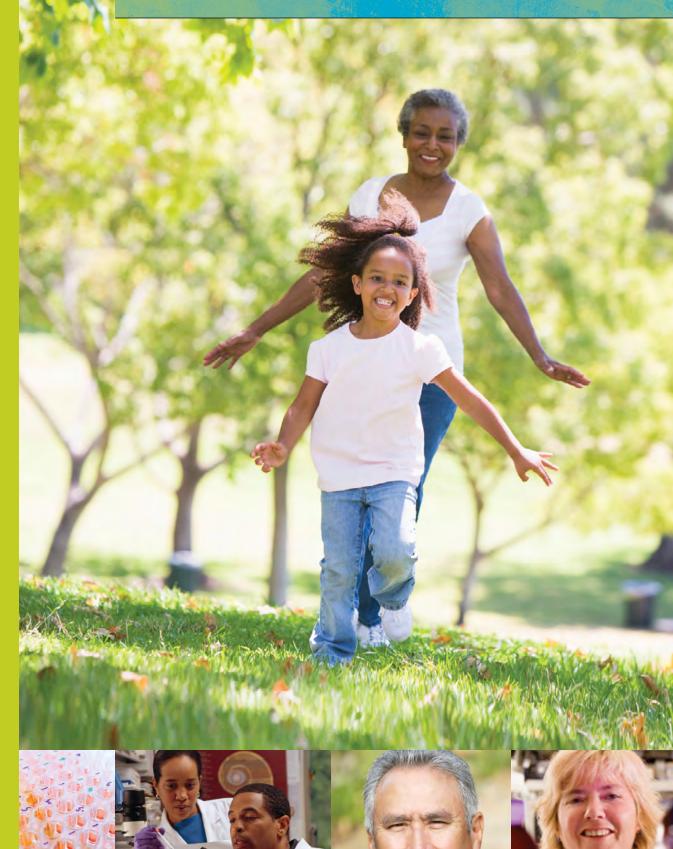
# Center to Reduce Cancer Health Disparities



U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES
National Institutes

# Cancer's burden is not equally distributed.

There are differences

in the incidence, prevalence,

and mortality of cancer

among specific populations

in the United States.



The Center to Reduce Cancer Health Disparities (CRCHD) is the component of NCI dedicated to confronting these inequities, particularly in understanding how biological, environmental, social, and cultural factors contribute to differences in cancer prevention, care, and treatment.

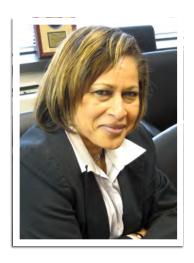
CRCHD is also central to the NCI's efforts to train the next generation of competitive researchers in cancer and cancer health disparities, and in addition, is creating state-of-the-art regional networks/centers dedicated to cancer health disparities research, training, and outreach.



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Reducing cancer health disparities... It's possible.



## A Message from the Director

This past year marked the tenth anniversary of the Center to Reduce Cancer Health Disparities (CRCHD). As I reflect upon the Center's past, present, and future, I am reminded of the words spoken by Martin Luther King, Jr., in his March 25, 1966 speech before the National Convention of the Medical Committee for Human Rights in Chicago: Of all the forms of inequality, injustice in healthcare is the most shocking and most inhumane.

Tremendous progress has been made in understanding cancer and delivering care. We have been able to bring advances in cancer

research to African Americans, Alaska Natives, Asian Americans, Hispanics/Latinos, Native Americans, Native Hawaiians/Pacific Islanders, and other medically underserved communities. But much work remains to be done to eliminate cancer health disparities. More than forty years later, we still have not achieved a world where *everyone* has equal access to care. Disparities in cancer care and cancer outcomes continue to diminish the quality of life of some populations in this country, including the poor, racially and ethnically diverse groups, and those with limited or no access to healthcare.

CRCHD was established with the sole purpose of confronting and eliminating these inequities.

Over the past decade, the Center has tremendously broadened its focus and capacity. While our roots lie in community-based cancer health disparities research, that focus has been complemented with basic research, as the growing body of evidence has taught us that cancer is not a single monolithic issue but, instead, one to which many socioenvironmental and genetic factors contribute. This broader view has enabled a more complex picture of the roots of cancer disparities to evolve and, along with that, better-targeted, more precise interventions.

As the nation's population continues to grow more ethnically and racially diverse, it has become increasingly important to ensure that the science conducted encompasses diverse perspectives to address the health needs of *all* people. CRCHD is fully dedicated to training the next generation of competitive researchers from racially and ethnically diverse, and underrepresented populations in the cancer and cancer health disparities fields. CRCHD continues to lead the National Cancer Institute's (NCI's) efforts in supporting research training and career development experiences beginning as early as high school and continuing through to tenured track appointments.

CRCHD has spawned a broad range of research, training, and community outreach activities to address its overarching goal of eliminating disparities through a variety of programs: Continuing Umbrella of Research Experiences (CURE), Partnerships to Advance Cancer Health Equity (PACHE), Community Networks Program (CNP), and Patient Navigation Research Program (PNRP). The Center has also fostered an unprecedented, state-of-the-science, integrated network infrastructure and geographic system of program management to promote a multidisciplinary and transorganizational team science approach that will ultimately enhance cancer health disparities research, diversity training, and cancer care outcomes.

In this first report from the Center, we are pleased to share with you an overview of who we are, what we do, the impact of our programs, and highlights of our research and training from Fiscal Year 2011. NCI/CRCHD's support, together with the tremendous motivation and efforts of our grantees, has resulted in significant strides in understanding cancer health disparities and real differences in people's lives.

We will continue to build upon these successes in the coming years. At the same time, we know we must work harder still to reduce the unequal burden of cancer that still exists in this country. CRCHD is unwavering in its commitment to moving us closer to the day when diversity is a given and disparities no longer exist.

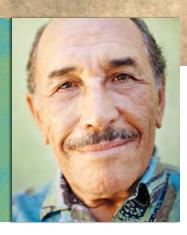
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Sanya A. Springfield, Ph.D.
Director
Center to Reduce Cancer Health Disparities
National Cancer Institute

Expanding our understanding of the biological, behavioral, and socioeconomic roots of cancer health disparities

# INTRODUCTION

# REDUCING CANCER HEALTH DISPARITIES



he National Cancer Institute's (NCI's) Center to Reduce Cancer Health Disparities (CRCHD) is pleased to present *CRCHD's Annual Report on Cancer Health Disparities: Fiscal Year 2011.* This first *Annual Report* describes who we are and what we do. But more importantly, we wish to share the impact of CRCHD's efforts to enhance the understanding of the biological and nonbiological causes of cancer health disparities, increase the diversity of the cancer research workforce, and reduce the unequal burden of cancer in the United States. The report provides an overview of the CRCHD-supported research and training programs in this field, and highlights selected projects, investigators, and partnerships that represent the range of research addressing different cancers, training, and community outreach efforts supported by a variety of NCI grant mechanisms.

Over the past decade, CRCHD has made significant contributions to advancing the science of cancer health disparities and diversifying the cancer research workforce. Today, as a result of CRCHD initiatives, access to quality care is increasingly available to communities experiencing an excess burden of cancer. Our understanding of the biological, behavioral, and socioeconomic roots of cancer health disparities is expanding, resulting in improved cancer outcomes. In addition, more cancer research training opportunities are available to those who, historically, have been underrepresented in the sciences.

Yet, much work remains to be done to reach the ultimate goal of elimination of cancer health disparities, which continue to diminish the quality of life of some populations in this country, including the poor, racially and ethnically diverse groups, the disabled, and those with limited or no access to healthcare. A close look at cancer incidence and mortality statistics reveals that certain groups, such as African Americans, Alaska Natives, Asian Americans, Hispanics/Latinos, Native Americans, Native Hawaiians/Pacific Islanders, and underserved whites, are more likely than the general population to suffer disproportionately from cancer and its associated effects, including premature death.

CRCHD's work in the future will continue to identify and foster new and innovative scientific training and research opportunities and build upon past successes, so that cancer health disparities no longer add to the burden of disease for anyone in America.

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#### **About CRCHD**

CRCHD first began tackling the issue of cancer health disparities in 2001, when it was created as an expansion of NCI's Office of Special Populations Research—an office that had been established in 1996 to manage research that addressed health issues relevant to racially and ethnically diverse, and underserved populations. CRCHD ("the Center") grew over the next decade, particularly in its funding for population-based research, and expanded further when it merged with the Comprehensive Minority Biomedical Branch (CMBB) in 2007. This merger helped provide the critical infrastructure needed to spawn new research examining the biological basis of cancer disparities. The combined resources and expanded focus enabled NCI, for the first time, to link cancer health disparities research and diversity training, thereby establishing a firm foundation for the development of innovative scientific programs geared towards improving outcomes in communities experiencing an excess burden of cancer. Now, in its second decade, CRCHD is poised to make an even greater impact on cancer health disparities reduction across the nation and the globe.

#### Who We Are

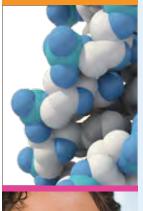
CRCHD is one of the Divisions, Offices, and Centers (DOCs) within NCI, and the cornerstone of NCI's efforts to reduce the unequal burden of cancer in our society. Since its establishment, CRCHD has tremendously broadened its focus and capacity. While the Center's roots lie in community-based participatory research (CBPR)—a unique approach to examining and reducing cancer health disparities by actively engaging communities in the research process—that focus has been complemented more recently with basic research, as the growing body of evidence has taught us that different population groups may have biological differences associated with various cancers. This broader view allows a more complex picture of the biological, behavioral, and socioeconomic roots of cancer disparities, and sets the stage for better-targeted, more precise interventions and community outreach.

CRCHD is also dedicated to training the next generation of competitive cancer and cancer health disparities researchers from underrepresented populations, who otherwise are at risk of being lost from the training pipeline, and creating a workforce that reflects an increasingly diverse America. Funding and training opportunities are provided across the academic continuum, for those as young as high school students to those who have already achieved research independence. Their diverse perspectives are critically important in ensuring that science addresses the health needs of all people.











#### What We Do

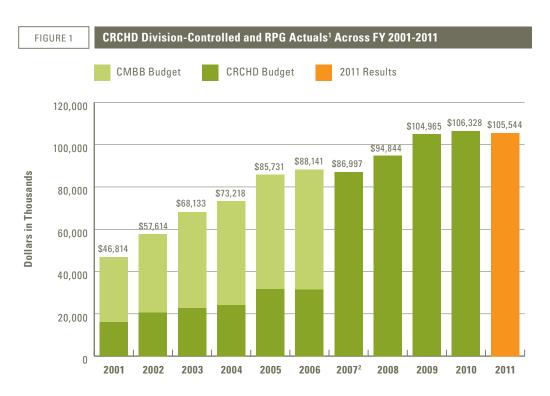
CRCHD takes a comprehensive approach to carrying out its mission and conducts the following activities:

- Spawns, supports, and evaluates basic, clinical, and population-based research that shows the greatest potential for identifying biological, behavioral, and socioeconomic determinants of cancer health disparities
- Supports translational research that integrates cancer research findings into community practice
- Promotes research that incorporates new technologies, such as genomics, proteomics, bioinformatics, biospecimen science, and nanotechnology to achieve improved cancer outcomes
- Advises, engages, and supports researchers across a range of disciplines and theoretical frameworks
- Engages racially and ethnically diverse and underserved communities in the research process to ensure that research, outreach, and education efforts are culturally tailored to meet their needs
- Develops innovative and comprehensive training programs aimed at increasing diversity in the cancer research workforce
- Promotes an integrated, multisite, transdisciplinary, team science approach to enhance research, training, outreach, and education in cancer health disparities
- Forges long-term, comprehensive partnerships between academic institutions serving underrepresented populations and NCI-designated Cancer Centers to build research and training capacity and improve effectiveness of disparities research and outreach to underserved communities
- Advises NCI, the National Institutes of Health (NIH), the Department of Health and Human Services (HHS), other federal and nonfederal organizations, and the media on cancer health disparities research to reduce the disproportionate burden of cancer, and on training programs to achieve diversity among cancer investigators

# NCI/CRCHD GRANTS AND CONTRACTS



In Fiscal Year 2011 (FY 2011), NCI invested \$105,544,378 in health disparities research, training, and integrated networks projects via extramural grants (projects conducted outside of NIH), cooperative agreements, contracts, and supplements overseen by CRCHD. As indicated by the funding trend in Figure 1, the Center has seen a steady growth in expenditures since its inception in 2001 until 2009, with funding remaining relatively flat over the past two years.



<sup>&</sup>lt;sup>1</sup> Includes Division Controlled Awards, RMS, CRCHD Controlled RPG Awards, and NCI Controlled RPG Awards.

<sup>&</sup>lt;sup>2</sup> Reflects merger of CMBB & CRCHD.

The accompanying pie chart in Figure 2 indicates the distribution of funding by program and operations (Research Management Support [RMS]). Diversity training accounts for almost one-third of the budget, which includes the Continuing Umbrella of Research Experiences (CURE), as well as Research Project Grant (RPG) Diversity Supplements and P50s. An additional third of the budget funds the Partnerships to Advance Cancer Health Equity (PACHE) program (formerly known as the Minority Institution/Cancer Center Partnership program [MI/CCP]). PACHE supports both training and basic research through partnerships between NCI-designated Cancer Centers and institutions serving primarily racially and ethnically diverse populations. Nearly one-quarter of the budget is devoted to Community Network Program Centers (CNPCs), the basis of which are CBPR programs.

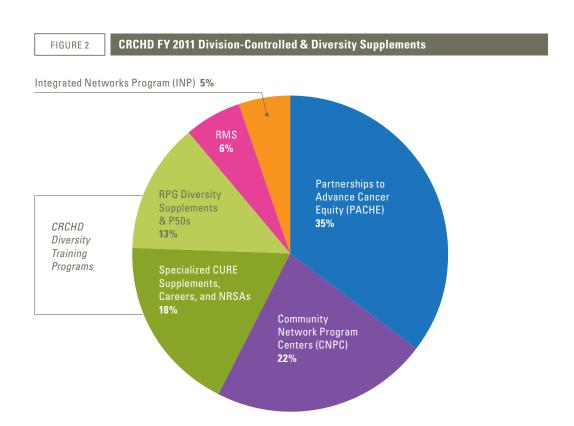
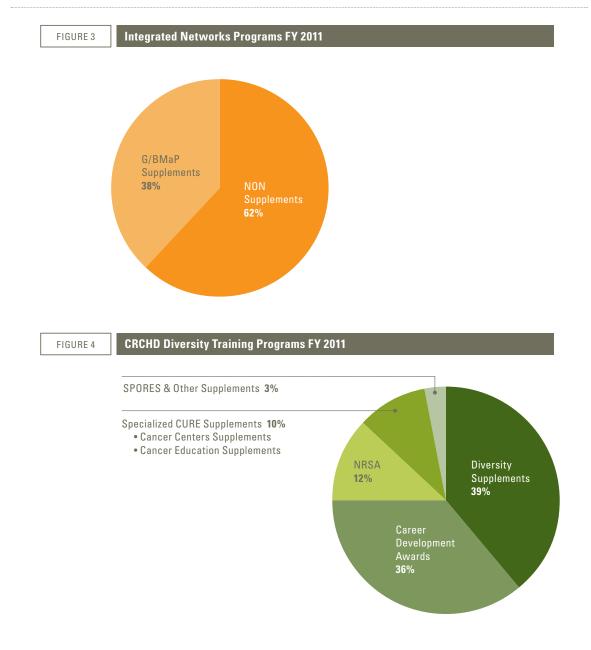


Figure 3 provides a breakdown of the most recent addition to CRCHD's programmatic portfolio, the Integrated Networks Program (INP), which accounts for 5% of the total budget. Almost two-thirds of the INP budget is spent on National Outreach Network (NON) programming, with the remainder supporting the Geographical Management of Cancer Health Disparities Program including Biospecimen Science (G/BMaP).

Figure 4 breaks down CRCHD's diversity training programs by funding mechanism. The bulk of funding (39%) supports diversity supplements, followed by 36% of funding that supports career development awards.



# MAJOR INITIATIVES AND PROGRAMS



In 2011, CRCHD supported three types of programming: research, training, and integration of research, training, and outreach via multidisciplinary teams across regions. Each type supports CRCHD's mission to reduce the burden of cancer and its related co-morbidities, and increase the diversity of the cancer research workforce.

#### Research

CRCHD's research portfolio is currently divided into two principal areas—basic research and CBPR. Investigators conducting basic research focus on biological variations across racially and ethnically diverse populations that either naturally or in conjunction with environmental exposures lead to differences in susceptibility to cancers and therapeutic responsiveness. Many of these basic scientists are integrated into CRCHD's Partnerships to Advance Cancer Health Equity (PACHE) program, which builds linkages between academic institutions serving underrepresented populations and NCI-designated Cancer Centers. Others interested in basic science enter through the Continuing Umbrella of Research Experiences (CURE) training program, which offers an array of cancer research training opportunities for individuals from underrepresented populations.

RESEARCH, TRAINING, AND INTEGRATED RESEARCH, TRAINING, AND OUTREACH

Partnerships to Advance Cancer Health Equity (PACHE)

Continuing Umbrella of Research Experiences (CURE)

Community Networks Program (CNP)

Community Networks Program Centers (CNPC)

Patient Navigation Research Program (PNRP)

Integrated Networks Program (INP)

Geographical Management of Cancer Health Disparities Program including Biospecimen Science (G/BMaP)

National Outreach Network (NON)

NCI Community Cancer Centers Program (NCCCP)

Basic research is a relatively new area of exploration for CRCHD. Historically, the Center's strength lies in its CBPR paradigm and programs, including the **Community Networks Program (CNP)** and its expanded successor, **Community Networks Program Centers (CNPC)**, designed to significantly improve access to and use of beneficial cancer interventions in disparity communities. Communities, in collaboration with trained researchers, participate in all aspects of research, training, and outreach, including helping to define their particular problems that lead to disparities and solutions that are culturally

#### **MAJOR INITIATIVES AND PROGRAMS**

sensitive to their needs. A number of these research projects and associated grantees are featured within this report. Also described in these pages is CRCHD's **Patient Navigation Research Program (PNRP)**, which has been testing the theory that patient navigators—experts in the healthcare system and its intricacies—can improve service access and quality, and cancer outcomes in underserved populations.

#### **Training**

In addition to sponsoring innovative research programs, CRCHD is committed to providing cancer research training to those from backgrounds underrepresented in the fields of cancer and biomedical science. Based on the belief that a diverse workforce is essential for advancing cancer knowledge and, particularly, cancer disparities knowledge, CRCHD developed two innovative and comprehensive diversity training programs—CURE and PACHE. CURE offers training opportunities for qualified, underrepresented individuals across the academic continuum, starting with high school students and extending to independent cancer researchers. CURE is particularly noteworthy in that it offers full funding to protect research time, incorporates important mentoring relationships with advanced researchers, and includes valuable networking opportunities. PACHE was developed to help expand high-level training opportunities available to CURE trainees. The program fosters partnerships between NCI-designated Cancer Centers and academic institutions serving racially and ethnically diverse, and underrepresented communities. Profiles of trainees and partnerships are featured throughout this report.

### Integrated Research, Training, and Outreach

The newest arm of CRCHD is the Integrated Networks Program (INP), which includes two network programs—the Geographical Management of Cancer Health Disparities Program including Biospecimen Science (G/BMaP) and the National Outreach Network (NON), and one collaborative initiative with the NCI Community Cancer Centers Program (NCCCP). Each of these programs supports a multidisciplinary, teambased approach to understanding and reducing cancer health disparities. G/BMaP is a national program that links CRCHD's flagship programs—PACHE, CNPC, PNRP, and CURE—within six regional, disparities-focused networks for cancer health disparities research, diversity training, and resource-sharing infrastructure. NON is a program that bridges NCI-supported outreach and community education efforts with cancer health disparities research and diversity training programs by stimulating linkages among NCI, grantee institutions, researchers, and communities. CRCHD collaborates with NCCCP and provides technical support to the program's health disparities efforts. INP's preliminary accomplishments are outlined later in this report.

# PARTNERSHIPS AND COLLABORATIONS



CRCHD has increasingly invested in building partnerships and fostering transdisciplinary collaborations. In FY 2011, the Center's steadily growing foundation of partners allowed CRCHD to continue to leverage resources, recruit diverse talent, increase capacity, and improve access among underserved populations. As a whole, partnerships and collaborations provide the potential to accomplish much more than could be done by each partner independently—the ultimate criterion for a successful partnership.

#### NCI's Division of Cancer Biology

Since 2005, CRCHD has fostered a partnership with NCI's Division of Cancer Biology (DCB) to strengthen CRCHD's basic research portfolio and shed greater light on potential biological causes of cancer health disparities. DCB supports research in cancer cell biology, cancer etiology, cancer immunology, cancer hematology, DNA/chromosomal aberrations, structural biology, and tumor microenvironments—areas of basic science increasingly implicated in disparities.

In 2011, in an effort to blend DCB's basic research expertise and grantee base with CRCHD's programmatic focus on disparity-experiencing populations, DCB and CRCHD created a basic science R21 Exploratory/Development Grant funding opportunity. This funding opportunity is designed to support pilot studies examining the interplay of race/ethnicity, and cancer biology, with a focus on novel techniques and issues such as biospecimens and ancestral markers. The collaboration has the potential to generate new insights into the biological determinants of disparities and direct otherwise disparate efforts toward one common goal. By combining their expertise, DCB and CRCHD can maximize their efficiency in illuminating the causes of cancer health disparities and the pathways to disparities reduction.

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