

Progress Report: Executive Summary

9/30/04 to 9/29/22

A summary of the activities, productivity, and impact of CPCRN over the past year and across all years dating back to 2004.

Executive Summary

The Centers for Disease Control and Prevention (CDC)-funded Cancer Prevention and Control Research Network (CPCRN) has been in operation since 2002 with additional support from the National Cancer Institute (NCI). From 2002 through the current funding cycle, the Network has included Collaborating Centers at a total of 19 academic institutions across the country, as well as Affiliate Members from a wide variety of organizations. The fifth 5-year funding cycle, “CPCRN5”, began in 2019 and will span until 2024. The Network is currently comprised of eight Collaborating Centers (Table 0.1), as well as Affiliate Members and CPCRN Scholars at 40 additional institutions. The Network includes Affiliate Members from seven former CPCRN Collaborating Centers as well as 64 CPCRN Scholars across three cohorts.

This report demonstrates the impact of the work accomplished by CPCRN members during Year 3 of CPCRN5 and summarizes the research, dissemination, and implementation activities accomplished by CPCRN Collaborating Centers, cross-Center Workgroups, and the Coordinating Center over three time periods: in the past year (September 2021-2022), in CPCRN5 (Years 1-3), and across all years since 2004 (September 2004-2022), when the Network’s logic model and progress reporting system were introduced.

It is particularly notable that the CPCRN5 funding cycle saw the onset and continuation of the COVID-19 pandemic. Readers will note throughout this executive summary and report that there were many research, dissemination, and collaborative partnership efforts made by members of CPCRN’s Network Centers and Workgroups to address issues related to the pandemic and its impact on cancer risk factors, cancer care, and cancer survivorship.

Executive Summary Table 0.1: Funded CPCRN Centers

CPCRN1: 2002-2004	CPCRN2: 2004-2009	CPCRN 3: 2009-2014	CPCRN4: 2014-2019	CPCRN5: 2019-2024
University of Washington	University of Washington	University of Washington	University of Washington	University of Washington
University of South Carolina	Morehouse School of Medicine	University of South Carolina	University of South Carolina	University of South Carolina
University of Kentucky – West Virginia University	Emory University	Emory University	University of Kentucky	Emory University
Harvard University	Harvard University	Harvard University	University of Pennsylvania	New York University - City University of New York
University of Texas, Houston	University of Texas, Houston	University of Texas, Houston	Case Western Reserve University	University of Arizona
	University of North Carolina (Coordinating Center & Collaborating Center)	University of North Carolina (Coordinating Center & Collaborating Center)	University of North Carolina (Coordinating Center & Collaborating Center)	University of North Carolina (Coordinating Center & Collaborating Center)
	St. Louis University	Colorado School of Public Health	Oregon Health & Science University	Colorado School of Public Health
	University of California, Los Angeles	University of California, Los Angeles	University of Iowa	University of Iowa
		Washington University		
		Central Texas (A&M)		

By the Numbers

CPCRN has had significant impact on the scientific literature in cancer prevention and control. In year 3 of the CPCRN5 funding cycle, CPCRN members **published 197 CPCRN-related articles**, 29 of which reflected multicenter collaborations, and **delivered 108 CPCRN-related presentations**, eight of which reflected multicenter collaborations. In the first three years of the CPCRN5 funding cycle, members **published a combined total of 492 CPCRN-related articles**, 50 of which reflected multicenter collaborations, and **delivered 312 CPCRN-related presentations**, 24 of which reflected multicenter collaborations. Finally, since Network inception in 2004, a **total of 2,228 CPCRN-related publications have been published in peer-reviewed journals**, 209 of which reflect multicenter collaborations. Also dating back to 2004, **CPCRN activity has led to 2,262 presentations delivered to outside organizations**, 190 of which were multicenter collaborations. Hundreds of these presentations have been delivered in collaboration with research partner organizations, such as Federally Qualified Health Centers (FQHCs, 108 since 2004) and National Cancer Institute Comprehensive Cancer Centers (115 since 2004), and other health care providers (227 since 2004). In 2016, the CPCRN Coordinating Center began tracking trainings and educational workshops separately from other types of presentations. Since 2016, CPCRN Collaborating Centers have conducted **103 training and educational programs, 19 in the past year alone**, representing expanded collaborations between participating Collaborating Centers, as well as existing or new partnerships with external individuals and entities.

Seeking grant funding for new research and dissemination efforts is a priority for **CPCRN**. In the past year, members **submitted 40 CPCRN-related grant applications** (four of which were multicenter collaborations), **worth over \$78.6 million**. Of these, **29 applications (~73%) were funded for a total of \$49.5 million in grants awarded**. One multicenter grant was funded. In the first three years of CPCRN5, members **submitted 131 CPCRN-related grant applications** (nine of which were multicenter collaborations), **worth over \$164.8 million**. Of these, 103 applications (~79%) were funded for a total of \$120.8 million in grants awarded. Since 2004, CPCRN has **submitted a cumulative total of 1,408 grant applications (of which 127 were multicenter collaborations), worth \$1.75 billion**. Of these, **711 (~50%) applications were funded, totaling over \$781 million** in awards received since the beginning of the Network. Multicenter collaborations have clearly brought strength to members' grant applications. Of the 127 multicenter grant applications submitted since 2004, 73 (~57%) have been funded, securing over \$77.2 million in funding support for collaborative CPCRN research.

A strong Network-wide emphasis on diversity, equity, and inclusion (DEI) is also a leading priority of the CPCRN. In 2020, the Coordinating Center began tracking these efforts, and found that, in year 3, members **published 84 peer-reviewed articles, delivered 53 presentations, and submitted 29 grant proposals that were related to DEI and/or disparities-reduction**. Common subpopulations around which these activities were focused include rural (39 publications, 29 presentations, 11 grant proposals), Asian American/Pacific Islander (7 publications, 7 presentations, 2 grant proposals), Black/African American (13 publications, 11 presentations, 9 grant proposals), and Latinx/Hispanic (19 publications, 17 presentations, 9 grant proposals) among many others.

CPCRN progress reporting data reveal that CPCRN members develop meaningful and lasting relationships within the Network, as well as collaborate with external partners at local, state, and federal levels, including breast, cervical, and colorectal cancer (CRC) detection programs and large health care systems and FQHCs in their grant-seeking efforts.

Reports, Plans, and Policies Created in Conjunction with State and National Programs

In the past year, **CPCRN Centers contributed to 9 state and federal cancer reports, plans, and policies, bringing the Network to 20 total reports, plans, and policies thus far in the CPCRN5 funding cycle. Reports, plans, and policies reported in Year 3 are listed briefly below, with more detailed summaries available in the Collaborating Center Narrative Summaries:**

- **Reports:**
 - UW: *Tobacco-Free Policies and Programs at Washington State Agencies*
 - UI: *Cancer in Iowa 2022: State Health Registry of Iowa/Iowa Cancer Registry*
 - Emory / UW: *Field Guide for Assessing Readiness to Implement Evidence-Based Cancer Screening Interventions*
 - Emory: *NBCCEDP Community Clinical Linkage Program Phase 1*
 - CSPH: *Path to a Cure - Fight Colorectal Cancer National Advocacy Program*
 - UNC: *The North Carolina Partnerships to Increase Colorectal Cancer Screening (NC PICCS) Evaluation Report*
- **Policies:**
 - NYU-CUNY: *Flavor Hooks Kids Coalition*
 - NYU-CUNY: *A letter supporting a recommendation for universal adult hepatitis B vaccination for CDC's Advisory Committee on Immunization Practices (ACIP)*
 - CSPH: *Colorado Cancer Coalition Press Conference*

Impactful Workgroup Research and Dissemination Activities

CPCRN Workgroups engaged in a variety of research and dissemination activities to drive public health impact. The projects reflected below are some of the many cross-Center Workgroups and Interest Groups that were active in the Network in the past year. A full list of all projects and their respective activities can be found in the Year 3 Cross-Center Project Reports section of the main report:

Cancer Survivorship Workgroup

- Survivorship Workgroup members, including several CPCRN Scholars, contributed to projects around ACS's updated diet and physical activity guidelines for cancer survivors that were published in 2022. UArizona Scholar alumni Samantha Werts collaborated with D&I scholars nationwide to compile a comprehensive list of diet and physical activity resources available for cancer survivors which was featured in the guidelines. Roger Robles-Morales, MD completed a CPCRN Scholars' project related to the dissemination of the updated ACS Guidelines. He developed an online survey and led a multidisciplinary group to develop a dissemination plan.

CPCRN Scholars Workgroup

- During this funding period, the CPCRN Scholars Workgroup launched the second year of the CPCRN Scholars Program, 17 applicants (across 13 institutions) were accepted into the second cohort of the CPCRN Scholars program. Program activities included a kick-off webinar, two educational webinars (topics: implementation in action from the research perspective, real-world implementation experiences of practitioners), and a wrap-up graduation ceremony.
- The evaluation subcommittee of the Scholars Planning Workgroup analyzed and developed a mixed methods evaluation paper for CPCRN's *Cancer Causes and Control* special anniversary issue (to be submitted for review in November 2022 following this review period).
- The CPCRN Scholars Workgroup also released the call for the third year of the Scholars Program in August 2022 which was distributed via listserv at workgroup members' and federal agency partners' respective institutions. The Workgroup held a Zoom information session for interested applicants to learn more about the program and ask questions as they were preparing their applications. 47 applications were submitted for CPCRN Scholars Cohort 3; 27 applicants across 21 institutions were accepted into Year 3 of the Scholars Program.
- Finally, the Workgroup developed and launched the Scholars Alumni survey and distributed it to all 20 scholars from the first cohort of the program.

Health Behaviors Workgroup

- The Health Behaviors Workgroup completed a literature review to help inform the development of their framework to address cancer disparities. They drafted data collection instruments and recruitment materials for focus groups to elicit feedback on the framework.

Health Equity Workgroup

- During year 3, the Health Equity Measurement subgroup developed a toolkit to facilitate implementation of health equity principles in research. Geared towards researchers, this toolkit provides operational examples of the principles in practice, reflection questions for researchers, and links and descriptions of additional resources. The associated manuscript describes the toolkit development and future directions. The toolkit is housed on the CPCRN website (<https://cpcrn.org/resources-cancer-equity>).

Modeling EBI Impact Workgroup

- The Modeling EBI Impact Workgroup developed the interactive portion of the website for their Population Simulation for Healthcare Decisions (Cancer Control PopSim) work, which provides an interface for public users to modify select variables (e.g. intervention type, cost-multiplier, effectiveness multiplier, intervention reach, health insurance expansion, and willingness to pay) of their simulation models (<https://popsim.org/tryit>). The tool delivers population level simulation results, such as percent up-to-date with screening, CRC cases by stage, CRC cases averted, life-years gained, costs, and incremental cost-effectiveness ratios. The interactive features have been developed for the simulation model from OR, and the workgroup is in the process of developing the same features for the NC simulation model.

Organizational Theory for Implementation Science (OTIS) Workgroup

- During Year 3, the OTIS Workgroup collaborated with CPCRN members who are utilizing the OTIS framework in their research. CPCRN Scholar Dr. Kristin Morrill is pursuing NCI Consortium for Cancer Implementation Science (CCIS) funds for a project entitled *Promoting the Use of The Organizational Theory for Implementation Science (OTIS) Framework Through Development and Dissemination of a Public Good*. Affiliate member Dr. Hannah Arem is using the OTIS framework as a guide during the planning of her CDC-funded U01 to build community-clinic partnerships to support cancer survivors' social needs.

Rural Cancer Workgroup

- Using content analysis of existing cancer control plans and interviews with state cancer control program directors, the Workgroup aimed to document rural involvement in state cancer plans. Interviews with state cancer control directors were completed in November 2021 along with data analysis in June 2022. A paper was prepared in summer/fall 2022 and has been submitted to the CPCRN 20th anniversary supplement in *Cancer Causes & Control*.

During Year 3, CPCRN interest groups also met to discuss research ideas around *Equitable Implementation of Lung Cancer Screening*, *Organizational Readiness*, and *Social Deprivation*.

NOTE: *Collaborating Centers and cross-Center projects were asked to report most significant contributions to the Network during the Year 3, CPCRN5 reporting period. The items marked 'most significant' are listed in the following sections of the Executive Summary. While these are just a few of the many activities and accomplishments of the Network that occurred this year, true totals and complete, detailed lists can be found for all Centers and projects in the main report.*

Catalyzing Action and Effecting Change

CPCRN Collaborating Centers and Workgroups are engaged in a variety of activities that demonstrate the Network's impact via catalyzing action and effecting change in partnership with community and policy organizations:

- **UNC engaged in important activities to effect change in colorectal cancer screening** – The North Carolina Partnerships to Increase Colorectal Cancer Screening (NC PICCS) received a five-year grant to increase colorectal cancer (CRC) screening through implementing EBIs and other implementation support strategies in NC FQHCs. The funding also supports follow-up diagnostic colonoscopies for the uninsured. This partnership has been instrumental in catalyzing the action needed to improve CRC screening rates and has effected change in reducing cancer burden across the state. Two clinics participating in the NC PICCS Program had an increase in their screening rates from baseline (Sept. 2020) to October 2021; one of which saw their screening rates rise from 16.6 to 28.0.
- **UW-Seattle Dr. Linda Ko Leads the Project Building Capacity of Community Based Organizations (CBOs) to Implement Evidence Based Interventions for Cancer Prevention and Control** – Dr. Linda Ko led a project called Implementation Studio to build capacity of rural community-based organizations (CBOs) to select, adapt, and implement an evidence-based intervention to promote cancer screening in their communities. Last year, UW held and reported on a training workshop with a rural community-based organization (CBO), Nuestra Casa. As part of the Implementation Studio project, the UW team provided technical assistance as the CBO prepared to deliver their first of two community workshops about colorectal cancer screening, both of which they have since successfully delivered. Participation in the Implementation Studio catalyzed action over a year after CBO staff completed their Implementation Studio training. They have since independently delivered another workshop on Skin Cancer utilizing the skills, tools and resources provided during their Implementation Studio. They assessed skin cancer screening as a priority topic for their community because a significant proportion of their community members are seasonal outdoor farm workers. They are planning on hosting more cancer awareness workshops in the future and have the ability, confidence and knowledge to do as a result of their participation in the Implementation Studio project last year.

Dissemination Communications

During the previous reporting period, CPCRN received a wide variety of coverage across the media and other dissemination avenues:

- **NYU-CUNY** – The National Academies of Sciences, Engineering, and Medicine, invited Dr. Trinh-Shevrin to speak at a virtual workshop, *Lessons Learned from the COVID-19 Pandemic to Improve Diagnosis*, on January 14, 2022. Her presentation provided information on the impact of the COVID-19 pandemic on health inequities. It covered the drivers of health disparities for different communities such as Asians and immigrants and its impact on diagnosis of conditions.
- **UArizona** – Rosi Vogel, BBA/MBA, CHC, spoke with the publication *La Estrella de Tucson* about Arizona's "[Photovoice for Cancer Survivors](#)" project, also known by participants as "Vida Plena," a photography project that engaged women in Nogales, Arizona, who are breast cancer survivors. The project was organized by the Arizona Cancer Prevention and Control Research Network, part of the Arizona Prevention Research Center, in collaboration with community partner Mariposa Community Health Center.
- **UNC** – CPCRN's *Putting Public Health Evidence into Action* (PPHEIA) training was a highly viewed training on the CPCRN website. During this funding year, the updated PPHEIA webpage received 3,350 views (new training pageviews account for 8.15% of total pageviews across the site (N = 40,545)) and 2,139 new users (64.7% of page views were first-time visitors). The archived version of the training received 88 page views. The PPHEIA training was also highly viewed on the CPCRN YouTube Channel, with a total of 730 views across the six modules. PPHEIA playlist views account for 67.5% of total views across CPCRN YouTube channel (N = 1,081)..

Quotable Quotes

CPCRN members' work generated many quotable quotes and anecdotes throughout the funding year. A few of those quotes are featured below. More details are featured in the full report:

- **USC and the CPCRN Scholars Workgroup received praise from multiple Scholars about their experience with the CPCRN Scholars Cohort 2:**
 - A practitioner shared their experience: "As a novice in the area, it was very helpful to learn and get exposure to implementation and dissemination efforts related to cancer compared to what I had more experience with (public health epidemiology and clinical medicine/research). I'm glad I did it and think I gained an important appreciation for how to anticipate practical considerations in using evidence gained

from clinical research. It'll help me plan both clinical research evaluating evidence-based interventions and also participate in implementation efforts related to those interventions in my interest area (prostate and kidney cancer). Having a primary mentor (with opportunity to talk to others) and participating in the workgroups were very helpful."

- **UNC received positive feedback on the PharmFIT intervention:**
 - "I had a very pleasant experience, was very honored to be chosen for the FIT program and I greatly appreciate allowing me to participate as I cannot afford testing [redacted] but have a history of colon cancer in my family. Now I can know where I stand and won't have to worry for a little more time and/or can address cancer if I do have it." - *PharmFIT pilot participant*
- **UI's work generated many notable quotes, for example:**
 - "The pandemic wasn't just lethal to many lowans who caught COVID-19, but it's also feared to be part of what's driving up Iowa's cancer death rate. Many people have put off regular screenings in the past two years, and the results are reflected in this year's "Cancer in Iowa" report. Dr. Mary Charlton is an epidemiology professor at the University of Iowa and director of the Iowa Cancer Registry. "We estimate there will be 20,000 new cancers diagnosed among lowans this year, up just over 1,000 from last year," Charlton says. "Breast, prostate, lung, and colorectal cancers make up about half of all cancer cases in Iowa. We estimate there will be approximately 6,300 cancer deaths among lowans in 2022"

Requests for Scientific Expertise

CPCRN members' expertise was in high demand throughout the funding year. Members were asked to deliver presentations to researchers and staff, join national roundtables, and join planning committees, among other activities. A few of these requests are listed briefly below. A full of requests are detailed in the full report:

- Drs. Jamie Studts, Co-I and Betsy Risendal, PI were asked to participate in the planning committee for the Lung Cancer Screening Symposium.
- UI PI Dr. Natoshia Askelson served as a reviewer (December 2021-January 2022) for a draft evaluation resource being developed for the Vaccine Preventable Workgroup at the National Comprehensive Cancer Control Partnership. The goal of this resource is to develop evaluation measures to help with the evaluation of efforts in promoting HBV and HPV vaccination.
- UNC's Alison Brenner, PhD, MPH, CPCRN Principal Investigator at the University of North Carolina (UNC), has been appointed to the North Carolina Colorectal Cancer Roundtable (NC CRCRT) Steering Committee, effective August 2022. Dr. Brenner will apply her expertise to review strategies, implement initiatives, and evaluate progress.
- USC's Dr. Fairman was asked to speak during the May 2022 South Carolina Cancer Alliance Evidence Academy focused on cancer survivorship. He spoke to patients, caregivers, and providers about the importance of exercise and nutrition.
- Emory's expertise was requested by the Robert Wood Johnson Foundation in reviewing their Evidence for Action grants and presenting on program adaptation.

Awards and Honors

CPCRN members received many awards and honors throughout the funding year, some of which are listed below. Further details are featured in the full report:

- USC's Karen Wickersham received the 2022 Palmetto Gold Award for nursing excellence. The Palmetto Gold Award honors South Carolina nurses from various practice settings who exemplify excellence in nursing practice and commitment to the profession.
- UArizona's Dr. David O. Garcia was the recipient of the NIMHD Early Career Investigator Award. The Early Career Investigator Award is given to an early career health disparities research scientist who is funded by NIMHD.
- UI's Natoshia Askelson received the University of Iowa College of Public Health Faculty Service Award in May 2022.
- UNC Coordinating Center PI, Dr. Stephanie Wheeler, has been appointed as an associate editor at the *Journal of Clinical Oncology*.
- UW Co-I, Dr. Barbara Baquero, was awarded The Cancer Health Equity Research Award, given to an outstanding scientist from the Fred Hutch/University of Washington/Seattle Children's Cancer Consortium who has made significant contributions to health equity work.

Other Significant Network Activities

Centers reported a wide variety of additional activities that they deemed as highly significant. These include:

Significant Research Activities

- **UArizona reported two significant research activities –**
 - AzCPCRN Photovoice with Cancer Survivors: The aim of this projects is to characterize lifestyle behaviors in border-dwelling Hispanic cancer survivors and discover the most acceptable approach for program adaption and delivery. The aims of this project include: 1) characterize the knowledge, attitudes, and beliefs towards healthy lifestyle behaviors, 2) identify facilitators or barriers towards meeting healthy lifestyle recommendations in cancer survivorship, and 3) distinguish participation preferences for healthy lifestyle programming. Results from this work will provide the basis for a cultural adaption of curriculum for an evidence-based lifestyle program to support health behavior change in Hispanic cancer survivors
 - AzCPCRN DPP FIT Focus Groups 1 & 2: The purpose of this qualitative research is to examine the knowledge, beliefs, and attitudes toward CRC screening among Hispanic adults with T2D and their preferences of CRC screening education materials. To date, two in-person focus groups have been conducted in Spanish with Hispanic adults diagnosed with pre-diabetes or T2D aged 45 and older who were recruited from a Federally Qualified Health Center.
- **NYU-CUNY reported several significant research activities –**
 - Qualitative study of mental health providers and CHWs: NYU-CUNY investigators completed qualitative interviews with health care providers and staff (n=17) to assess the scope of mental health and well-being programs for Chinese American cancer patients and survivors in New York City. Data from these interviews will help inform culturally- and linguistically-tailored interventions for this underserved population.
 - Qualitative Study of Chinese American Cancer Patient Journals: Investigators completed coding of expressive writing carried out by Chinese American cancer patients and survivors (n=31, with 4 expressive writing exercises each).
 - OTIS Workgroup participation: In Year 3, Dr. Lee worked with the OTIS workgroup in the preparation of the manuscript entitled 'Applying theory to explain the influence of factors external to an organization on the implementation of an evidence-based intervention,' specifically writing the case example of applying contingency theories to optimize CBO partnerships and facilitate knowledge sharing and capacity building in order to implement CHW-led tobacco education and smoking cessation programs. NYC also contributed to a recent manuscript (in submission) entitled 'Toward a more comprehensive understanding of organizational influences on implementation: The Organizational Theory for Implementation Science (OTIS) framework.' Finally, NYC has also contributed to two conference presentations from the workgroup.
- **Emory reported two significant research activities –**
 - HPV Vaccine Mini-grants Program: In Year 3, Emory investigators developed and implemented an HPV Vaccine Mini-grants Program. They developed an HPV Vaccine toolkit, encompassing evidence-based strategies at the individual/patient, provider, and practice levels. An advisory committee was formed to assist with the development of the mini-grant application, funding amount, and promotion of the application and program. The team held an informational webinar on August 1, 2022 to provide an overview of the purpose and eligibility for the HPV Vaccine Mini-grants Program. A review committee then reviewed and scored the submitted mini-grant applications. The accepted applicants included four health departments.
 - UGA Extension Agency Rural Engagement Seed Award Program-Expanding Capacity of Extension Agents to Reduce Georgia's Cancer Burden: Emory investigators collected data around cancer education for University of Georgia County Extension Agents and evaluated an HPV education session.
- **UNC reported three significant research activities –**
 - North Carolina Partnerships to Implement Colorectal Cancer Screening - NC PICCS (4CNC Core Project): 4CNC investigators and staff (Rohweder, Brenner, Wangen, Ferrari,) contributed to the following research activities for the second year of NC PICCS (A CDC Colorectal Cancer Control Program):
 - Conducted a pre-collaborative focus group and summarized the data for cohort 2
 - Summarized the baseline and annual clinic data for cohort 2 clinics
 - Completed the evaluation report for cohort 1 clinics and disseminated findings to clinics and external audiences (poster session at the 2022 Society for Implementation Research Collaboration Conference)
 - Prepared the post-collaborative focus group guide for cohort 2, and the pre-collaborative focus group guide for cohort 3
 - Revised the baseline and annual clinic data instruments and programmed them into Qualtrics for use with cohort 3
 - Participated in all QI and TA calls
 - Finalized the EHR data capacity measurement tool for use with current and future clinic cohorts

- Contributed to CDC reports
- Represented North Carolina at the Southeastern Colorectal Cancer Consortium (SECRCC) in Irving Texas, June 2022.
- PharmFIT (4CNC Core Project): During this reporting period, 4CNC and Fred Hutchinson Cancer Center drafted three qualitative manuscripts reporting the results from 87 interviews with patients, pharmacists, and PCPs exploring their perception of a CRC screening model in pharmacy settings. The team also drafted three manuscripts reporting results from a national survey of 1040 adults regarding their perceptions of CRC screening in pharmacy settings. During the reporting period, they also developed a national survey for pharmacists. The PharmFIT team developed an initial protocol and implementation guidance for the PharmFIT pilot and began implementing the pilot in North Carolina and Washington. The PharmFIT team also submitted an R01 application to test the efficacy and implementation of PharmFIT on a larger scale.
- Cancer Screening Change Package (4CNC Core Project): The Cancer Screening Change Package (CSCP) is a technical assistance tool designed for practitioners. During this reporting year, the Cancer Screening Change Package was completed. The change package includes tools and resources for 4 cancers (CRC, breast, cervical, and prostate) and is organized by focus area, change concept, and change idea. UNC was the sub-contractor with the National Association of Chronic Disease Directors, and the project was funded by CDC. Multiple CPCRNC Collaborating Centers served as subject matter experts and recommended tools and resources for inclusion in the CSCP (<https://www.cdc.gov/cancer/dcpc/resources/change-packages/index.htm>).

Significant Grants

- **UW-Seattle received a grant for their Biobehavioral Cancer Prevention and Control Program** – The Biobehavioral Cancer Prevention and Control Training Program (BCPT), a 20-year collaboration between the University of Washington and the Fred Hutchinson Cancer Center, provides interdisciplinary research training to pre-doctoral and post-doctoral trainees to prepare them to be the next generation of leaders in cancer control research. The objectives of the program for the next 5 years are to: 1) recruit excellent and diverse pre-doctoral and post-doctoral applicants from biobehavioral science-based disciplines, as well as PhD or MD-trained basic or clinician scientists who wish to add a biobehavioral sciences perspective to their cancer research; 2) provide trainees with an exceptional interdisciplinary training experience that includes expert mentorship, research experience in active cancer prevention and control projects, and leadership opportunities within those projects and within the trainee community; and 3) skill development in grant writing, preparing scientific manuscripts and oral presentations for conferences, and career planning. The grant will support two pre-doctoral and four post-doctoral trainees each year; ideally each trainee will be supported for two years, and the grant will support at least 18 trainees over the 5-year period.
- **CSPH received two significant grants** –
 - **Community Health Worker Training Program** – With combined decades of experience and expertise, the Community Health Worker (CHW) Training Program will take a collaborative approach to help local partner organizations mobilize the local CHW workforce. The Program Team includes partner organizations such as Trailhead Institute, Patient Navigator Training Collaborative, and the Alliance of CHWs, Patient Navigators and Promotores de Salud. The Program Team will recruit 80 trainees each year to participate in didactic training. Trainees will then be placed at internship sites across Colorado. The Program Team will identify field placement sites, develop and update curriculum and evaluate the program to identify necessary improvements and identify impact.
 - **The Colorado Cancer Screening Program (CCSP)** – The competitive renewal of the Colorado Cancer Screening Program was refunded. The proposal includes a focus on stool-based testing as well as a new emphasis on implementation and quality improvement of all cancer screenings.

Significant Publications

- Adsul, P.*, Chambers, D.*, Brandt, H. M.*, Fernandez, M. E.*, Ramanadhan, S. *, Torres, E.*, Leeman, J.*, Baquero, B.*, Fleischer, L., Escoffery, C.*, Emmons, K., Soler, M., Oh, A.*, Korn, A. R.*, Wheeler, S.*, & Shelton, R. C. (2022). Grounding implementation science in health equity for cancer prevention and control. *Implementation science communications*, 3(1), 56. <https://doi.org/10.1186/s43058-022-00311-4>
- Mathias, W., Nichols, K.A., Golden-Wright, J., Fairman, C.M.*, Felder, T.M.*, Workman, L.*, Wickersham, K.E.*, Flicker, K.J.*, Sheng, J.*, Noblet, S.B.*, Arp Adams, S.*, Eberth, J.M.*, Heiney, S.P.*, Wilcox, S., Hebert, J.R.*, & Friedman, D.B.* (2022 Sept 3 Epub). Implementation during a pandemic: Findings, successes, and lessons learned from community grantees. *Journal of Cancer Education* (DOI: 10.1007/s13187-022-02213-4).
- Skiba MB*, Lopez-Pentecost M*, Werts SJ*, Ingram M*, Vogel RM*, Enriquez T*, Garcia L*, Thomson CA*. Health Promotion Among Mexican-Origin Survivors of Breast Cancer and Caregivers Living in the United States-Mexico Border Region: Qualitative Analysis From the Vida Plena Study. *JMIR Cancer*. 2022;8(1):e33083. Published 2022 Feb 24. doi:10.2196/33083

- Ryan G*, Gilbert PA, Ashida S, Charlton ME*, Scherer A*, Askelson NM*. Challenges to Adolescent HPV Vaccination and Implementation of Evidence-Based Interventions to Promote Vaccine Uptake During the COVID-19 Pandemic: "HPV Is Probably Not at the Top of Our List". *Prev Chronic Dis*. 2022 Mar 31;19:E15. doi: 10.5888/pcd19.210378. PMID: 35358035; PMCID: PMC8992683.
 - Ryan G*, Ashida S, Gilbert PA, Scherer A*, Charlton ME*, Kahl A, Askelson N*. The Use of Medical Claims Data for Identifying Missed Opportunities for HPV Immunization Among Privately Insured Adolescents in the State of Iowa. *J Community Health*. 2022 Oct;47(5):783-789. doi: 10.1007/s10900-022-01110-7. Epub 2022 Jun 17. PMID: 35715576; PMCID: PMC9205414.
 - Ryan GW*, Perry SS, Scherer A*, Charlton ME*, Ashida S, Gilbert PA, Askelson N*. Factors contributing to missed opportunities for human papillomavirus vaccination among adolescents, ages 11 to 13, in Iowa. *Vaccine X*. 2022 Jul 9;11:100192. doi: 10.1016/j.jvacx.2022.100192. PMID: 35864862; PMCID: PMC9294328.
 - Dwyer, A. J.*, Weltzien, E. S.*, Harty, N. M., LeGrice, K. E., Pray, S., & Risendal, B. C.* (2022). What makes for successful patient navigation implementation in cancer prevention and screening programs using an evaluation and sustainability framework. *Cancer*, 128 Suppl 13, 2636-2648. <https://doi.org/10.1002/cnrc.34058>
 - Hitchcock ME, Green BB*, Anderson DS. Advancing Health Equity for Medicaid Beneficiaries by Adding Colorectal Cancer Screening to the Centers for Medicare and Medicaid Services Adult Core Set. *Gastroenterology*. 2022 Mar;162(3):710-714. doi: 10.1053/j.gastro.2021.12.253. Epub 2021 Dec 20. PMID: 34942171.
 - Leeman, J.*, Wangen, M.*, & Escoffery, C.* (2022). Selecting Evidence-Based Interventions to Reduce Practice Gaps. In B. J. Weiner*, C. C. Lewis, & K. Sherr (Eds.), *Practical Implementation Science* (pp. 45-72). Springer Publishing Company. <https://doi.org/10.1891/9780826186935.0003>
- *CPCRN-affiliated authors**

Significant Presentations

- Risendal, B.C.*, Valverde, P.*, Borrayo, E., Glasgow, R.*, Mills, M., Dyer, D., Barbosa, D. Leiferman, J., Panel of Community Partners and Leadership from the Prevention Research Center and the Cancer Center. Presented at the CPCRN Annual Meeting, Denver, CO May 23, 2022
 - Barrington WE*. Introducing the Center for Anti-Racism and Community Health (ARCH). Presented at University of Washington School of Public Health; February 16 2022; Seattle, WA.
 - Friedman, D.B.*, Escoffery, C.*, Leeman, J.*, Thomson, C.A.*, Morrato, E.H.*, Arp Adams, S.*, Noblet, S.B.*, Flicker, K.J.*, Petagna, C.*, & Wheeler, S.B.* Implementation science capacity building through a national scholars program for researchers and practitioners in cancer prevention and control. 14th Annual Conference on the Science of Dissemination and Implementation in Health, December 14-16, 2021 (Virtual Conference Poster Presentation).
- *CPCRN-affiliated presenters**

Significant Training Workshops

- **University of Arizona training on the use of Photovoice to support conversations on wellness interventions among border community cancer survivors** – By the end of the training, participants had a greater understanding of community health assessment methods and saw an example of a community-based participatory action research (CBPR) approach, and demonstrated a CBPR technique by participating in a photovoice activity.
- **University of Iowa – HPV Trainings for Dental Providers** – Iowa developed a series of three continuing education offerings for dental providers to support them in educating, recommending, and referring patients for the human papillomavirus (HPV) vaccine (same individuals enrolled in all three sessions). The trainings focused on basic information about HPV and its association with oropharyngeal cancer, the effectiveness and safety of the HPV vaccination, making a strong recommendation, and completing a referral to a local provider. The trainings have been provided to dental professionals who are part of Iowa's Federally Qualified Health Centers (n=8).

Significant Efforts to Address Diversity / Equity / Inclusion (DEI) and/or Disparities-Reduction

- **CSPH** - The focus of the Colorado Cancer Screening Program is to reduce the burden of colorectal cancer among medically underserved and vulnerable groups by partnering with community-based, safety net, and critical care access facilities throughout the state and supporting evidence-based implementation strategies including patient navigation. The local project funded by the CPCRN SIP is intentionally inclusive of rural and marginalized populations through inclusion of funding in mini-grants, representation of rural and Medicaid providers on the advisory board, and use of Zoom and other teleconferencing and hybrid methods to facilitate participation in meetings, webinars, and trainings.
- **Emory** - Dr. Enmanuel Chavarria is using a cross-section survey to understand Latino adults' use on the internet and device access for online health and screening information to improve Latino health. Emory has also

implemented an HPV Vaccine Mini-grants Program focused on improving HPV vaccination in rural counties in southwest Georgia where vaccination rates are lower.

- **NYU-CUNY** – In Year 3, the NYU-CUNY CPRN, in collaboration with the Comprehensive Cancer Center at NYU, conducted an extensive Cancer Community Needs and Resource Assessment (CHRNA) across NYU's catchment area in NYC. The Cancer CHRNA was designed to better understand the cancer-related resources, challenges, and needs of diverse communities across NYC in multiple languages, including English, Spanish, Arabic, Russian, Urdu, Bangla, Haitian Creole, Chinese and Korean. The CHRNA survey also included an optional structural racism module, which captured measures of structural racism, discrimination, vicarious racism, individual-level racism and discrimination during the COVID-19 pandemic and included experiences in the healthcare and food environments.

Through NYU Cancer Center's Stamp Out Cancer Brooklyn (SOCB), a multi-pronged, community-engaged initiative that aims to reduce the overall burden of cancer and alleviate cancer-related disparities in Brooklyn, the NYU-CUNY CPRN Collaborating Center continues to disseminate best practices in community health worker (CHW)-led cancer screening and navigation programs for diverse, minoritized and low-income communities.

- **UI** – In February 2022, the UI CPRN team participated in a multi-day training entitled 'Deconstructing colonial legacies and their impact on public health equity and justice: A framework for action for researchers and practitioners'. The training was organized by UI CPRN members, Drs. Afifi and Novak and featured a transcontinental team from the University of Global Health Equity (Kigali, Rwanda) and the Native Center for Behavioral Health (University of Iowa, Iowa City, United States).

Research activities are underway in response to the 2021 Cancer in Iowa report showing the overall age-adjusted cancer mortality rate for Black people in Iowa is more than 25% greater than it is for white. Specifically, the report says that Iowa's Black population has a 25% higher age-adjusted lung cancer mortality rate compared to the white population. In addition, Black males had nearly double the age-adjusted prostate cancer mortality rate of white males. UI CPRN members are conducting the following research activities with the UI Holden Comprehensive Cancer Center.

- The first is led by Dr. Natoshia Askelson in collaboration with the Iowa Cancer Consortium (member of our UI CPRN). This project will build relationships with Black and African American communities in Black Hawk County, discuss cancer data with community members, and identify interventions that may address cancer disparities.
 - The second is led by Dr. Whitney Zahnd. This project will look more closely at cancer registry data to explore racial disparities in incidence, staging, and mortality. The project will focus on breast, colorectal, lung, and prostate cancers. Dr. Zahnd will interview Black and African American cancer survivors to understand their treatment experiences. The goal of this project is to inform future interventions to address inequities.
 - The third project is led by Dr. Sarah Nash and is part of her CPRN scholar work. This project will use community-engaged research principles to develop a survey to understand community members' cancer priorities. Through interviews with community members, Dr. Nash hopes to understand what cancer priorities are in the Black and African American community in Iowa, and the barriers or facilitators to pursuing healthy behaviors. The goal of this project is to help inform the development of a survey that can then be more widely disseminated across the state.
- **UNC** – Drs. Leeman and Wheeler contributed to a cross-center manuscript: "Grounding Implementation Science in Health Equity for Cancer Prevention and Control." In addition, all 4CNC research projects and Workgroups in which UNC participates have either an implicit or explicit focus on reducing disparities and improving health equity.
 - PharmFIT: By distributing FIT kits in pharmacies, UNC aims to reach more under-screened and underserved populations, particularly rural residents. Because pharmacies are more evenly distributed, frequently visited, and open during non-traditional hours as compared to primary care settings, they may provide more opportunities for cancer screening. The PharmFIT pilot conducted in Year 3 served a diverse population of patients, with one patient sample being 83% black, and the other patient sample being 93% percent white.
 - NC PICCS: The clinical partners for North Carolina's CRCCP program are federally qualified health centers which serve a high proportion of uninsured patients.
 - My Body My Test: This study is in Robeson County, a county which ranks at or near the bottom on most health indicators including cancer screening. By collaborating with Southeastern Health, the UNC research team works with rural residents, members of the state-recognized Lumbee Tribe, and populations that experience persistent poverty.

- Cancer Screening Change Package: The tools and resources being collected for the practitioner change packages are organized according to focus areas, change concepts, and change ideas. An additional category for population is included to capture tools that are tailored with respect to race/ethnicity, gender identity, language, sexual orientation, educational level, insurance status, and other groups.
 - PPHEIA: The curriculum includes a module focusing on stakeholder engagement; addressing health disparities is woven throughout the rest of the modules.
- **UArizona** - AzCPCRN investigators concluded their core Center project, "Vida Plena," with a Photovoice Exhibition, held June 16, 2022 in Nogales, AZ. Translated from Spanish, Vida Plena means "full life;" a title intended to reflect the study's aim to capture the unique experiences of Hispanic cancer survivors and their caregivers who live on the Arizona-Sonora border. The results and methods for this project have been presented and shared a number of times since the project's conclusion as a way to not only disseminate the findings, but also to share how this method can be utilized by and adapted for other populations facing health disparities, such as rural populations.
- **UW** - The expected outcomes of many of UW's research activities are to improve the reach of cancer prevention and control to settings serving communities experiencing health disparities in cancer prevention and screening.
 - Co-investigator, Dr. Wendy Barrington, led the launch of the Center for Anti-Racism and Community Health (ARCH) this year, which will serve as a community-driven academic hub focused on the critical interrogation and disruption of racism and racialization within systems while centering those most impacted by legacies of U.S. colonization.
 - The Implementation Studio project, led by Dr. Linda Ko, involves work with rural community-based organizations (CBOs) to select, adapt, and implement an evidence-based intervention (EBI) to promote cancer screening. This past year, the team delivered the Implementation Studio completely in Spanish (including live translation of English-only websites) to LEP CBO staff members who used the training to develop a breast cancer awareness workshop for their community members.
 - Dr. Beverly Green advocated for advancing health equity for Medicaid beneficiaries by adding colorectal cancer screening to the Centers for Medicare and Medicaid services adult core set through publications and presentations.

Significant Efforts to Address COVID-19

- **UArizona** – The Arizona Prevention Research Center (AzPRC) launched the UNIDOS intervention in the beginning of 2020 and originally intended to focus on chronic disease inequities among Latinx communities by addressing their SDOH needs, enhancing participants' social support, and leveraging social networks. The process of adapting UNIDOS to the COVID-19 landscape was driven by partnerships between the AzPRC, Federally Qualified Health Centers (FQHCs), and local county health departments (LCHDs) in response to the disproportionate impact of COVID-19 transmission and the socioeconomic fallout of the pandemic in Latinx communities.
- **UI** – The project entitled "The Impact of COVID-19 and Social Distancing on Cancer-Related Behaviors" is in concert with a core group of NCI-designated cancer centers at the University of Alabama at Birmingham, Iowa, Colorado, Ohio State and Wayne State. CPCRN researchers (Charlton, Askelson, and colleagues) collaborated with the other core sites to develop a core set of questions to be administered across populations, along with modules that will apply to specific sub-populations in any given catchment area. Data collection has been completed on this project by the core group, and several other NCI-designated cancer centers joined the consortium to field the survey in their respective catchment areas. The overall objective of our collaborative effort is to assess how differences in demographics (rurality, age, gender, race, educational attainment) will impact engagement in cancer preventive behaviors (e.g., tobacco cessation) and cancer management/survivorship behaviors (e.g., adherence to treatment, adherence to surveillance) in the context of COVID-19 environmental constraints (e.g., social distancing, employment, mental health, etc.) among the general adult populations, cancer patients, and cancer survivors in Iowa. A poster was presented at the 2021 Holden Comprehensive Cancer Center Virtual Scientific Research Retreat, the 2021 University of Iowa College of Public Health Research Week Flash Presentations, and the 2021 American College of Epidemiology Meeting. An informational report was compiled for partners at Critical Access Hospitals in the six selected rural counties where oversampling was conducted, comparing their counties' results to the overall weighted state estimate as well as to all of Iowa's 78 rural and 21 urban counties.
- **USC** – USC funded one CHIP mini-grant recipient to continue their focus on COVID testing, vaccination and helping their community catch up on health screenings that were put off due to the COVID-19 pandemic.
- **UW** – As part their evaluation work with the CDC's National Breast and Cervical Cancer Early Detection Program (NBCCEDP), UW collected data from Washington's (WA) participating Federal Qualified Health Centers (FQHCs)

on the effects of the COVID-19 pandemic on clinic operations and NBCCEDP activities. They learned that COVID-19 priorities continue to impact their FQHC partners' ability to implement cancer screening activities (community outreach, mailed FIT, reduced clinical workflows), and it additionally continues to limit staff and the health system's capacity to report screening rates and work on previously implemented EBI activities. Additionally, Dr. Hannon, Ms. Vu and Ms. Masud assisted and will continue to assist the NBCCEDP team at CDC with one of their case studies examining actions taken by NBCCEDP recipients and their clinics and other partners that may have contributed to consistent maintenance of pre-COVID-19 screening volume despite high COVID-19 test percent positivity from July-December 2020. This is a CDC-led case study (Leads: Dr. DeGroff and Ms. Schlueter). Key collaborators include CDC PCs, NBCCEDP recipients, IMS, Emory University (Dr. C. Escoffery), prior CPRN site UCLA (Dr. A Maxwell) and University of Washington (ARC NW). The ARC NW has been involved in study analysis design, data collection and analysis.

- **NYU-CUNY** – The NYC CPRN incorporated questions related to COVID-19 and its impact into a questionnaire when interviewing key stakeholders as part of an evaluation of implementation strategies of evidence-based interventions for infection-related cancers among Asian Americans. Through this survey, they hope to gain a better understanding of best practices used when pivoting interventions to accommodate COVID-19 related burdens. Additionally, COVID-related questions were included in their cancer community needs assessment in order to gain a better understanding of how COVID has impacted cancer screening, chronic disease prevention, and management, and social determinants of health.

CPCRN Coordinating Center & Steering Committee

With leadership from the Coordinating Center and Co-Chairs, Drs. Alison Brenner, *UNC PI*, and Chau Trinh-Shevrin, *NYU-CUNY PI*, the Steering Committee met monthly to discuss Network strategic planning, scientific direction and productivity, completion of Workgroup research projects, and dissemination of Network products. During Year 3 of CPRN5, the Coordinating Center continued to develop and improve processes and structures to support Network activities by:

- Orienting new CPRN staff and members to the Network and helping them integrate into the Network
- Hosting a virtual CPRN Winter Meeting in January 2022 and the first in-person Spring Meeting since the onset of the COVID pandemic May 2022
- Facilitating Network participation in the Conference on the Science of D&I in Health (December 2021)
- Developing a 21-article CPRN 20th Anniversary Journal Supplement for Cancer Causes & Control.
- Facilitating the development of one new Workgroup.
- Developed a research project and publication titled “The Special Sauce of the Cancer Prevention and Control Research Network: 20 years of Lessons Learned in Developing the Evidence Base, Building Community
- Creating opportunities for relationship-building among Network investigators and Affiliate Members
- Developing a 20th anniversary webinar as part of the NCI Implementation Science Webinars series. The webinar, titled “20 Years of the Cancer Prevention and Control Research Network (CPCRN): Past, Present and Future”, Engaging in meetings with each Center’s PI and each Workgroup/Interest Group’s leaders to learn about ways that the Coordinating Center can best support their work
- Providing support for Workgroup/Interest Group activities, including:
 - Providing project management assistance across two Workgroups/Interest Groups
 - Funding support for: participant incentives (one Workgroup); qualitative research-related costs (two Workgroups); independent contractor fees (one Workgroup) and publication fees (one Workgroup).
 - Provided graphic design and content development support for Health Behaviors Workgroup framework.
 - Funded travel for affiliate members to attend the CPRN Annual meeting in-person.
 - Funded professional development opportunities for two postdoctoral students
- Creating a Cancer and Equity webpage on the CPRN website (<https://cpcrn.org/resources-cancer-equity>).
- Implementing the Network communications and dissemination strategy via adaptations, additions, and revisions to the CPRN website, as well as regular dissemination through our quarterly newsletter, social media accounts including a new YouTube channel, Network listserv, and scientific publications.

Conclusion

CPCRN has made substantial impact in cancer prevention and control and implementation science across its history dating back to 2002. The Network continues to grow, with 44 new members added this year in a wide range of capacities, including serving as Principal and co-investigators, affiliate members, Federal Agency Partners, CPCRN Scholars, community and clinical partners, staff, and students. Network members continue to innovate, develop, implement, and evaluate evidence-based approaches to cancer prevention and control with their local, state, and national partners, influencing everything from local clinic practices to state cancer plans to national organizations' practices and policies.

The Network's extensive history of producing more than 2,200 publications, over 2,200 presentations and trainings, and funded grants totaling over \$781 million in research dollars since 2004 demonstrate just a few of many ways the Network and its members' expertise have significant impact on the nation's dissemination and implementation of evidence-based cancer prevention and control research.