



NIH Centers for Population Health and Health Disparities


Second Edition— Spring 2007

Upcoming Dates & Events

- June 7-8, 2007
CPHHD Annual Grantees Meeting.
(Tufts Univ- Boston, MA)
- July 16-18, 2007
Cancer Health Disparities Summit.
(Bethesda, MD)

Please see page 2 for more information.

In the Spotlight: Cross Center Study

 **THE UNIVERSITY OF CHICAGO** In 2006, Dr. Sarah Gehlert at the Center for Interdisciplinary Health Disparities Research (University of Chicago) launched a pilot study that incorporated the other CPHHD centers. The cross-center analysis addresses three specific aims. The first aim is to determine whether social isolation influences aggressiveness of disease (e.g. cancer) and if the effect is mediated by stress hormones (measured as selected biomarkers of allostatic load including Cortisol, C-reactive protein (CRP), two cytokines, Tumor Necrosis Factor-alpha and Interleukin-6 (TNF- α , IL-6), and Epstein-Barr virus (EBV) antigen, as well as stress reactivity, and stress hormone rhythms).

A second aim is to investigate whether the relationships among social isolation, stress hormones, and aggressiveness of disease vary by age, socioeconomic status, and neighborhood characteristics. Finally, a third goal of the cross-center analysis is to investigate whether relationships among social isolation, stress hormones, and aggressiveness of disease hold across

disease states, and in particular, across cancer sites. All eight centers are now collecting data on social isolation and measuring for the same biomarkers of stress.

While the main focus of the cross-center analysis is to examine social isolation, stress hormones, and disease, each center is unique and will bring to the forefront through varying causal pathways, factors that influence disease progression. In this way, the CPHHD cross-center analysis will reveal a multifaceted system of social and psychological factors, as well as physiological stress reactions linking the population level to the disease level.

For more information on the Center for Interdisciplinary Health Disparities Research at the University of Chicago, please visit <http://cihdr.uchicago.edu/>.

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3rd Annual CPHHD PI Meeting -December 11 2006- NIEHS campus in Research Triangle Park, NC

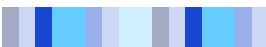


The CPHHD PIs and NCI, NIEHS, and NIA members met on Monday, December 11, 2006 at the NIEHS campus in Research Triangle Park, NC. The day began with a welcome from Dr. John M. Flack of Wayne State University. Center presentations followed promptly, beginning with “Cervical Abnormalities and Measures of Chronic Stress” by Dr. Electra Paskett from Ohio State University. Dr. Flack also presented “Stress, Blood Pressure and Salt Sensitivity” and Dr. Tim Rebbeck (University of Pennsylvania) presented “Multilevel influences on prostate cancer outcomes.” Other presentations that followed included: “Breast cancer and social interactions: identifying multiple environments that regulate gene expression across the life span,” by Dr. Sarah Gehlert (University of Chicago), “Change in neighborhood context and risk of late stage diagnosis of breast cancer: a multi-level approach” by Dr.

Richard Warnecke (University of Illinois at Chicago), “Neighborhood, Race and Allostatic Load” by Dr. Nicole Lurie (RAND), “Impact of a technologic hazard on circulating stress-related cytokines,” by Dr. James Goodwin (University of Texas Medical Branch), and “Nutrition and Stress in Puerto Rican Adults, from Neighborhoods to Genes” by Dr. Katherine Tucker (Tufts University).

At the sponsor session, opening remarks made by Dr. Flack were followed by a CPHHD progress overview presented by Drs. Rebbeck and Gehlert. The PI meeting included a poster session, convening with topics such as preliminary data findings, emerging science, cross center collaborations and novel hypotheses. The introduction to cross-center collaborations including Dr. Gehlert’s discussion of “Social isolation, stress and disease aggressiveness” and Dr. Warnecke presentation on “Neighborhoods: stress, socioeconomic status and gentrification.”

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Announcements & Awards



Announcements from centers... publications, awards, etc.

- UIC: In response to the financial difficulties at Stroger Cook County Hospital and the recent reports of very poor breast cancer outcomes in Chicago compared with other major cities and the national data, a Breast Cancer Summit was called. Representatives from both the CIDHR and the UIC-CPHHD were active participants in the Summit. Carol Ferrans, Deputy Director of the UICCPHHD is chair of the Access Committee that is preparing a strategy to address the issues of breast cancer outcomes in Chicago. Using data from our research, she is leading a team to prepare recommendations on addressing issues of access to

mammography in Chicago. The report will be presented in October.

- OSU: The OSU CPHHD co-sponsored the second annual Research Update on Cancer in Appalachia on April 17th. Over 114 participants from universities and communities throughout the Ohio Appalachia area attended. Presentations from the CPHHD projects were included in the meeting.



Upcoming Dates & Events

4th Annual Grantees Meeting

June 7-8, 2007. Tufts University- Boston, MA

The purpose of this Annual Grantee Meeting is to present research updates from the participating centers and updates from working groups. It also provides an opportunity to foster cross-center collaborations and research endeavors.

For more information, please visit the CPHHD web portal.

Cancer Health Disparities Summit 2007:

Catalyzing Trans-disciplinary Regional Partnerships to Eliminate Cancer Health Disparities



July 16-18, 2007. Bethesda North Marriott Conference Center and Hotel, Bethesda, MD

Cancer Health Disparities Summit 2007 (Summit 07) builds on last year's meeting, which outlined a wide range of recommendations to guide programs despite programmatic challenges and budget constraints. Summit 07 will focus on the next steps of developing strategies to implement those recommendations, including promoting synergy, developing research concepts, and strengthening research platforms. Collaborations with the National Center on Minority Health and Health Disparities (NCMHD) and a new partner, National Center on Research Resources (NCRR).

The Summit 07 program will feature highlights of grantees in defined regions that have implemented successful program strategies and share accomplishments and challenges across several cross-cutting themes:

- Collaborations and Partnerships
- Communications and Bioinformatics
- Community Engagement
- Managing and Sustaining Programs
- Training and Education

The goal is to bridge programs by encompassing a regional approach and performing a preliminary overall assessment of the currently funded portfolio of participating large-scale cancer health disparities programs. Summit 07 will segment programs into four regions to address the five cross-cutting themes.

<http://cancermeetings.org/CHDSummit07/>

The Science of Cancer Health Disparities in Racial/ Ethnic Minorities and the Medically Underserved



American Association for **Cancer Research**

November 27 - December 1, 2007. Atlanta Marriott Marquis, Atlanta, GA

An AACR Conference in Cancer Research in conjunction with the Minorities in Cancer Research Council of the AACR. Conference Co-Sponsored by the NCI Center to Reduce Cancer Health Disparities

This historic conference will highlight the latest findings in cancer health disparities research from many disciplines - genetics, cell biology, epidemiology, prevention, behavioral science, and clinical medicine. It will bring together cancer researchers, clinicians, advocates, survivors, administrators, and other experts to identify the next challenges and priorities in efforts to reduce the incidence and mortality due to cancer health disparities.

<http://www.aacr.org/home/scientists/meetings--workshops/cancer-health-disparities.aspx>





In the Spotlight...

Inter Center Study of Poverty, Age, Race and Stage at Diagnosis



This two part project proposes to disentangle the effects of race/ethnicity and socioeconomic status on stage at breast cancer diagnosis.

Part I is methodological and examines the effects of new statistical techniques for separating the effects of race/ethnicity and poverty on disease outcome. Part I has a specific focus on developing and testing the generalizability of methods for estimating socioeconomic status.

Part II: Effects of Neighborhood Change on Stage of Breast Cancer Diagnosis

The second component of this inter center study is an examination of the effects of neighborhood change on stage of breast cancer diagnosis. As with part 1, investigators will test the generalizability of models of neighborhood change that predict late

stage diagnosis to other areas where either the ethnic/racial population is different or where the pattern of neighborhood change differs. The study examines the effects of age, poverty, and race/ethnicity in six geographic areas, metropolitan Boston, Detroit, metropolitan Pennsylvania, metropolitan Los Angeles, Cook County, Illinois and metropolitan Washington, D.C.

The Chicago Leadership includes: Richard Campbell, Ph.D., Richard Barrett, Ph.D., Therese Dolecek, Ph.D., Richard Warnecke, Ph.D.

For the background of each part please see page 4.

PENN / RAND Cross-Center Project

Prostate cancer is the most common cancer among men and the second most common cancer overall. The burden of prostate cancer is substantially greater among Black men than White men. Black men have an age adjusted incidence rate of 272 per 100,000 compared to 169 per 100,000 white men. Racial differences in age adjusted mortality are even larger (68.1 per 100,000 compared to 27.7 per 100,000). As with most solid tumors, stage at presentation is the most powerful predictor of prostate cancer case fatality. Five year disease specific survival for men who present with localized disease is 100% compared to 34% for men who present with advanced disease. Racial differences in stage at presentation contribute to racial differences in prostate cancer mortality, as Black men are substantially more likely to present with advanced disease than are White men.

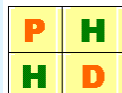
Although most prior research has focused on the contribution of individual biological, behavioral and socioeconomic characteristics to prostate cancer disparities, these individual characteristics comprise only one part of the picture. Each of these individuals is nested within a social, physical and health care environment that is increasingly recognized to have a substantial impact on health outcomes. Although relatively few studies have examined the association of neighborhood characteristics and cancer, these pathways are likely also to influence the presentation and outcomes of cancer. Furthermore, because neighborhood characteristics differ by race in the US, these pathways may also contribute to racial disparities in cancer presentation and survival.

In this Penn-RAND supplement, we are investigating the relationship between *social and physical environment, health care quality and prostate cancer presentation and outcomes*. The data on the social

and physical environment have been assembled at the RAND Center for Population Health and Health Disparities and include a wide range of measures at the level of the census tract. The data on health care quality and prostate cancer presentation and outcomes are derived from SEER-Medicare, Medicare, AMA, and AHA data as part of the Center for Population Health and Health Disparities at the University of Pennsylvania. These data sources provide a unique resource with three critical components not available through linkages that do not include health care administrative claims data. We will conduct multi-level analyses to examine two potential mechanisms by which neighborhood characteristics may contribute to the racial disparity in prostate cancer incidence and mortality in the US. In the first set of analyses, the dependent variables will be prostate cancer incidence rates (including rates of localized and advanced disease and race-specific rates) at the census tract level. In the second set of analyses, the dependent variable will be prostate cancer mortality at the individual level, with the focus on racial differences in stage adjusted mortality. For both sets of analyses, the primary independent variables will be the neighborhood characteristics at the census tract level. In addition, we will investigate the contribution of individual measures of health care access and quality as well as neighborhood level measures of health care infrastructure to these relationships. These multi-level analyses will adjust for individual level characteristics including age, race, marital status, health status (using comorbidities), and socioeconomic status (using block group measures).



Center for Population Health and Health Disparities
A RAND HEALTH PROGRAM



Penn Center for Population Health & Health Disparities



Up close...

*Inter Center Study of Poverty, Age, Race and Stage at Diagnosis*

Richard Campbell, Ph.D., Richard Barrett, Ph.D., Therese Dolecek, Ph.D., Richard Warnecke, Ph.D.

Part I: Disentangling the Effects of Race/ethnicity and Socioeconomic Status on Stage at Breast Cancer Diagnosis.

Background: An analysis of 28,000 breast cancer cases in Cook County, Illinois reported to the Illinois State Cancer Registry disentangled the effects of race and poverty within census tracts and show differential patterns of interaction among these variables. The analytic methods are innovative relative to common practice in research assessing the relationship of variables such as age, race, and poverty status drawn from census tracts. These techniques include: a) analysis of breast cancer stage using an ordered logistic regression rather than dichotomization such as late stage versus other, b) analysis based on a random effect model, which accounted for nesting of cases within tracts, and c) portraying the effects graphically in a manner accessible to policy makers and community members.

Part II: Effects of Neighborhood Change on Stage of Breast Cancer Diagnosis

Background: A preliminary study of 28,000 women diagnosed with breast cancer in Cook County during the period 1994-2000 reported that neighborhood socioeconomic upward change is highly associated with patient's likelihood of advance (distant) stage diagnosis. Specifically, the faster the neighborhood changes (measured in percent increase in the median owner occupied housing value, percent college graduates, and percent professional and managerial workers between 1990 and 2000), the higher probability of distant stage diagnosis a woman would have, controlling for the neighborhood disadvantage, affluence and concentration of immigrants in 1990. Patients living in economically disadvantaged neighborhoods and immigrant concentrated areas were more likely to be diagnosed at the advanced stage than the patients living in less disadvantaged or less immigrant-populated areas. Patients living in the affluent neighborhoods were less likely to have advance stage diagnosis. At the individual level, distant stage diagnosis was associated with age, and African American patients. The neighborhood change variables were measured by 1990 and 2000 census tract level data, and neighborhood measures in 1990 were constructed based on Sampson, et al. in their study of Human Development in Chicago Neighborhoods (Sampson RJ. "Neighborhood level context and health: lessons from sociology". In: Kawachi I, Berkman LF, eds. Neighborhood and Health. New York, NY: Oxford University Press;2003:132-146).

This work is significant for understanding health disparities.

- The estimates in the current literature using race/ethnicity and poverty tend to confound race/ethnicity and poverty, particularly in urban areas. As we replicate this work in the other areas with different distributions of race/ethnicity and poverty, understanding this relationship and its sensitivity to the way it is estimates is a key element in understanding the relationship of disparities in stage of breast cancer diagnosis to race/ethnicity, poverty and other factors such as age.
- Additional information, such as race-specific poverty, at the census tract level of aggregation is available to estimate the relationships between race/ethnicity and poverty, and probably other indicators as well. This replication allows us to develop and test alternative methods that make more use of this available information.
- The examination of these relationships independently will strengthen our capacity to develop denominators that allow for population estimate of the effects of interventions, thus strengthening the generalizability of findings from interventions.
- Although we will conduct the actual statistical analysis and data management at one site, each participating center have a study representative. We will meet monthly and consult with these co-investigators. Moreover, we intend to treat all original findings as provisional depending on further analysis and consultation among this group. Thus the study process will illustrate how collaboration can produce results that would not be produced at a single center.

Finally, we plan to carry this work further with a multi-site proposal. Additional funding will allow us to continue the proposed work and to contribute further to understanding how to estimate the population patterns associated with disparities appropriately and to evaluate the effects of interventions to address them.