, has been reimagined as a fully virtual meeting to allow more inclusive worldwide participation. The call for abstracts and sessions for the 11th symposium is now open.

Discussion

In response to Dr. Ali-Osman request for an update on and plans for the future of the P20 program to establish research centers of excellence for cancer and other noncommunicable diseases, Dr. Gopal explained that the program had been reconceptualized around more specific scientific areas of focus, such as the new U54 implementation science program, which will include connections with many other consortia at the NCI under the same concept. Previous awardees were given 2-year pilot grants, and some information has been collected, but after a subsequent no-cost extension, most projects are just now finishing their work.

Dr. Ali-Osman noted that the lack of adequate research infrastructure for trainees (physicians and scientists) from LMICs who receive in the NCI-CGH programs could limit their ability to effectively conduct meaningful cancer research post-training, and/or, upon returning home. There was significant discussion and agreement on the importance of the infrastructure problem in the LMICs. Dr. Satish noted that the resources of the CGH were limited with respect to providing significant sustained support for all LMIC infrastructure needs. Subcommittee members felt that, without an improved research infrastructure, the success and effectiveness of the CGH programs in training and capacity building in LMICs, will be limited. To help improve research infrastructure development, it was suggested that the CGH explore/seek partnerships with other stakeholders in industry and other organizations, local governments etc.

In response to a question from Dr. Ashani Weeraratna, NCAB, about how to increase opportunities for researchers from LMICs have more access to meetings, Dr. Gopal explained that some organizations have taken steps toward this goal. For example, the American Society for Clinical Oncology has waived membership fees for LMIC organizers. Similarly, the AACR has programs to support LMIC physicians and scientists to attend its annual meetings. Additionally, the ASGCR meeting was designed to complement other meetings and is free and virtual, with easily available content, to facilitate access.

Dr. Lisa A. Newman, BSA, emphasized the need for a better gender balance among global cancer workforce, including, researchers and clinical care providers in Africa, and that this needs to be reflected in the CGH training awards.

When asked how to strategize for maximum impact around the world, Dr. Gopal commented that strategizing is an existential issue. The NCI has clarified its focus on LMICs, which are underrepresented in the NCI portfolio relative to their burden of cancer. The NCI develops programs in specific scientific areas and invites the best applications from around the world; however, some regions are less represented, often because of systemic issues, such as, the ability to submit applications in English. Dr. Gopal emphasized that the distribution of the NCI portfolio is similar to that of the overall NIH portfolio.

In response to a question from Dr. Cornelia M. Ulrich, BSA, about the anticipated volume of partner training grants, Dr. Gopal explained that the eight training grants awarded to date meet the expected volume, and that the community is only now being engaged, as these are new institutional training programs. Historically, Fogarty and the NCI have co-funded such applications, but a need for NCI to address the limited global cancer research training offered by Cancer Centers in a dedicated way became apparent. Trainees need adequate support to sustain global research careers, and the NCI is aware that this needs to be addressed with a pipeline approach. Dr. Gopal noted that the issues experienced by trainees in the United States are even greater in LMICs. When asked how the NCI addresses the infrastructure challenges, Dr. Gopal explained that the NCI can initiate catalytic investments that lead to infrastructure growth, but these investments need to be sustained externally. He commented that conducting research

with demonstrable value to communities makes engendering those investments more likely. The NCI is trying to support a body of research that speaks more directly to policies and practice.

When asked about public–private partnerships, Dr. Gopal explained that those conversations have been initiated with the new director of the Foundation for NIH but remain at early stages. Single-issue arrangements have been used, but no platform solution has been implemented.

In response to a question from Dr. Newman about whether the NCI can work with industry to overcome supply chain barriers, Dr. Gopal explained that the NCI is thinking about its appropriate role. Many access initiatives with various partners are possible. NCI's evidence-generation role is comfortable, but solving logistical and access issues is outside NCI's traditional role.

2021 Global Oncology Survey of NCI-Designated Cancer Centers
Ms. Elise Garton, Health Specialist, CGH, NCI; Dr. Patrick Loehrer, Distinguished Professor, Joseph W. and Jackie J. Cusick Professor of Oncology, Global Oncology Program Leader, Indiana University School of Medicine

Ms. Elise Garton, Health Specialist, CGH, NCI, explained that CGH tracks NIH-funded global cancer research internally. To complement this, CGH periodically maps non-NIH-funded global oncology activities led by NCI-Designated Cancer Centers. The 2021 survey was conducted in collaboration with the NCI Office of Cancer Centers, NCI-Designated Cancer Centers, ASCO, American Society of Preventive Oncology, and American Association for Cancer Research. The survey included questions for Cancer Center directors about high-level strategies and priorities and a separate set of detailed questions about global oncology programs, activities, and research for global oncology contacts and principal investigators at Cancer Centers. The survey aimed to provide a more holistic view of global oncology activities, track the trends of the global oncology field, facilitate collaboration among global oncology researchers, encourage Cancer Centers to leverage survey results to advance their own global oncology programs and activities, inform the development of impactful NCI and partner initiatives in global oncology, and understand the impact of COVID-19 on global oncology activities.

The survey focused on collecting information about non-NIH-funded global oncology activities for several reasons. The majority of NCI awards are granted to institutions in the United States. The breadth of non-NIH-funded global oncology activities led by NCI-Designated Cancer Centers is not captured in the NCI portfolio, and these activities often extend beyond the scope of cancer research that would be funded by NCI. The global oncology survey provides a more comprehensive view of Cancer Centers' commitment to global oncology.

Ms. Garton provided a history of the global oncology survey, which began in 2012 with 66 Cancer Centers, 31 responses, and 175 projects. These data were collected from known global oncology contacts via informational interviews. In 2014, 67 Cancer Centers were surveyed, resulting in 54 responses and 258 projects. The 2012 data were updated by known global oncology contacts via email and Excel. The 2018 survey included 70 Cancer Centers, resulting in 67 responses, 33 programs defined as global oncology or health activities, and 613 projects. These data were collected systematically using Google Forms and Excel via global oncology contacts. The 2021 survey was sent to 71 Cancer Centers and received 67 responses, with 28 programs defined as dedicated departments or offices and 517 projects identified. This survey applied the most systematic data collection process using Verint, including principal investigators' reporting projects directly.

Ms. Garton summarized the responses to the 2021 survey. Ninety-one percent, or 61 of 67, of the responding Cancer Centers report involvement in global oncology; 28 (42%) report a global oncology program, 33 (49%) report global oncology activities outside a formal program, and 6 (9%) have no global oncology activity. Ms. Garton noted that those six were basic Cancer Centers, and 74 percent of those that reported participating in global oncology were Comprehensive Cancer Centers. A global oncology program was defined as a dedicated department, office, or program that leads the management of global

oncology activities across the Cancer Center. Ten of the directors at Cancer Centers without a global oncology program plan to create one within the next 3 to 5 years. NIH was the largest source of funding for global oncology activities at NCI-Designated Cancer Centers, followed by charitable, philanthropic, and donated funds. Ms. Garton noted that this is connected to CGH's strategic priority to increase support from non-NIH funding agencies, including agencies outside the United States.

Fifty-three of the responding Cancer Centers reported 517 global oncology projects; 246 principal investigators from Cancer Centers reported 447 projects with updated details for analysis. Global oncology projects were defined as projects led by a principal investigator at the Cancer Center in partnership with an international collaborator in a setting outside the United States, including unfunded projects. Additionally, 69 Cancer Centers hold 688 NIH extramural awards with international collaborators. Projects covered the cancer continuum according to Cancer Scientific Outline code. NIH-funded grants were skewed toward biology and etiology; non-NIH-funded projects eased the gap in cancer control, survivorship, and outcomes research. Neither source supported prevention projects strongly. Non-NIH-funded projects had collaborators in 85 countries, with a heavy presence of LMICs, mainly in sub-Saharan Africa and Latin America. When NIH-funded grants are considered, LMICs have much lower representation, with representation primarily from non-NIH-funded projects.

The number of training programs offered by NCI-Designated Cancer Centers has increased since 2018—15 Centers offer a specialized global oncology training program, 18 offer other didactic global oncology training, and 28 offer no global oncology training. Ms. Garton noted that this increase shows that the interest in global oncology is driven by trainees and early-career faculty.

Tracking global oncology activities at NCI-Designated Cancer Centers is inconsistent. Of the 33 Cancer Centers with global oncology activities but no formal program, 14 reported that activities are not tracked, and 17 reported that individuals track the activities. Consortium Cancer Centers reported challenges reporting full or accurate data. Despite these challenges, Cancer Centers have been using the results of the global oncology survey to increase their knowledge about other global oncology activities or collaborations in areas where their particular Cancer Center works, as well as to compare their global oncology program with programs at other Cancer Centers, identify research gaps or international collaborators, build institutional support for global oncology programs or activities, and change their methods for tracking global oncology activities. Dr. Syed Nabeel Zafar presented on how the results of the 2018 survey were used to grow the global oncology program at MD Anderson Cancer Center and then initiate a global oncology program at the University of Wisconsin Carbone Cancer Center.

Dr. Patrick Loehrer, a Professor of Oncology, Global Oncology Program Leader, Indiana University School of Medicine, reiterated that broad interest in global oncology is increasing at all Cancer Centers and that Cancer Centers maintained and added to their programs since 2018, but tracking and reporting the data has been challenging. He hoped that discussing the survey results would provide the opportunity for Centers to share knowledge and expand the field of global oncology. The results also can help Centers formalize curricula and ongoing interactive global oncology training both at NCI-Designated Cancer Centers and in LMICs. The survey results can be used to develop accepted global oncology benchmarks for success, including research, education, and centers of excellence. Issues to consider include identification of the facilitators and barriers to NCI-Designated Cancer Centers' increasing engagement in global oncology, how engaging in global oncology can benefit Cancer Centers and what NCI's role in amplifying or leveraging those benefits can be, and how Cancer Centers can respond to the increased interest in global oncology among early-career researchers.

Discussion

In response to a question from Dr. Ali-Osman about the low levels of funding from industry, Ms. Garton confirmed that such funding was fairly low for international research. Dr. Loehrer noted that although

industry support is strong for global programs at Indiana University, most of this support is distributed through the foundation arm of the institution rather than the research arm.

When asked how to ensure public awareness, Dr. Loehrer emphasized that problems in the United States are issues throughout the world, but some problems can be solved; lessons can be learned about how to deliver better care, improve access, and so on. Dr. Gopal added that cancer researchers have a moral and scientific obligation to take action against the suffering caused by cancer around the world; CGH is working hard to better connect global health and domestic efforts toward this end.

Dr. Ana Maria Lopez, BSA, suggested developing requests for proposals centered on traditional practices and environmental factors.

Other Business

Dr. Ali-Osman noted that discussions are ongoing on opportunities in the newly launched Cancer Moonshot℠ program which could provide an important opportunity for higher visibility, and, potentially, resources for the CGH and NCI global cancer research agenda.

Discussion

Dr. Gopal commented that although additional resources always are helpful, increasing interest in and visibility of global health within the larger Moonshot program are also very valuable.

Dr. Douglas Lowy, NCI, noted that NIH's disparities-related efforts are primarily U.S. focused, and NCI's strong emphasis on addressing disparities outside the United States is atypical. He commented and added his personal view on the importance of NIH efforts to addressing disparities from NIH leadership, both outside and within the United States, would be useful.

Adjournment

Dr. Ali-Osman expressed appreciation to the CGH for the updates and adjourned the Subcommittee meeting at 2:15 p.m. EST.

Dr. Francis Ali-Osman Chair	Date	Dr. Satish Gopal Executive Secretary	Date