

Catchment Areas, Community Outreach and Engagement Revisited: The 2021 Guidelines for Cancer Center Support Grants from the National Cancer Institute

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ABSTRACT

New guidelines for Cancer Center Support Grants have recently been issued by the NCI that require increased attention to cancer center catchment areas and their community outreach and engagement activities [PAR-21–321]. Past experience with these requirements has engendered some confusion and frustration on the part of both researchers and reviewers that these new guidelines aim to dispel. In this commentary we, as experienced cancer center leaders in

population sciences, offer our views on the most important aspects of the new guidelines and provide three examples of the kinds of programs that can apply cancer prevention and control research to improve cancer population health. With 71 NCI-Designated Cancer Centers in 36 states, the potential for broad impact on the reduction of the nation's cancer burden is enormous if the intended application of cancer center research to individuals and populations is fulfilled.

In October 2021, the NCI issued its latest guidelines for Cancer Center Support Grants (CCSG) [PAR-21–321] with newly stated requirements for catchment areas (CA) and Community Outreach and Engagement (COE; ref. 1). Also new is a section on Plans to Enhance Diversity (PED). We take this opportunity to update our commentary from 2018 after the guidelines for COE were first introduced (2) to make some observations on the new guidelines from the perspective of three experienced cancer center leaders in population science, cancer control, and COE. Our intent is to benefit colleagues in the field and enhance the value of cancer research for the public and patients served by the nation's extensive network of NCI-Designated Cancer Centers.

The motivation behind this relatively new focus by the NCI on CAs and community engagement is the imperative for cancer centers to serve the needs of a defined population and to engage with that population in the process of cancer research and its application for their benefit, particularly among minority and underrepresented groups (3). It builds on a long-standing directive for the outcomes of federally supported cancer control research. The NCI is a publicly funded national institution, and its cancer research, as stated with its formation in 1937, is intended for 'the useful application of *(its)* results' (4). The Cancer Centers Program, established in 1971, now includes 71 NCI Cancer Centers in 36 states, 63 of which are designated as comprehensive and have CAs covering most states, the District of Columbia, and the U.S. Affiliated Pacific Islands (5). The potential for broad impact on population health leadership and the nation's cancer burden is thus enormous if the intended application of cancer center research is fulfilled.

When first introduced by the NCI in 2013, the concept of a defined CA was unevenly understood by cancer centers and by CCSG reviewers. This led to substantial confusion and frustration by investigators and reviewers alike. Efforts have since been made to clarify the intent and scope of a defined CA and its relationship to COE activities. The NCI definition of the CA is now:

“A Center's catchment area is the self-defined geographic area that the Center serves or intends to serve in the research it conducts, the communities it engages, and the outreach it performs. It must include the area from which the Center draws the majority of its patients, but may extend beyond that, and it must include the local area surrounding the Cancer Center. It must be population

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based, e.g., using census tracts, zip codes, county or state lines, or other geographically defined boundaries (1).”

Since the introduction of the COE requirement, Cancer Centers have had both positive and negative experiences in peer review. COE reviews have now settled on searching for certain key concepts and phrases in Center applications such as “bi-directional interactions,” “cancer burden in the catchment area,” “community advisory board (CAB),” “community partners,” and “impact.” Reviewers expect to see the fingers of COE reach throughout all research programs, the clinical trials office (CTO), and the Director’s Overview. A positive factor in review has been the inclusion of ‘stories’ of COE impact and engagement, both in the community and among scientists at the Cancer Center. On the negative side, because directing COE requires special expertise, the lack of skilled subject matter expertise has sometimes been a problem for review. This has caused consternation among Centers under review and the clarifications in the new guidelines will hopefully rectify this deficiency. The issues described below are, from our perspective, how Cancer Centers can apply their research and programs to the needs of their CA and the key ingredients to expect from a COE initiative.

Description of the CA

The CA defined by the Cancer Center must be justified. The method used and the rationale for selecting the area chosen needs to be well described. Community input into the CA selection is also important and, in most centers, at least 80% of patients treated at the Center come from the CA. The COE has the primary responsibility of describing: (i) the population in the CA and its diversity in terms of race and ethnicity, socioeconomic status, sex and gender, and rurality and (ii) the cancer burden in the CA – including the social context, environmental exposures, risk factors, cancer incidence, cancer mortality, unusual or unique trends, and cancer-related issues among the different subpopulations in the CA. These data are usually compared with the U.S. and/or larger regions of a state, as appropriate. From this picture, center leadership can identify priority cancers and risk behaviors in the CA, craft strategic plans to address this burden with engagement of the community, cancer center members and programs can generate research responsive to population needs in the CA, and COE can work with community members on education and delivery of services (3). Regular planned CA needs assessment should also occur in the CA to influence the actions of COE and Center research, strategic plans, and priorities.

Population Inclusion in the CA

The scope of COE includes a focus on all populations in the CA not just traditional race and ethnic minorities as designated by the U.S. Census, but also lower socioeconomic groups, sexual and gender minorities, underserved rural populations, and disabled persons. The expectation of catchment-relevant research also extends beyond vulnerable populations and

cancers that disproportionately affect specific populations subgroups to encompass work that broadly aligns with the local distribution of cancer risk and outcome across all residents of the CA.

Focus Across the Lifespan

In the current Funding Opportunity Announcement (FOA; ref. 1), centers are required to address cancer across the lifespan (pediatric, adolescents, and young adults as well as older adults), racial and ethnic minorities, women, and any special populations in their CA (e.g., rural, Appalachian, Persons Living with HIV-AIDS). COE staff need to work with the CTO, implement outreach and education activities, and foster research across all research programs in the Center to meet this requirement.

Clinical Trial Accrual

The new guidelines (1) specify that COE needs to work with the CTO to “facilitate accrual to clinical trials from the catchment area,” and to develop, implement, monitor, and evaluate strategies that the CTO and center investigators implement with constant input from the community. To assess how a Center is doing in terms of accrual, the CTO needs to display CT accrual (by trial type – interventional therapeutic, non-interventional therapeutic and non-interventional) in relation to the demographic breakdown (sex, race, ethnicity, age group, other special populations) of CA population, cancer in the CA, and cancer in the institution. COE is responsible for working with the CTO to develop and implement strategies to increase access for all populations of interest to clinical trials, while the CTO is ultimately responsible for accrual for both observational and interventional studies that reflect the demographics (e.g., sex, age, race/ethnicity) of the population in the CA.

Staff Organization and Leadership

Cancer Centers may organize the team that supports COE activities in various ways. Most either have an Associate Director (AD) for COE and/or an AD for Population Sciences with expanded responsibilities, which include those that are COE-focused. Regardless of title, this individual must sit on the Cancer Center’s Executive Committee and ensure that COE priorities are appropriately reflected by all other ADs, the focus of the Center’s multidisciplinary research programs, and clinical trial portfolio. The AD needs a robust outreach team that are the “boots on the ground,” supporting the ongoing bi-directional engagement, outreach, and recruitment to research studies. The outreach team should optimally match the socio-demographic composition of the CA, such that they have unique insight regarding cultural norms and nuances, linguistic preferences, economic challenges, and political realities that guide community perceptions of cancer, research, and the benefit of participation.

Institutional Support for COE

Because COE requires expertise in outreach, education, in-reach, and knowledge of the culture of each community in the respective CA, staff of successful COE initiatives need to be larger than two to three people. While grant support can be used—both CCSG and non-CCSG, federal, and nonfederal—to fund staff, Centers may have to rely on institutional and philanthropic funds to cover additional needs. These needs include staff, pilot funding to community organizations and scientists to engage the community, funding of outreach and education activities, and funds for events such as educational conferences. Thus, the range of annual investment in COE initiatives has been from \$100K to several million per year, with larger centers and CAs requiring the higher amounts. To offset this investment, Centers often calculate a Return on Investment for COE that includes grant funding that COE participated in obtaining and even clinical revenue, for example from the use of patient navigators to reduce no shows and loss to follow-up (6).

Bi-directional Community/Center Relationships and Communication

It is well understood that academic researchers need to be sensitive to the impression by community partners that researchers “helicopter in” to grab some data and disappear after a publication has been completed. What is needed is close engagement with community partners in the formulation and implementation of cancer research. The message from communities is ‘nothing about me, without me’. This leads to the need for COE activities to be ‘bi-directional’ with both partners and Centers giving and benefitting from the relationship (7). Practically speaking, leaders of COE activities are required to understand the needs of the communities within their CA not only from descriptive demographic, cancer registry and survey data, but also from direct conversation and communication with community representatives. Likewise, the COE partners must understand their Center and then the COE acts as the intermediary between the community and the Center researchers.

CABs

A CAB is an essential element of COE, as it provides necessary infrastructure for ongoing, bi-directional engagement between Cancer Center members and key community members. CAB meetings provide a platform for dialogue about community needs and the opportunity for consideration of how the Cancer Center can optimally meet such needs through collaborative research. CAB membership should be diverse, representing different constituencies throughout the CA, such as civic leaders, cancer survivors, and representatives of key community-based organizations, including those that are cancer-focused, educational, and/or religious in orientation. Through regular interaction with CAB members, Cancer

Center leadership can better appreciate community needs, including challenges to research participation, and facilitate alignment between Cancer Center scientific priorities, outreach efforts, and recruitment strategies with community perspective. Ideally, the CAB feedback is shared widely throughout Cancer Center membership and directly informs the development and implementation of a Cancer Center’s strategic plan.

Program Liaisons

An innovation that has been added in some Centers is the use of liaisons between COE and each of the formal Research Programs. These individuals are selected from the Research Programs and serve to provide an active link between the research being conducted (or planned) and the community needs. These individuals attend both COE and Research Program meetings and if they are junior or new members, they can gain experience in Center activities through this role. Liaisons between basic science programs in the COE can be especially helpful in assuring that the discovery research done ‘at the bench’ gets to both the ‘bedside’ and the community.

Impact Metrics

The FOA states that “The primary metric in evaluating the strength of COE is the scope, quality, and impact of the center’s community outreach and engagement activities on the burden of cancer in the Center’s stated catchment area” (1). COE activities can benefit from a logic model with identified metrics that measure Center progress towards reducing the burden of cancer in its CA. Logic models or other means of specifying metrics help quantify the reach and impact of ongoing engagement, including how outreach supports accrual of underrepresented population subgroups to ongoing Cancer Center studies. In addition, it is essential to consider the proportion of Center research that can be classified as CA-relevant, the alignment between the socio-demographic composition of the CA and that of the interventional trial portfolio. The dissemination and implementation of evidence-based interventions to the CA and beyond is also critical. Sharing progress towards these indicators is essential for assessing COE success, as is the Center’s contribution to policy and population health recommendations, informed by members’ scientific discoveries and participation on, for example, state-level cancer control program efforts.

Interactions with CTSA and Other Cancer Centers

Supporting high impact, bi-directional research with diverse stakeholders from a Cancer Center’s CA is also a priority for NIH-funded Clinical Translational Science Awards (CTSA). When possible, collaboration between COE and the CTSA is essential, as working in tandem reduces the potential of community confusion regarding university or institutional

priorities and ensures that resources are optimally coordinated for broader impact. Similar alignment exists also with a health system's Community Health Needs Assessment, conducted every 3 years, which may be leveraged to provide more detailed insight into a CA's health needs and cancer risk factors. Moreover, coordination and collaborations with other Cancer Centers either within or overlapping with a Center's CA as well as those in proximate areas of a state or region are encouraged to advance shared learning and enhance impact from cancer research investments.

PED

Another new requirement for CCSGs as described in the FOA (1) is to enhance diversity in the membership and leadership of the Cancer Center with a PED. It is too early to comment on the various ways that Cancer Centers will address this requirement, but it is clear that the definition and characteristics of the CA and the population served will guide Centers in their efforts to diversify their workforce. Likewise, the activities of the COE will be closely linked to the ways a Center chooses to enhance their diversity. All aspects of the CA and COEs described above will need to be taken into consideration in developing these plans.

Examples of COE Cancer Prevention Activities in Three Cancer Centers

Several examples of COE activities may help to demonstrate specific processes and outcomes that take into account the needs of the CA.

The Ohio State University Comprehensive Cancer Center

Vaccination for the Human Papillomavirus (HPV) can prevent up to six cancers (8), however, vaccination rates are low for the primary focus population, adolescents aged 11–12 years old (9). The Ohio State University Comprehensive Cancer Center (OSUCCC) COE led efforts in the Ohio Partners for Cancer Control HPV Vaccination Committee. Given the HPV vaccination rate in Ohio (2015 data) was low among adolescent females (35%) and males (14.7%; ref. 10), an objective in the Cancer Plan was to increase the percentage of adolescent's aged 13 to 17 years who were up to date with HPV vaccine by December 2020. OSUCCC COE staff recruited key community stakeholders in Ohio to this effort and provided connection to partners who could reach underserved rural areas and minority communities across Ohio, where rates are the lowest (11).

Funding for a statewide license was secured through three community/state sponsors and the OSUCCC COE for the "Someone You Love: The HPV Epidemic" film, a poignant documentary that describes the lives of 5 women affected by HPV and cervical cancer. The HPV Vaccination Committee

developed "A Guide to Hosting a Film Viewing" for the documentary to provide tools and resources to help host a film-viewing event for three types of audiences, healthcare providers, parents/guardians, and older adolescent/young adults. The HPV Vaccination Committee recruited 135 Make A Pledge partners across 55 counties in Ohio to host film-viewing events in their respective communities. To date, these efforts have resulted in 35 *Someone You Love* film-viewing events, educating over 1,000 participants on the importance of HPV vaccination uptake. At the end of 2020, the Ohio Department of Health reported that the HPV vaccination rate was 61.4% for females and 56.0% for males (12), well above the baseline rates in 2015 and targets established for the initiative (50% females and 30% males) when the plan was launched.

The UCSF Helen Diller Family Comprehensive Cancer Center

The impact of tobacco use remains the number one cause of cancer mortality in the United States, and lung cancer mortality was 15.4% higher among Black men than among White men in the 2014–18 period (13). Menthol cigarettes, which are easier to inhale and to start smoking while more difficult to stop, have been marketed to African Americans by the tobacco industry for decades and resulted in their use by 85% of Black community (14, 15). The San Francisco Cancer Initiative (SF CAN) led by the UCSF CCC with critical input from its COE activities and community partners aims to reduce the cancer burden in the City and County of San Francisco by implementing evidence-based programs for the five most common cancers for which prevention and early detection practices currently exist including lung and other tobacco-related cancers (16, 17). Lung cancer is the greatest cause of cancer mortality in the Helen Diller Family Comprehensive Cancer Center (HDFCCC) CA and a cancer for which Blacks suffer the worst outcomes. A team of scientists and community advocates joined together as part of SF CAN and the African American Tobacco Control Leadership Council to form the San Francisco Menthol Task Force that worked not only with the Black community but with the LGBTQ+ community, which also disproportionately uses menthol cigarettes (18), to present information about the harmful effects of menthol cigarettes and other flavored tobacco products. UCSF HDFCCC COE activities in communities, schools, local media, multiple race/ethnic community, and LGBTQ+ groups provided education about the risks of cancer using these products and the influence of the tobacco industry. These activities came to the attention of a local government supervisor who represented the Black community and eventually led to a citywide ordinance banning the sale of all flavored tobacco products, including menthol cigarettes (19). A tobacco industry effort to reverse this ban was strongly voted down by a community referendum in 2018. As an extension of this local outcome in the HDFCCC CA, similar ordinances and policies have since been passed, implemented, and enforced in other cities across California and country (20–22).

The University of Miami Sylvester Comprehensive Cancer Center

Cervical cancer remains a significant public health concern for minoritized and marginalized women throughout the Center's South Florida CA (23). Structural, access and cultural barriers impede primary (vaccination) and secondary (screening) opportunities, particularly in local communities disenfranchised from the formal healthcare system. Sylvester COE engaged community stakeholders to appreciate which evidence-based strategies may effectively attenuate these barriers and then collectively developed a mobile platform van, known as the Game Changer, to bring cancer education and screening to neighborhoods throughout the region, characterized by cancer disparity. Given the region's increased incidence of cervical cancer, Sylvester COE team members and community partners together decided to prioritize cervical cancer screening via self-sampling for HPV. Sylvester faculty played a critical role in establishing the effectiveness of self-sampling for disease prevention in medically underserved women (24, 25). As an outcome, this screening modality allows women to self-collect cervical cells in the privacy of their own home or a community setting of their choosing, such as the Game Changer, circumventing the multilevel factors known to preclude routine screening uptake. In the past 6 months, despite the challenges imposed by COVID, the Game Changer reached over 2,400 individuals, of which approximately 2% were eligible to participate in HPV self-sampling based on gender, age, and prior self-reported screening history. Integrating this screening approach into Sylvester's COE outreach efforts was essential

for achieving translational impact and ensuring that the Center continues to make progress towards its commitment to reducing the cancer burden in South Florida.

Conclusion

In summary, the new FOA released to guide the development of a CCSG goes a long way towards clarifying a Cancer Center's approach to both the CA and to the role of COE. The overall importance of the guidance provided is that it focuses the nation's many NCI-Designated Cancer Centers on the population health for those being served and the social inequities that persist in our country. In a way, it furthers the concept of precision medicine and precision health as it encourages Cancer Center research to be more precisely directed to the unique characteristics of individuals and communities who are served. It engages as partners precisely those who ultimately support the research (i.e., taxpayers). This is done while increasing the active participation of all members of the CA population in research, engagement, education, and outreach services while looking to the future to increase diversity of the workforce and leadership through the addition of the PED component.

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References

1. Cancer Center Support Grants (CCSGs) for NCI-Designated Cancer Centers (P30 Clinical Trial Optional, PAR-21-321. National Cancer Institute, National Institutes of Health, Department of Health and Human Services, October 12, 2021.
2. Paskett ED, Hiatt RA. Catchment areas, community outreach and engagement: the new mandate for NCI-Designated Cancer Centers. *Cancer Epidemiol Biomarkers Prev* 2018;27:517-9.
3. Tai CG, Hiatt RA. The population burden of cancer: research driven by the catchment area of a cancer center. *Epidemiol Rev* 2017;39:108-22.
4. 75th Congress. Senate bill 2067. Public Law 244. Approved August 5, 1937.
5. The National Cancer Institute, The National Institutes of Health. Available from: <https://www.cancer.gov/research/infrastructure/cancer-centers>.
6. Pratt-Chapman M, Willis A. Community cancer center administration and support for navigation services. *Semin Oncol Nurs* 2013;29:141-8.
7. McLean JE, Behringer BA. Establishing and evaluating equitable partnerships. *Journal of Community Engagement and Scholarship* 2008;1:66-71.
8. National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, National Center for Immunization and Respiratory Diseases, National Center for Chronic Disease Prevention and Health Promotion; Reasons to Get HPV Vaccine | CDC. [cited 2022 Jan 31] Available from: <https://www.cdc.gov/hpv/parents/vaccine/six-reasons.html>.
9. Bednarczyk RA, Ellingson MK, Omer SB. Human papillomavirus vaccination before 13 and 15 years of age: analysis of National Immunization Survey Teen Data. *J Infect Dis* 2019;220:730-4.
10. Elam-Evans LD, Yankey D, Jeyarajah J, Singleton JA, Curtis CR, MacNeil J, et al. National, regional, state, and selected local area vaccination coverage among adolescents aged 13-17 years - United States, 2013. *MMWR Morb Mortal Wkly Rep* 2014;63:625-33.
11. Amboree TL, Darkoh C. Barriers to human papillomavirus vaccine uptake among racial/ethnic minorities: a systematic review. *J Racial Ethn Health Disparities* 2021;8:1192-207.
12. Pingali C, Yankey D, Elam-Evans LD, Markowitz LE, Williams CL, Fredua B, et al. National, regional, state, and selected local area vaccination coverage among adolescents aged 13-17 years - United States, 2020. *MMWR Morb Mortal Wkly Rep* 2021;70:1183-90.
13. Siegel RL, Miller KD, Fuchs HE, Jemal A. Cancer statistics, 2021. *CA Cancer J Clin* 2021;71:7-33.
14. Villanti AC, Mowery PD, Delnevo CD, Niaura RS, Abrams DB, Giovino GA. Changes in the prevalence and correlates of menthol cigarette use in the USA, 2004-2014. *Tob Control* 2016;25:ii14-20.
15. Villanti AC, Collins LK, Niaura RS, Gagosian SY, Abrams DB. Menthol cigarettes and the public health standard: a systematic review. *BMC Public Health* 2017;17:983.
16. Hiatt RA, Sibley A, Fejerman L, Glantz SA, Nguyen T, Pasick R, et al. The San Francisco Cancer Initiative: a community initiative to reduce the population burden of cancer. *Health Aff* 2018;37:54-61.

17. Hiatt RA, Sibley A, Venkatesh B, Cheng J, Dixit N, Fox R, et al. From cancer epidemiology to policy and practice: the role of a comprehensive cancer center. *Cancer Epidemiol Rep* 2022;Mar 21:1–12.
18. Fallin A, Goodin AJ, King BA. Menthol cigarette smoking among lesbian, gay, bisexual, and transgender adults. *Am J Prev Med* 2015;48:93–97.
19. Mills SD, McGruder CO, Yerger VB. The African American Tobacco Control Leadership Council: advocating for a menthol cigarette ban in San Francisco, California. *Tob Control* 2021;30:e150–3.
20. Aguilera E. Cal Matters. Available from: <https://calmatters.org/health/2020/08/california-flavored-tobacco-ban/>.
21. Bach L. States & localities with flavored tobacco restrictions. Campaign for tobacco-free kids. Available from: <https://www.tobaccofreekids.org/assets/factsheets/0398.pdf>.
22. Vyas P, Ling P, Gordon B, Callewaert J, Dang A, Smith D, et al. Compliance with San Francisco's flavored tobacco sales prohibition. *Tob Control* 2021;30:227–30.
23. Pinheiro PS, Callahan KE, Koru-Sengul T, Ransdell J, Bouzoubaa L, Brown CP, et al. Risk of cancer death among white, black, and hispanic populations in South Florida. *Prev Chronic Dis* 2019;16:E83.
24. Kobetz E, Seay J, Koru-Sengul T, Bispo JB, Trevil D, Gonzalez M, et al. A randomized trial of mailed HPV self-sampling for cervical cancer screening among ethnic minority women in South Florida. *Cancer Causes Control* 2018;29:793–801.
25. Carrasquillo O, Seay J, Amofah A Pierre L, Alonzo Y, McCann S, et al. HPV self-sampling for cervical cancer screening among ethnic minority women in South Florida: a randomized trial. *J Gen Int Med* 2018;33:1077–83.