

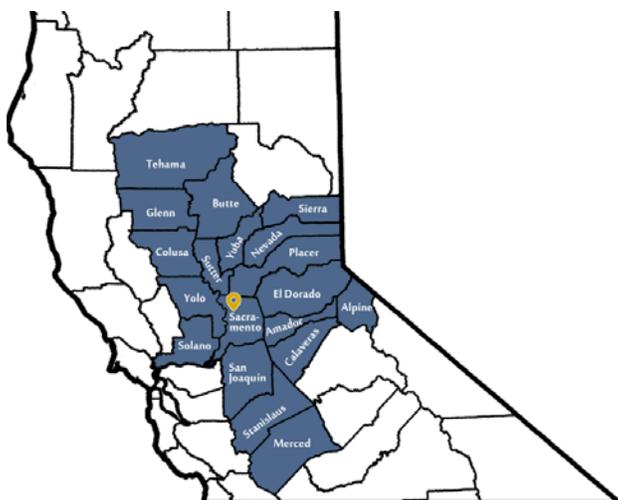
Community Outreach and Engagement University of California-Davis Comprehensive Cancer Center

Catchment Area

The University of California-Davis Comprehensive Cancer Center's catchment area, the approximate size of West Virginia, is comprised of 19 inland northern California counties (23,800 square miles). It is home to 5.1 million residents, the majority of whom (57 percent) are racial and ethnic minorities with higher proportions of every racial and ethnic population in the catchment area, compared to the United States as a whole, except for African Americans. This translates to a larger proportion of Asian Americans, Latinos, and Native Americans than the nation at large. Forty-two percent of the square miles for the catchment area is rural, where 12 percent of the rural population resides.

Community Engagement Focus

Our community stakeholders are represented by our Community Advisory Board (CAB). All CAB members are non-academic community leaders who reside in and together serve all 19 catchment area counties that reflect the diversity of the catchment area's population.



This includes representation of all racial/ethnic populations, cancer survivors, and a variety of entities. The CAB's role was pivotal in the P30 supplement "Towards Enhanced Access for State-of-the-Art Imaging Technologies for Racial/Ethnic Minorities: A Community Outreach and Engagement-Biomedical Technology Program Collaboration." The CAB submitted a letter of support for this study and was subsequently involved in advising the study's researchers in formulating the strategies to incorporate community expertise in how to increase minority participation in this study. CAB members who are Asian, Black, and Latino participated in simulated EXPLORER PET visits and provided video interviews of their experiences. The Latino member also provided a Spanish language video interview. The video footage was used in the extensive local, state, and national broadcast coverage of the study. The study was also featured in the cancer center's *Synthesis* magazine's 2021 fall issue.

At a Glance

The overall goal of this supplement was to initiate a new collaboration between Community Outreach and Engagement (COE) and the CCSG Biomedical Technology Program (BTP). BTP's innovative imaging technologies are exemplified by EXPLORER total body (PET), the world's most advanced imaging tool to detect cancer and the world's first FDA-approved device to tomographically image all body parts simultaneously. The motivation for this study was to extend the benefits of this technology to racial/ethnic minorities, and the intent of this pilot study was to bridge the divide represented by EXPLORER's high-impact science with the inclusion of our catchment area's racial/ethnic minority populations through COE and the CAB in the fight against cancer. EXPLORER creators: Simon Cherry, PhD, and Ramsey

Badawi, PhD, invited the CAB to provide recommendations on how to increase the awareness of total-body imaging among the catchment area's racial/ethnic minorities. The CAB suggested a video that featured racial/ethnic minorities; CAB members were video interviewed (see the fall 2021 issue of *Synthesis*). The study was also registered on ClinicalTrials.gov (NCT04812080). As a result of this study, we demonstrated that we successfully recruited racial/ethnic minorities to the EXPLORER PET database, provided genomics-based estimation of ancestral origin, and are generating ideas for follow-up studies.

Collaborators

This study was a collaboration with the CAB (Chester Austin, MD, chair, and members: Shauntay Davis-Patterson, MPH; Debra Oto-Kent, MPH; Miguel Suarez, MD); COE (Moon S. Chen Jr., PhD, MPH; Alexandra Gori, BS; Julie Dang, PhD, MPH); BTP and EXPLORER Center (Ramsey Badawi, PhD; Simon Cherry, PhD; Lorenzo Nardo, MD, PhD; Lynda Painting, BS, CCRP, CCRC); Genomics Shared Resource (Clifford Tepper, PhD; Stephenie Liu, AB; Ryan Davis, BS); UC Davis Health Public Affairs & Marketing (Doreen Pichotti, senior marketing strategist); and UC Davis Comprehensive Cancer Center (Stephanie Winn, senior public information officer; Primo N. Lara, MD, director and CCSG PI, UC Davis Comprehensive Cancer Center.)

The Approach

Statement of the Problem

The need we wanted to address was to have “healthy” (non-cancer) participants, especially African American and other racial/ethnic minorities, to participate in EXPLORER PET as controls (comparisons) to minority patients with tumors. Participants in a prior comparable study were not sufficiently racially/ethnically diverse and had a large proportion who answered that they wanted to “decline to state” their racial/ethnic identity. Being able to have an adequate number of controls would advance the research by providing data to differentiate between images from patients with cancer versus healthy people of the same

racial/ethnic ancestry. Furthermore, the addition of blood DNA samples from these participants would provide genomically precise indicators for analyses.

Overall Goal

The overall goal was to pilot-test how leveraging COE assets with community stakeholders can synergistically enhance the utility, validation, and dissemination of EXPLORER's radiological and diagnostic capabilities. Through COE's expertise and the support from community stakeholders, we hypothesized that this pilot study will result in the recruitment at least 20 “healthy” participants from African American, Latino, and Asian American groups to EXPLORER's database to better compare and contrast images of cancer patients with “healthy” participants. (The number, 20, is arbitrary, as we would not be able to achieve statistical power with this sample size. However, it is the proof of concept that we are striving for.)

Summary of Objectives and Findings

The first aim was to solicit insights from the CAB on how to message EXPLORER to racial/ethnic minority populations. CAB members suggested that the public-facing YouTube account feature more racial/ethnic minorities. Thus, EXPLORER PET leaders invited CAB members to have simulated “rides” on the EXPLORER PET and thus be able to share their experiences via video. Both the cancer center's senior public information officer and the UC Davis Health's marketing strategist positioned the study to recruit from the catchment area's racial/ethnic minorities through broadcast news. Dr. Chen was interviewed on multiple TV news programs. Public response was unexpectedly favorable; we received approximately 155 inquiries.

The second aim was to conduct a pilot study focused on intentionally enrolling 20 racial/ethnic minorities as healthy controls and to also draw blood from them for quantitative, genetics-based estimates of ancestry, which is especially valuable with admixed individuals. From the approximately 155 inquires, EXPLORER PET staff determined eligibility and invited participants through an IRB-approved protocol. Participants' scans were added to the EXPLORER

database. Blood DNA samples were analyzed with whole-exome sequencing (WES) and contemporary computational analyses.

The third aim was to evaluate the extent to which objectives were achieved, both qualitatively and quantitatively. We were delighted to have the self-reported distribution of participants: seven Black, six Hispanic (white), five Asian, and two Native Americans from a group of thirteen women and seven men. Since we are still waiting to analyze results from whole-exome sequencing, this aim will be reported in the future to compare and characterize self-reported racial/ethnic identify with genomically determined ancestry estimates. Meanwhile, as we could not include all respondents in the study, the more than 130 individuals remaining constitute a reservoir for possible inclusion in future studies.

Process to engage researchers and community stakeholders around a common understanding of the shared goals of the project, COE and scientific terminology and methodologies, how to translate research into practice, and perspectives on the cancer research priorities to be addressed

As documented by the CAB's letter of support, Dr. Chen conveyed to the CAB aspirations to respond to the NCI's request for proposals for how COE might reach out to translational research programs so that mutual benefits might be derived. The CAB agreed that this reaching out was necessary but difficult to do because of the differences in perspectives and vocabulary. However, the short YouTube video on EXPLORER that is on the UC Davis website

(<https://www.youtube.com/watch?v=YnvNot3vrCM>) communicated the description of EXPLORER PET better than words on a page. At the request of the CAB chair, Dr. Chen elaborated on the purpose of the supplement, and after a series of edits, the CAB's letter of support was provided. In response to their letter of support, Dr. Chen has provided progress reports on this supplement to the CAB. This supplement's pilot study was also a feature article in the cancer center's magazine, *Synthesis*, fall 2021 issue.

Future Directions

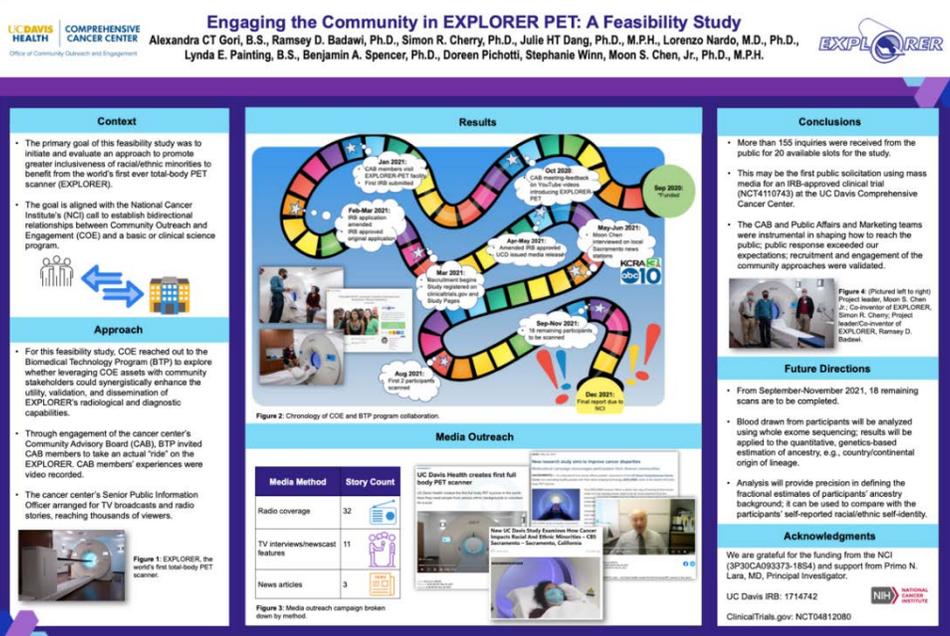
Successful completion of this pilot study has provided us with proof of concept that racial/ethnic minorities will enroll in innovative imaging cancer research by harnessing COE strategies on community collaboration with transformative science researchers. Benefits accrue as the imaging capabilities of EXPLORER PET can be enhanced through reference with healthy controls. Lessons have been learned on how to address the reluctance of minorities to engage in cancer research. Future research possibilities will be pursued in discussions with the EXPLORER PET researchers. Research findings will be prepared for publication and presentations at professional conferences.

Implementation Guidance

The following findings and lessons learned from this supplement can be implemented: (1) racial/ethnic minorities will eagerly respond to broadcast media news for participation in cancer research; (2) scans and samples from these minority participants add to a database for more precision oncology care and research; and (3) involvement of the CAB enhanced the process and products from this pilot study and exemplify bidirectionality and higher quality engagement.

We live in a very diverse community and region, and the more diverse our participants can be in clinical research, the more treatment protocols are going to be developed and be more relevant to a whole variety of communities.

— Debra Oto-Kent, UC Davis Community Advisory Board Member



Find Out More

The Office of Community Outreach and Engagement (OCOE) envisions a future free of disparities in cancer outcomes for all. Working in partnership with diverse stakeholders, we seek to understand and address the cancer burden among diverse populations in inland northern and central California through community-engaged research, shared decision making, and mutual learning. Learn more here: <https://ucdavis.health/ocoe>

This project was funded through an administrative supplement from the National Cancer Institute to the University of California-Davis Comprehensive Cancer (P30CA093373-18S4).

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Community outreach and engagement (COE) activities across the translational research continuum

National Cancer Institute (NCI)-designated cancer centers' COE efforts should span all cancer center programs, including basic, clinical, translational, and population research. In FY20, NCI issued a call for Cancer Center Administrative Supplements to support COE activities that focus on either basic science or the translation of evidence-based interventions into community practice. The long-term goal of the supplement initiative is to build capacity for cancer centers' COE programs to adapt and implement evidence-based programs and successfully collaborate with cancer center investigators across research programs and in partnership with community members. To learn more, visit us at: <https://cancercontrol.cancer.gov/research-emphasis/coe>