

Community Outreach and Engagement University of Colorado Cancer Center

Catchment Area

About 28,480 Coloradans will be diagnosed with cancer in 2022, and over 8,000 patients will die.¹ Using data from local and national databases, we identified underserved populations that suffer from cancer disparities, including rural, poor, and Hispanic populations.^{2,3} Colorado's top incident and mortality cancers are breast, prostate, lung, colorectal, and melanoma, but cancer disparities are most significant for rural, poor, and Hispanic populations in southeastern counties.⁶ Rural disparities are due to the prevalence of smoking, diet, human papillomavirus, sun exposure, and obesity compounded by low socioeconomic status (SES).⁴ Disparities in SES impact access to cancer screening, diagnostic, and treatment services.⁵ Compared to other U.S. Hispanics, Hispanics in Colorado have significantly higher incidence and mortality from breast, lung, and colorectal cancer,¹ possibly because they are more likely to smoke, less likely to have a primary care provider, and less likely to be up to date with cancer screening.⁷ Limited evidence exists on whether genetics or other biological factors explain cancer disparities, and if underserved rural, poor, and Hispanic Coloradans respond differently to cancer therapies than individuals not affected by disparities.

Community Engagement Focus

The University of Colorado Cancer Center (UCCC) has a long-standing history of commitment to education, advocacy, outreach, engagement, and research across communities in Colorado. Our community partnerships help us identify and address barriers to cancer health equity, improve outcomes, and conduct research. The objective of the UCCC supplement was to:

- Engage Colorado's disparity populations in developmental therapeutics basic and translational cancer research led by the UCCC's Developmental Therapeutics (DT) program
- Use the infrastructure of our Office of Community Outreach and Engagement (OCOE) to create bidirectional linkages between DT and community
- Inventivize basic research pilot projects focused on better understanding cancer disparities and investigating genetics or biological factors to understand disparities.

At a Glance

The UCCC seeks to advance a sustainable DT research program focused on addressing cancer disparities. The deliverables of this collaborative include: (1) assessing the prevalence of cancer disparities in "hot spots" in Colorado using the Colorado Cancer Registry data; and (2) engaging community partners on the Research Collaborative to prioritize basic pilot research projects to better understand cancer disparities that affect Coloradans using the Colorado Center for Personalized Medicine (CCPM) Biobank and other databases such as the Oncology Research Information Exchange Network (ORIEN) and Flatiron Health, which tracks patient molecular, clinical, and epidemiological data.

Collaborators

The UCCC convened a steering committee of DT researchers and community partners to guide research on drivers of cancer disparities in underserved communities. The community partners are from organizations currently providing oncology services to disparity populations. The community organizations included: American Cancer

Society, Banner Health, Centura Health, Colorado Cancer Coalition, Delta County Memorial Hospital, Denver Health and Hospital Authority, Health One, Heart of the Rockies Regional Medical Center, Kaiser Permanente Oncology, Rocky Mountain Cancer Centers, Montrose Hospital, Vail Health, Vail Valley Medical Center, Valley View Hospital, and Valley Wide Health Systems. We also partnered with stakeholders such as the Colorado Cancer Coalition, the Colorado Department of Public Health, and the Governor’s Office of Saving People Money on Healthcare.

The Approach

1. We increased the UCCC’s capacity to improve the representation of disparity populations in developmental therapeutics research. To assist the collaborative, COE assessed cancer disparity prevalence in geographic “hot spots” using the Colorado Cancer Registry and mapped disparities in incidence, stage, and mortality of cancer across Colorado (figures 1–4). We included demographic and population-based data to characterize the cancer disparity populations in “hot spots” statewide. The goal was to engage the Research Collaborative in a formative process to increase the representation in developmental therapeutics research of populations living in Colorado’s cancer disparity “hot spots.”
2. We sought to determine the feasibility of performing research on genomic and biological differences for disparity populations, focused on cancer prevention and biomarkers of treatment response. We incentivized pilot research projects to identify any mechanisms that can be therapeutically targeted to better translate research into clinical practices that may be of particular benefit to disparity populations. Investigators were encouraged to conduct retrospective analyses of existing data through available databases such as the CCPM’s Biobank, ORIEN, Flatiron Health, or others. ORIEN provides a standard system for tracking patient molecular, clinical, and epidemiological data with more than 240,000 patients who consented to participate in

research. Flatiron Health, an oncology platform, is a 3 million patient database with structured data to perform clinical research. CCPM’s biobank has over 34,000 individuals with over 50 million sites along the genome, linked to patient electronic health record data easily available through a database. A call for proposals to conduct two pilot projects for \$50,000 was issued, and proposals were funded in 2022. Applications were competitively reviewed and assigned an NIH-style overall priority score based on their scientific impact and significance, the likelihood of obtaining further NCI funding, and on the project’s cancer disparities focus. The pilot projects are expected to be completed in 2022. The NCI supplement provided one-third of the funding, matched by one-third of the funding from DT and COE, and one-third from the UCCC.

Given the looming crisis in cancer incidence and mortality disparities that affects minorities and the medically underserved, it is our collective hope that in this period of cancer research when significant breakthroughs are being discovered, there will be opportunities to apply this new knowledge to all populations, and thus eliminate cancer health disparities for current and future generations.

—“Charting the Future of Cancer Health Disparities Research: A Position Statement from the American Association for Cancer Research, the American Cancer Society, the American Society of Clinical Oncology, and the National Cancer Institute” (2017)

Implementation Guidance

The project's overarching objective is to establish and advance a long-term and sustainable research program via a Research Collaborative among DT investigators, COE, and statewide community-based organizations to address disparities in incidence, mortality, and burden of cancer suffered by disparity populations across Colorado. This collaboration will lay the groundwork for developing a statewide "Colorado Clinical Research Network" (CCRN) focused on developmental therapeutics basic and translational cancer research. The CCRN will be established to pursue these objectives:

1. Promote statewide research and move research results from bench-to-bedside-to-population by performing basic, clinical, translational, comparative effectiveness, and health outcomes research with disparity populations.
2. Provide protocol development and project management services to conduct a variety of basic, clinical, and translational research studies.
3. Participate in national patient registry and database initiatives to advance precision medicine research. The CCRN will seek to establish a Site Management Organization (SMO) to manage the statewide research network that will offer participating sites support services to conduct cancer research studies with disparity populations.

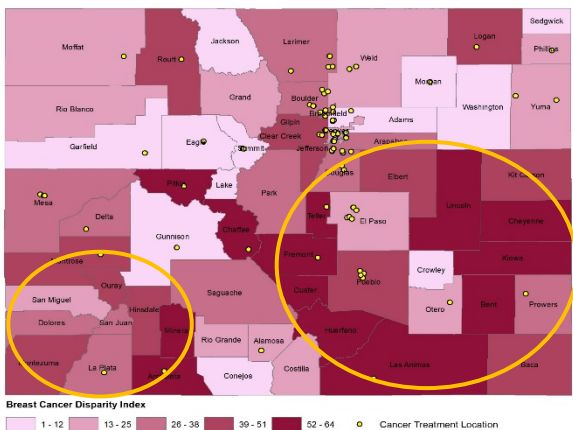


Figure 1. Breast Cancer Disparity Counties

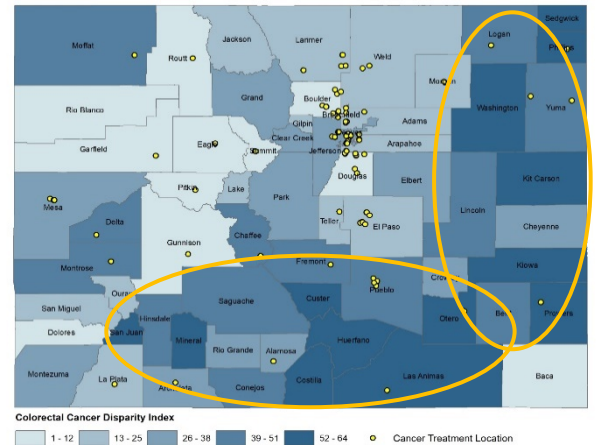


Figure 2. Colorectal Cancer Disparity Counties

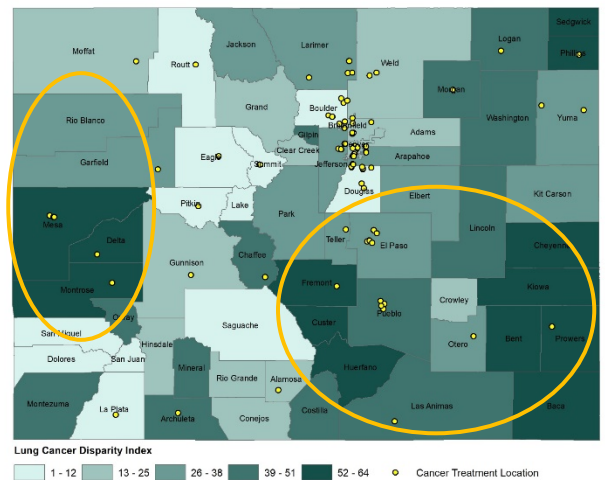


Figure 3. Lung Cancer Disparity Counties

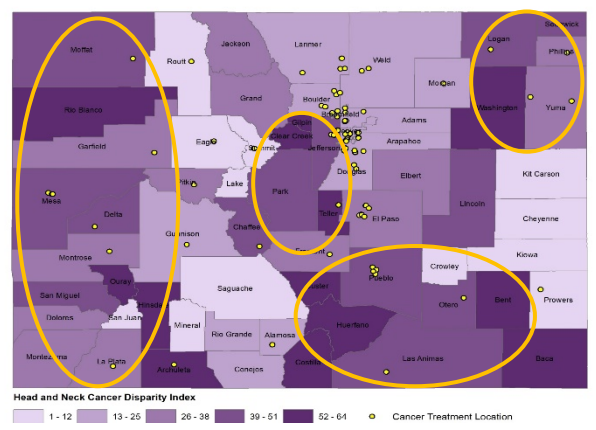


Figure 4. Head-and-Neck Cancer Disparity Counties

Systematic Evaluation

The project's systematic evaluation will be guided by the community coalition action theory (CCAT) model (figure 5) as the framework to evaluate the newly formed Research Collaborative's capacity to engage disparity populations in developmental therapeutics and basic and translational cancer research. According to the CCAT model, collaboratives progress through stages from its formation to its institutionalization, with frequent loops back to earlier stages as new planning or issues or processes arise and are influenced by community contextual factors. The CCAT defines collaborative constructs at each stage and the metrics to assess the strengths and areas of growth to support the Research Collaborative's sustainability.

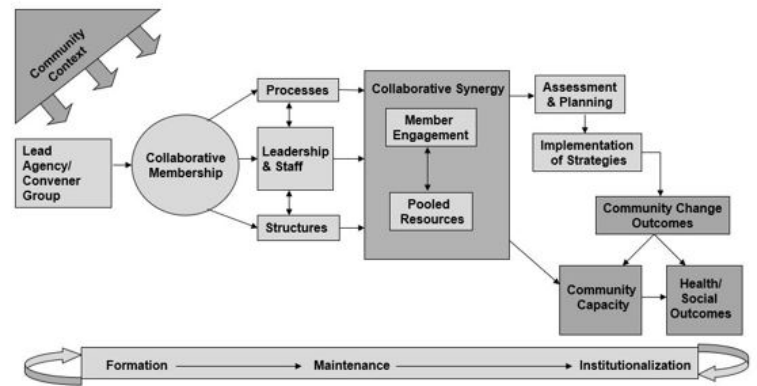


Figure 5. Community Coalition Action Theory

Find Out More About Our Initiatives

at: <https://medschool.cuanschutz.edu/colorado-cancer-center/community/CommunityOutreachEngagement>

This project was funded through an administrative supplement from the National Cancer Institute to University of Colorado Cancer Center (UCCC) (3P30CA046934-32S5).

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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>