

Arnold School of Public Health

**Institute for Partnerships to Eliminate Health Disparities**

University of South Carolina

# Poster Session & Abstracts

Moving Forward: Making the Affordable  
Care Act Work through Research, Education  
and Community Engagement

[sph.sc.edu/health\\_disparities](http://sph.sc.edu/health_disparities)

FRIDAY  
April  
11

Part of the 7th Annual  
James E. Clyburn  
Health Disparities Lecture



UNIVERSITY OF  
**SOUTH CAROLINA**  
Arnold School of Public Health

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Moving Forward: Making the Affordable Care Act Work through Research, Education and Community Engagement

Part of the 7<sup>th</sup> Annual James E. Clyburn Health Disparities Lecture

April 11, 2014

Columbia Metropolitan  
Convention Center  
Columbia, South Carolina

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This year's Poster Session & Abstracts booklet will showcase health disparities research and practice being conducted by faculty, postdoctoral research fellows, staff, and students at the University of South Carolina. Abstracts submitted by individuals from other academic institutions and community-based organizations describing their efforts to eliminate health disparities are also included. The 7<sup>th</sup> Annual James E. Clyburn Health Disparities Lecture Poster Session is an opportunity for individuals to share their health disparities research and practice with others who are “...making the Affordable Care Act work through research, education and community engagement.”

The Poster Session & Abstracts booklet is available on the Institute for Partnerships to Eliminate Health Disparities website at [http://www.sph.sc.edu/health\\_disparities/poster.shtml](http://www.sph.sc.edu/health_disparities/poster.shtml).

**Funding Source:** The poster session was supported in part by grant number P20MD001770 from the National Institute for Minority Health and Health Disparities (NIMHD). The content of the abstract booklet is solely the responsibility of the contributing authors and does not necessarily represent the official views of the NIMHD or the National Institutes of Health (NIH).

# Poster Session Abstracts

## **P01. Surgeon influence on use of needle biopsy in breast cancer patients: A national Medicare study**

Jan M Eberth, PhD; Ying Xu, MD, MS; Grace L Smith, MD, PhD, MPH; Yu Shen, PhD; Jing Jiang, MS; Thomas A Buchholz, MD; Kelly K Hunt, MD; Dalliah M Black, MD; Sharon H Giordano, MD, MPH; Gary J Whitman, MD; Wei Yang, MD; Chan Shen, PhD; Linda Elting, DrPH; Benjamin D Smith, MD

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Department of Biostatistics (YS)

Department of Radiation Oncology (GLS, TAB, BDS)

Department of Surgical Oncology (KKH, DMB)

Department of Breast Medical Oncology (SHG)

Department of Diagnostic Imaging (GJW, WY)

The University of Texas MD Anderson Cancer Center

### **Purpose**

Use of needle biopsy is a proposed quality measure in the diagnosis and treatment of breast cancer, yet prior literature documents underuse. Nationally, little is known regarding the contribution of a patient's surgeon to needle biopsy use, and knowledge regarding downstream impact of needle biopsy on breast cancer care is incomplete.

### **Methods**

Using 2003-2007 nationwide Medicare data from 89,712 breast cancer patients and 12,405 surgeons, logistic regression evaluated three outcomes: surgeon consultation before vs. after biopsy, use of needle biopsy (yes/no), and number of surgeries for cancer treatment. Multi-level analyses were adjusted for physician, patient, and structural covariates.

### **Results**

Needle biopsy was used in 68.4% (n=61,353) of all patients and only 53.7% of patients seen by a surgeon before biopsy (n=32,953/61,312). Patient factors associated with surgeon consultation before biopsy included Medicaid coverage, rural residence, residence >8.1 miles from a radiologic facility performing needle biopsy, and no mammogram within 60 days before consultation. Among patients with surgeon consultation before biopsy, surgeon factors such as absence of board certification, training outside the US, low case volume, earlier decade of medical school graduation, and lack of specialization in surgical oncology were negatively correlated with receipt of needle biopsy. Risk of multiple cancer surgeries was 33.7% for patients undergoing needle biopsy versus 69.6% for those who did not (adjusted RR 2.08; P<0.001).

**Conclusion**

Needle biopsy is underused in the US, resulting in a negative impact on breast cancer diagnosis and treatment. Surgeon-level interventions may improve needle biopsy rates and, accordingly, quality of care.

**Funding Source**

This work was supported by the Cancer Prevention & Research Institute of Texas (RP101207; SH Giordano, L Elting, BD Smith), the Cancer Prevention Training Program at MD Anderson (R25T CA57730; JM Eberth), the American Cancer Society (RSG-09-149-01-CPHPS; SHG), a Multidisciplinary Postdoctoral Award from the Department of Defense (GL Smith), the National Cancer Institute (Grants CA 016672 and CA 079466; Shen), the National Cancer Institute (Grants CA16672 and T32CA77050; Department of Radiation Oncology), and a philanthropic gift from Ann and Clarence Cazalot. The funding sources played no role in any aspect of this study, including no role in data collection, analysis, or interpretation; trial design; patient recruitment; writing of the manuscript; or the decision to submit it for publication. None of the authors were paid to write this manuscript. Dr. BD Smith receives research funding from Varian Medical Systems (SR2011-00034954RG 01), but this funding was not used for the current study. Dr. W Yang is a consultant to Toshiba and Seno Medical, has received payment for developing an educational presentation for Amirsys, and her department receives funding from VuComp. There are no other financial conflicts.

**Acknowledgements**

Not applicable

## **P02. The Effect of MicroRNA 187 on Hepatitis C Virus Replication in Infected Liver Cells**

Shaniqua S. Tisdale, Gloria S. McCutcheon, Samina Noorali

### **Background**

Hepatitis is an inflammation of liver. Hepatitis is caused by toxins, drugs, heavy alcohol drinking, bacterial and viral infections. Hepatitis is caused by viruses' types A, B, C, D, E, and G. Hepatitis C infection is caused by Hepatitis C virus (HCV), which accounts for acute illness and results in chronic infection, but most of the time, when untreated may result in cirrhosis, liver failure, cancer and even death. HCV is a single stranded RNA virus and is 9600 nucleotides bases long. MicroRNAs (miRNAs) are small RNAs that regulate post-transcriptional activities by binding to complementary sequences in messenger RNA (mRNA).

### **Hypothesis**

We hypothesize that miRNAs showing homology with HCV mRNAs could be used as regulatory targets for HCV replication. Objective: The proposed project will identify host miRNAs which show more than 85% homology with HCV mRNA, which could be used as a potential antiviral therapy for inhibiting HCV expression in hepatocytes.

### **Materials and Methods**

The proposed project has identified a host miRNA, miR-187 showing 85.7% homology with HCV mRNA and 2-7 bp alignment at 3' UTR of HCV genome. Huh-7.5 (liver) cells were transfected with HCV genotype 1b RNA and host homologous miR-187. Expression and viral load of HCV in infected Huh-7.5 cells were analyzed by Green Fluorescent Protein (GFP) Staining, immunostaining and quantitative reverse transcriptase polymerase chain reaction (qRT-PCR).

### **Results**

Over the 12 weeks selection period, Huh-7.5 cells that were transfected with miR-187 along with HCV genotype 1b RNA showed distinct localization of HCV within the liver cells and a steady decrease in HCV mRNA level was observed within the cells.

### **Conclusion**

We conclude that miR-187 when transfected with HCV genotype 1b RNA in Huh-7.5 hepatocellular cells did bind to the HCV mRNA and decreased the mRNA level of HCV genotype 1b RNA in infected hepatocellular cells.

### **Funding Source**

Funded by the National Institutes of Health, National Institute on Minority Health and Health Disparities, USC Grant No. 5P20MD001770-07.

### **Acknowledgements**

Not applicable

### **P03. Is it More Than Mistrust? Examining the Influence of Structural Factors on Cancer Research Participation in a Southern Black Population**

Deeonna E. Farr, MPH, DrPH candidate, CHES; Heather M. Brandt, PhD, CHES; Daniela B. Friedman, MSc, PhD; Dawnyea Jackson, MS, PhD candidate; John Ureda, MPH, DrPH, Deloris Williams, PhD; Dolores Scott, Med; James R. Hébert, MSPH, ScD

#### **Background**

An important strategy for reducing cancer disparities is to involve Black Americans in cancer prevention research; however, the relative influence of structural and attitudinal factors on research participation is unclear. This study examined the influences of attitudes toward research and structural factors on Blacks' participation in cancer research in the context of a larger community-based participatory research project. We hypothesized that structural factors would have a stronger influence on participation than attitudes towards cancer research.

#### **Methods**

Surveys were administered to a convenience sample of adult males and females in participating Black churches in South Carolina. The instrument included items assessing sociodemographics, health literacy, discrimination, and attitudes toward and participation in cancer research. Data were collected from 676 respondents from October 2012 to July 2013. Statistical analyses were conducted in SAS 9.3.

#### **Results**

Less than 6% of respondents reported being asked to participate in cancer research and only 4% had ever participated. Almost half of respondents were uncertain about research risks and future participation. Regression models revealed that rurality, health literacy, and health insurance type were significant in predicting the endorsement of the societal benefits of cancer research. Fisher exact tests revealed differences in prior research participation by employment status, health literacy, belief in research benefits and risks, and intention to participate.

#### **Conclusions**

Structural factors influenced attitudinal factors and both types of factors were related to research participation. The strength and direction of their influence on participation could not be determined due to low levels of research invitations and prior research participation in this sample. Future studies examining Black research participants' beliefs and experiences should explore the relationships between these factors. Strategies to improve cancer research participation should include efforts to address both attitudinal and structural factors and provide information about actions taken to minimize risk to participants.

#### **Funding Source**

Grants Numbers U54CA153461 (PI: Hébert) and 3U54CA153461-04S2 (PI: Hébert/PL: Farr)

#### **Acknowledgements**

Not applicable

## **P04. Disparities in the implementation of electronic health records across rural and urban settings**

Amanda Stevens and Deshia Leonhirth, MBA, PhD

### **Background**

The American Recovery and Reinvestment Act's Health Information Technology for Economic and Clinical Health (HITECH) provision of 2009 seeks to incentivize providers to adopt and use electronic health records (EHRs) in a "meaningful" way, including functions related to error reduction and cost containment. Understanding the adoption and implementation of EHR functionalities across rural and urban locations is important in order to determine if any disparities exist.

### **Methods**

The 2010 American Hospital Association Information Technology Supplement was merged with the 2010 Nationwide Inpatient Sample. The final sample included hospitals present in both datasets (n=347). Bivariate analyses using chi-square significance tests were used to determine if level of EHR implementation for five computerized provider order entry (CPOE) and five clinical decision support (CDS) functionalities varied by rural and urban hospital location.

### **Results**

Bivariate analyses revealed significant relationships between level of implementation of four of the five CDS functionalities (clinical guidelines, clinical reminders, drug allergy alerts, and drug-drug interaction alerts). There were no significant relationships detected for the five CPOE functionalities tested (laboratory tests, radiology tests, medications, consultation requests, or nursing orders) or for the CDS functionality drug dosing support.

### **Conclusion**

The HITECH provision initiatives could play a vital role in achieving the goal of title III of the Patient Protection and Affordable Care Act to improve the quality and efficiency of health care. EHR use has been touted for its potential to improve quality and efficiency. Based on the results of this study, implementation of CPOE functionalities varies significantly across rural and urban settings. Studies have demonstrated the ability of CPOE to improve patient outcomes, thereby improving quality and efficiency. Policymakers should consider the disparities in EHR implementation by location for future policies as a tool to improve the disparities in health outcomes that exist across rural and urban locations.

### **Funding Source**

This study was funded by the University of South Carolina Upstate's Office of Sponsored Awards and Research Support.

### **Acknowledgements**

Not applicable

## **P05. Understanding the Role of Diabetes in Breast Cancer survival among African-American and European-American populations in South Carolina**

Marsha Samson; Dr. Swann Adams

### **Background**

In South Carolina, the co-occurrence of diabetes mellitus (DM) and breast cancer (brCA) is much more prevalent among African-American (AA) populations than among European-American (EA) populations. The underlying relationship between diabetes and breast cancer may influence survival. The purpose of this investigation is to examine the effect of diabetes on developing breast cancer and to reduce racial disparities in breast cancer.

### **Methods**

Study participants included women of EA and AA ethnicity from both the Medicaid ICD-9 designations and the South Carolina Central Cancer Registry (SCCCR). A historical prospective cohort design was used to determine the risk of developing breast cancer among women of different ethnicities with and without DM. The Chi-square test was used to determine the significance of the association; the logistic model was used to assess the relationship between breast cancer and other factors among EA and AA women.

### **Results**

EA had higher rates of diagnosis of breast cancer but AA suffered from more severe tumors and higher death rates. Participants with the co-occurrence of DM and breast cancer have a significant inverse relationship between race and vital status ( $p=.005$ ). The relative risk of developing breast cancer for an AA exposed to DM is 1.04 times more than an AA not exposed to DM. The odds of not surviving from a diagnosis of breast cancer stage III in African-Americans is two times the odds of not surviving brCA stage III in European-Americans compared to the referent group (Stage 0) adjusting for menopause, diabetes, and diabetes medication.

### **Conclusion**

This study illustrates the discrepancy between EA and AA women in terms of breast cancer stage. AA women bear a higher disease burden than EA. To create ethnic-appropriate public health policies it is imperative that we understand the effect of co-morbidities on breast cancer and how we can prevent them from occurring.

### **Funding Source**

Not applicable

### **Acknowledgements**

Not applicable

## **P06. A Novel Statistical Method for identifying Genetic Interactions Associated with Health Disparities**

Sybil Prince Nelson

In the US, prevalence of Systemic Lupus Erythematosus (SLE) is much higher among African Americans (AAs) than Caucasians. However, lupus is very rare among people in West Africa, the ancestral home of most AAs. Both genetic and environmental differences exist between West Africans and AAs leading to the hypothesis that a combination of genetic and environmental factors may be responsible for the high prevalence of SLE in AAs. Identifying high order interactions such as those that might describe SLE status can be difficult using traditional statistical methods where interactions must be selected a priori and where a model must contain interactions and all associated main effects. Classification and regression trees (CART), a nonparametric tree-based method, can build classification models that can identify relationships among variables predictive of disease status. However, CART tends to be biased towards inclusion of continuous variables. Logic regression is an alternative tree-based classification method capable of identifying interactions among binary variables (e.g. SNPs), but it is currently not designed for inclusion of continuous variables. We develop a new algorithm, C.Logic, that allows for incorporation of binary and continuous covariates in a logic regression framework. C.Logic selects an optimal cut point for each continuous variable by comparing 18 different methods of dichotomization. The top performing dichotomization methods are then used to create new binary versions of the continuous variables. C.Logic then applies Logic Regression on the dichotomized data set. We conduct a simulation study to explore the ability of C.Logic relative to CART to correctly identify predictors and interactions known to be associated with a binary outcome (e.g. disease status). Our results show that C.Logic is superior to CART in classifying disease outcome from continuous and binary predictors.

### **Funding Source**

NIAM P60 AR062755

NIGMS T32GM074934

### **Acknowledgements**

Not Applicable

## **P07. Plant Derived Antimicrobial Compounds for the Treatment of Diarrhea Diseases Caused by *Salmonella typhimurium***

Orimadegun Joel Famuyide, Florence Anoruo, Gloria S. McCutcheon, Randall Harris

In every part of the world, infectious diarrhea disease is still a global health issue, though it occurs predominantly in the developing countries and under-served communities. Limited access to portable and clean water and appropriate medical care, collectively increase the incidence and severity of water/food borne diseases, while poor hygiene, inadequate and inconsistent environmental sanitation promote the reinfection. Despite the effort and the progress made in technology which increased understanding of the biology of disease causing microorganisms and their control in the industrialized world, the incidence of disease due to drug resistant pathogenic microorganisms brings about public health concerns. High cost and serious side effects of synthetic antibiotics along with emerging multidrug resistant bacteria have been of great concern in recent years. *Salmonella*, a gram negative rod shaped bacterium causes a wide range of human disease including diarrhea, enteric fever, gastroenteritis and bacteremia. HIV positive people who repeatedly have salmonella bacteria in their blood are diagnosed as having AIDS. Globally each year about 93.8 million cases of gastroenteritis cases are caused by *Salmonella* species with 155,000 deaths. We hypothesized that plant extracts that inhibit the growth of the bacteria will be effective as antimicrobial agents against *S. typhimurium*. This research was therefore conducted to investigate the antimicrobial activities of *Mangifera indica* (Mango), *Psidium guajava* (Guava), *Vernonia amygdalina* (Bitter leaf), and *Ocimum gratissimum* (African basil) against *S. typhimurium*. Sensitivity assays (disc and spot diffusion) were used to determine the inhibitory capabilities of the plant extracts while Kanamycin, an antibiotic was used as control. Results indicated that *M. indica* and *P. guajava* have inhibitory effects on *S. typhimurium*. No significant antibacterial activity was detected with the extract of *V. amygdalina* and *O. gratissimum* against *S. typhimurium*. This shows that both *M. indica* and *P. guajava* can serve as antimicrobial agents against *S. typhimurium*.

### **Funding Source**

Not applicable

### **Acknowledgements**

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## **P08. Identifying Opportunities for Increasing HPV Vaccination at the University of South Carolina**

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### **Background**

College students are ideal to target in human papillomavirus (HPV) vaccination research given the high incidence of HPV in this population. Promoting HPV vaccine uptake among college students is important to curtail the subsequent burden of HPV-associated diseases, such as genital warts and cervical cancer.

### **Purpose**

To explore the status of HPV vaccination at the University of South Carolina (USC) and to examine student, faculty, and staff perceptions related to HPV vaccination and opportunities to promote widespread vaccination on campus.

### **Methods**

HPV vaccination data were obtained from the USC's student health center (2009-2012) and compared to the National College Health Assessment [NCHA]. In-depth interviews with a convenience sample of 21 key informants were conducted using a semi-structured interview guide to contextualize HPV vaccination data. Questions addressed overall campus health concerns, HPV knowledge, HPV informational preferences, vaccination barriers/concerns, and opportunities to increase HPV vaccination knowledge and uptake. Audiorecorded interviews were transcribed verbatim and thematically coded to identify emergent themes.

### **Results**

Due to limitations of the HPV vaccine data on campus, the ability to make comparisons was limited. Emergent themes from interviews were organized into five categories: health issues among college students; communication strategies to increase knowledge of HPV/HPV vaccination; vaccination barriers; race/ethnicity; and role of the "South" in facilitating/hindering vaccination. Recommendations to improve HPV vaccination messaging and uptake on campus included: building on existing vaccination efforts, developing appropriate HPV message content and defining communication channels, and finding potential educators or sources of HPV/HPV vaccination information.

**Conclusion**

Based on limited HPV vaccination knowledge and current efforts to increase participation in HPV vaccination, there is much opportunity to address HPV vaccination among students at USC. Future research should focus on the design, framing, implementation, and evaluation of appropriate HPV/HPV vaccination messages for college students.

**Funding Source**

Not Applicable

**Acknowledgements**

Not Applicable

## **P09. Socioeconomic and demographic disparities in epilepsy in South Carolina**

Dulaney A. Wilson, Anbesaw W. Selassie

### **Background**

Epilepsy is a neurological disorder that impacts quality of life via social stigma, cognitive and emotional problems, economic challenges and comorbidities. An estimated 2.3 million residents of the US have epilepsy with 180,000 Americans diagnosed annually. The differential prevalence of epilepsy by socioeconomic status may reflect a disproportionate burden of epilepsy in minorities.

### **Methods**

This population based, statewide, retrospective cohort study of all persons with epilepsy (PWE) or lower extremity fracture (PWLF) seen in SC non-federal hospitals and emergency departments from 2000-2011 were described by socioeconomic and demographic characteristics. Differences in prevalence among PWE and PWLF were assessed by comparison of 95% confidence intervals. The associations of socioeconomic and demographic characteristics in PWE compared to PWLF were further evaluated with logistic regression controlling for demographic and clinical covariables and mortality.

### **Results**

67,892 PWE and 83,004 PWLF were analyzed. PWE had significantly higher prevalence of African-Americans compared with PWLF (35.2% vs 27.0% respectively). A higher proportion of PWE lived in a low income area compared with PWLF (17.2% vs. 12.6%, respectively). With regard to age, 14.8% of PWE were over the age of 65 while 32.4% of PWE had Medicare. After adjustment for all other covariables, PWE were more likely to be African-American, Hispanic or of other races compared with PWLF. PWE were more likely to be male and less likely to have private insurance. PWE were slightly less likely to live in a low or moderate income area after adjustment for age, race, sex and payer status.

### **Conclusion**

After controlling for covariables such as income, comorbidities and number of visits, PWE were more likely to be non-white and male. Identification of disparities that are strongly and consistently associated with epilepsy is critical for identifying research and practice goals that may ultimately improve the quality of life for PWE.

### **Funding Source**

The Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Epilepsy Program Office (Grant 01DP003251).

### **Acknowledgements**

Not applicable

## **P10. Depressive symptoms and responses to cigarette pack warning labels among Mexican smokers**

Amira Osman, James F. Thrasher, Ebru Cayir, Rosaura Perez-Hernandez, Brett Froeliger

### **Background**

Depression is associated with smoking and with deficits in emotional and cognitive information processing. Our objective was to examine the effect of depression on smokers' responses to health warning labels (HWLs) on cigarette packages.

### **Methods**

Data were analyzed from Wave 4 and Wave 5 of the International Tobacco Control Policy Evaluation Project (ITC-Mexico). These waves coincide with the period before and after implementation of pictorial HWLs in Mexico. Generalized estimating equation models estimated main and interactive effects of depressive symptoms and time on cognitive and behavioral responses to HWLs. Logistic regression models were estimated to assess whether baseline depressive symptoms predicted cessation behaviors or changes in cigarette consumption at follow up.

### **Results**

Smokers with high depressive symptoms had relatively stronger responses to HWLs, greater knowledge of tobacco constituents and higher awareness of quitline number. Significant interactions between depressive symptoms and time were found for models predicting cognitive response to HWLs, knowledge of tobacco constituents, awareness of quitline number, and for stubbing out a cigarette. Increases in responses over time were greater for smokers with low depressive symptoms than with high depressive symptoms. At follow up, HWL-related knowledge was higher among smokers with low depressive symptoms; however, quit-related cognitions and behaviors associated with HWLs remained higher among smokers with high depressive symptoms. Depressive symptoms did not predict cessation behaviors or changes in cigarette consumption at follow up.

### **Conclusions**

Our results suggest that HWLs significantly influence smokers with high depressive symptoms, but these smokers appear less impacted by the introduction of pictorial HWLs in Mexico than smokers with low depressive symptoms do. Given the higher smoking rates and lower quit prospects among smokers with high depressive symptoms, research attention should be directed to determine how national-level tobacco control policies could more effectively target smokers with depression.

### **Funding Source**

Funding for data collection came from the Mexican National Council of Science and Technology (CONACyT Convocatoria Salud-2007-C01-70032).

### **Acknowledgements**

Not applicable

## **P11. The hazard of subsequent stroke in adult-onset epilepsy**

Malek, A.M.1; Wilson, D. A.1; Wannamaker, B.1; Lackland, D. T.1; Selassie, A.W.1

1 Medical University of South Carolina, Charleston, SC, United States.

### **Background**

Epilepsy is prevalent in approximately 0.5%-1% of the general population. Although stroke is known to cause epilepsy, epilepsy precedes stroke in some patients but the relationship is unclear. We hypothesize that individuals with epilepsy onset later in life with no history of stroke will have more stroke than those with lower extremity fracture (LEF).

### **Methods**

Non-federal South Carolina hospital and emergency department (ED) encounters from 2000-2011 were identified. Cases had a diagnosis of epilepsy, and controls were diagnosed with LEF (tibia, fibula or ankle). The outcome of interest was stroke occurring >6 months after epilepsy or LEF. Comorbid conditions were identified. Individuals under age 35, those with sub-arachnoid hemorrhage, or a previous stroke were excluded. Descriptive statistics and proportions with 95% confidence intervals (CIs) were used to compare characteristics. Time from the first epilepsy or LEF encounter to the date of stroke, death or end of the study was calculated and the association of independent variables with stroke assessed using Cox Proportional Hazard techniques.

### **Results**

112,280 individuals without prior stroke were seen in the hospital or ED for epilepsy (70,258) or LEF (42,022). 6,954 (9.9%) of those with epilepsy and 2,406 (5.7%) of those with LEF suffered a subsequent stroke. The adjusted hazard of stroke was 1.60 (95% CI 1.53-1.68) among those with epilepsy, and was also higher in African-Americans, those >55 years at first admission, with Medicare or Medicaid coverage, and a history of hypertension, myocardial infarction, diabetes, hyperlipidemia, arteriosclerosis, and alcohol abuse.

### **Conclusion**

Those with epilepsy were 60% more likely to have subsequent stroke than controls after adjustment for multiple factors. Possible explanations of this increased risk are adverse effects of medications, subclinical cerebrovascular conditions, or a sedentary lifestyle. Clinicians should be aware of the increased stroke risk and consider aggressively treating cerebrovascular risk factors in epilepsy.

### **Funding Source**

CDC

### **Acknowledgements**

Not applicable.

## **P12. Cultural Narrative as a Tool in HIV Prevention: Stories of HIV-Positive African American Women**

Alyssa G. Robillard, PhD, Kaleea R. Lewis, MSPH,  
Charis R. Davidson, MPH, Carmen H. Julious, LISW-CP/AP

### **Background**

Over 80% of women in South Carolina with HIV/AIDS are African American (SCDHEC, 2013). Prevention efforts for African American women remain paramount in stemming infection rates. Culture-specific interventions demonstrate success, however few have used true culture-centric approaches with African American women. Cultural narratives (stories) may be effective because of their ability to resonate in ways that extend beyond the surface of the story into the culture embedded in the narrative. The purpose of this qualitative study is to document the cultural narratives of HIV risk from HIV-positive African American women (N=25) to inform the development of an innovative intervention.

### **Method**

Semi-structured individual private interviews using a chronological storytelling approach were conducted with HIV-positive African American women over the age of 18 (N=25) recruited through organizations working with people living with HIV/AIDS (PLWHA). Interviews were conducted using an interview guide developed by the research team with input from the partner organizations. Narrative analysis of transcribed interviews was conducted based on the chronology of (1) before contracting HIV, (2) during or around the time HIV contracted, and (3) living with HIV/AIDS.

### **Results**

Stories before contracting HIV revealed the salience of “family.” “Lack of condom use” occurred within varying contexts, including established relationships. Themes of “infidelity” and the “nature of relationships” were prominent during or around the time women contracted HIV. So too was “status disclosure,” specifically lack of disclosure on the part of partners. Stories of women living with HIV included themes of “day-to-day living,” as well as “social support.” Stories also centered around “life outlook,” specifically not seeing HIV as a death sentence.

### **Conclusions**

Narratives from this research describe the HIV experiences of African American women and provide a cultural context of risk that can inform innovative HIV prevention interventions. Digital story-telling using cultural narratives may be an effective way to address factors that drive HIV risk among a broader base of women whose accessibility to traditional interventions may be limited.

### **Funding Source**

Not applicable

### **Acknowledgements**

Not applicable

## **P13. Normalizing sex to promote effective reproductive life planning**

Kathryn Luchok, PhD, Linda Robinson, APRN-BC, MSN, Norma Tan, PhD

### **Background**

The Affordable Care Act provides support for expanded access to birth control, but the provision of access does not assure use. Educational programs are needed to promote reproductive literacy. Despite the fact that numerous entities are devoted to improving reproductive health outcomes, most current sex education paradigms use fear to dramatize sex rather than accepting it as a natural part of human development. This counter-intuitive approach is ineffective. A better approach respects the power and process of human reproduction. Accepting human reproduction as a biological, involuntary, inevitable, and evolutionary process normalizes the preparation required to intentionally plan one's reproductive life and future.

### **Methods**

Normalization was the theoretical foundation used to train Reproductive Health Team Leaders in the Healthy Start programs that participated in this intervention. Healthy Start, a federally funded program to reduce poor pregnancy outcomes, encourages programs to address interconceptual health, especially adequate birth spacing. Three Healthy Start programs in South Carolina prepared their paraprofessional home-visiting staff to be reproductive health "warriors" by: a) identifying Reproductive Health Team Leaders (RHTLs) among staff; b) having a nurse practitioner mentor these RHTLs over 12 to 24 months by increasing their knowledge and skills for normalizing sex through client-centered, nonjudgmental and easy-to-understand communication (using concrete messages and learning tools). RHTLs then conducted training sessions with their peers and various audiences.

### **Results**

Program evaluation revealed the RHTLs underwent profound changes in outlook and comfort level with reproductive health concepts. They became skilled resources for working with clients on reproductive life planning and contraception.

### **Discussion**

The RHTL model adopted by three Healthy Start programs demonstrated how to work with practitioners to normalize sexual education to reduce reproductive illiteracy and improve pregnancy outcomes. This model can be applied by other programs seeking to promote adequate birth spacing, positive pregnancy outcomes and reproductive justice.

### **Funding Source**

Anonymous donor

### **Acknowledgements**

Thanks to the three South Carolina Healthy Start Programs and their Reproductive Health Team Leaders.

## **P14. Higher Risk of Death Among Rural Dual-Eligible Medicare Beneficiaries**

Ashley Robertson, JD, Jan Probst, PhD, Kevin Bennett, PhD

### **Background**

Beneficiaries who are eligible for both Medicare and Medicaid constitute a high need population. In rural areas, reduced provider availability may lead to poorer health outcomes among these vulnerable adults. Our research explored potential mortality disparities associated with rural residence.

### **Method**

Using the 2009 5% sample of Medicare beneficiaries (n=2,424,512), we identified 397,816 beneficiaries who were continuously eligible for both Medicare and Medicaid. The outcome studied was death from any cause during the year. Rural residence was defined at the county level using Urban Influence Codes. Multiple logistic regression models were used to analyze rural-urban differences in risk of death after adjusting for demographic (age, race, sex, region) and clinical (presence/absence of ESRD, Alzheimers, hospitalization during year) confounders.

### **Results**

Rural dual-eligible Medicare beneficiaries had a higher risk of death than their urban counterparts (7.19% vs 6.07%). Rural beneficiaries living in remote rural counties had the highest risk of death (7.56%); those living in micropolitan or small adjacent counties also experienced higher risk than urban beneficiaries (7.11% and 7.12%, respectively,  $p < .0001$ ). In multivariable analysis, this disparity persisted, with rural dual-eligibles more likely to die than urban dual-eligible beneficiaries (OR 1.036, CI 1.003-1.071). When analyzed across rurality, higher risk was found only for micropolitan counties (OR 1.58, CI 1.016-1.101).

### **Conclusion**

Rural dual-eligible beneficiaries face an increased risk of death, even after adjusting for clinical condition. Further research is needed to determine the degree to which this disparity may be associated with provider availability and with quality of care metrics.

### **Funding Source**

Funded by a grant from the Office of Rural Health Policy

### **Acknowledgements**

Not applicable

## **P15. "BMORe- A pilot intervention to improve inflammatory and overweight markers among African-Americans"**

Azza Shoabi, Shraddha Vyas, Samira Khan, Tom Hurley, James Hebert

### **Background**

Obesity and overweight are considered gateway conditions for many chronic diseases, primarily through mechanisms related to chronic inflammation. South Carolina's (SC) African Americans (AA) population has extreme health disparities for most of these inflammation-related chronic diseases. They also tend to be metabolically obese (i.e., expressing characteristics of obesity at lower body weights than other population subgroups). This paper presents findings on the effectiveness of a pilot diet, physical activity (PA), and stress reduction intervention (the BMORe pilot) on inflammatory markers and indicators of overweight among AA.

### **Methods**

The BMORe pilot is an intervention-only study. Eligible participants; were AA with a body mass index (BMI= weight (kg)/height (m)<sup>2</sup>) between 25 and 40 kg/m<sup>2</sup> and were willing and able to provide informed consent. Subjects participated in 12 group-based sessions targeting cognitive and behavior skills. The main outcome measures; dietary inflammatory index (DII), total energy intake, total energy expenditure and C-reactive protein (CRP) were measured at baseline and post intervention. Mixed linear models were used to estimate the average difference in outcome measures pre- and post-intervention.

### **Results**

A total of 23 subjects were included in the final analysis, including 3 (13.04 %) men and 20 (86.96 %) women. The mean age was 48.8 years and the baseline mean BMI was 33.5kg/ m<sup>2</sup>. At the end of the intervention; DII increased slightly from 0.81 (-0.07,1.681) to 0.88 (-0.01,1.77), total energy intake decreased by 16% from 1515 kcal/day (1359,1672) to 1278 kcal/day (1124, 1431), total energy expenditure decreased by 3% from 2324 (2134, 2509) to 2401kcal/day (2217,2586), CRP decreased by 14% from 5.25 (2.94,7.56) to 4.50 (2.74, 6.25).

### **Conclusion**

Group-based interventions targeting cognitive and behavioral skills have the potential to produce meaningful improvements in diet and PA, which can improve obesity- and inflammation-related outcomes.

### **Funding Source**

National Cancer Institute

### **Acknowledgements**

Not applicable

## **P16. Home Health Post Stroke: Rural and African American Medicare Beneficiaries Less Likely to Have Rehabilitation Specialist Visits**

Grishma Bhavsar, MPH; Medha Iyer, PhD, MD; Kevin Bennett, PhD; Janice Probst, PhD

### **Purpose**

The quality and intensity of post-acute care received after a cerebrovascular event (hereafter, stroke) can affect the patient's functional recovery. In rural areas, where specialized providers such as physical (PT) and occupational (OT) therapists are in short supply, home health patients may be less likely to receive rehabilitation specialist care.

### **Method**

We analyzed 2009 Medicare home health claims, restricted to white or African American beneficiaries (AA), age 65+, who experienced stroke within the past year, did not die, and had 1 or more home health visits (n=15,741). Rurality was measured at the county level. We assessed whether the beneficiary had received at least one visit from a PT, OT, or either. Adjusted analysis controlled for age, sex, number of visits, comorbidities, and dual eligibility (Medicare plus Medicaid).

### **Results**

Urban white beneficiaries were most likely to have seen a PT (84.0%), followed by urban AA (82.0%), rural white (79.7%), and rural AA beneficiaries (70.5%;  $p > .002$ ). For OT, only rural AA beneficiaries differed from urban white beneficiaries in bivariate analysis (urban white, 45.3%; rural AA, 34.2%,  $p=0.0002$ ). In adjusted analysis, both AA race (OR 0.792, 95% CI 0.696-0.901) and rural residence (OR 0.691, CI 0.621- 0.769) were associated with reduced odds for PT care. Findings were similar for OT.

### **Conclusion**

Race and residence-based disparities were present in home health rehabilitation services received by stroke patients. Research is needed to ascertain if these disparities are associated with poorer functional recovery. Interventions to increase rural practitioner availability may be appropriate.

### **Funding Source**

Office of Rural Health Policy

### **Acknowledgements**

Not applicable

## **P17. Right-sided adenoma prevalence and histology among African Americans vs. Whites and policy implications for reducing racial disparities in colorectal cancer**

Yi-Jhen Li, PhD, Sudha Xirasagar, MBBS, PhD, Thomas G. Hurley, MS, Meng-han Tsai, MHA

### **Background**

African Americans (AA) suffer 16% higher incidence and 46% higher mortality than Whites. Most cancers arise through the polyp-cancer pathway. Because more right colon polyps/cancers are missed in routine screening colonoscopies, CRC disparities may be partly due to higher incidence of and advanced neoplastic features of right-sided polyps among AAs. In community-based cohort studies, women experience no CRC protective effect in the early years but a protective effect after three years following a negative colonoscopy. Inferior to nil CRC protective effect of colonoscopy is documented for right colon CRC compared to left colon CRC (left colon interval cancer incidence ratio, 0.33; right colon, 1.05).

### **Methods**

This study examines race and gender differences in polyp location and advanced neoplastic features at screening colonoscopies performed between September 2001 and February 2011 at a center using a protocol designed to maximize polyp clearance. A subset of this cohort (2001-2008) had a documented 83% reduction in CRC incidence over 4.8 years of follow-up. Therefore it is plausible that the center's protocol achieves near-total polyp clearance, making this dataset a resource for population-prevalent polyp profile studies.

### **Results**

Of total 20,570 patients, 52% were AA, 54% were female, the overall adenoma rate was 31.4%, advanced neoplasm rate was 6.5%, 22% had a right colon adenoma of which 20% were advanced neoplasms, and 10% had only right adenomas (36% among AA females). Adjusted for age, AA females had higher odds of having right colon adenoma(s) than AA males (OR=1.19) and Whites the least. AA males were the most likely to have advanced right colon neoplasms, followed by White males.

### **Conclusions**

Addressing the issue of missed right colon adenomas may provide a part of the solution to CRC racial disparities affecting AAs. At least part of the prevailing CRC disparity may be attributable to missed right sided polyps that incidentally affect AAs disproportionately more than Whites.

### **Funding Source**

National Cancer Institute

### **Acknowledgements**

not applicable

## **P18. Addressing Acquiescence: Reducing Survey Error to Promote Latino Health**

Rachel E. Davis, Ph.D., Ligia I. Reyes, M.P.H., Oriana Perez, B.S., James F. Thrasher, Ph.D., James R. Hébert, Sc.D., Timothy P. Johnson, Ph.D., Anne Diffenderffer, M.P.A., Ken Resnicow, Ph.D., Frederick G. Conrad, Ph.D., Sunghee Lee, Ph.D., Karen E. Peterson, Sc.D., Saram Han, B.B.A.

Researchers have observed that survey respondents from some social groups may be more likely than others to systematically agree to Likert-scaled items, regardless of item content. This pattern of responding to survey questions is known as acquiescent response style (ARS). Research suggests that 22-24% of Latino respondents acquiesce on health surveys compared to 13% of non-Latino Whites. These culturally patterned differences in ARS may introduce error in health survey data and erroneously inform health disparities research. The Latino population is diverse, and almost nothing is known about factors driving ARS among Latinos. Further, despite the need to obtain valid health data from Latinos, who comprise 16% of the U.S. population and are expected to increase to 29% by 2050, it is unclear how to address ARS. The proposed poster will present the design of a recently initiated study that will: (1) identify predictors of ARS; and (2) screen for the most promising methods of reducing ARS during data collection and adjusting for ARS upon data collection completion. This research focuses on Mexican Americans, Puerto Ricans, and Cuban Americans, which comprise the three largest Latino sub-groups. This study is comprised of two surveys. The first survey will gather data from 2900 Mexican Americans, Puerto Ricans, Cuban Americans, and non-Latino Whites to identify factors associated with ARS. The second survey will compare different methods of addressing ARS among 1161 Mexican American, Puerto Rican, and Cuban American respondents. Findings from this research will provide researchers with empirically driven guidance on when to anticipate and how to reduce ARS-associated measurement error. Such knowledge will improve health data validity through increased ARS awareness and standardization of methods addressing ARS, thereby contributing to more accurate understanding of the psychosocial determinants of Latino health, more effective health promotion programs targeting Latinos, and better long-term Latino health outcomes.

### **Funding Source**

NIH-NCI-R01

### **Acknowledgements**

Not Applicable

## **P19. The Sistas Inspiring Sistas Through Activity and Support (SISTAS) Research Study: Promoting Physical Activity and Healthy Diet among African-American Women in South Carolina (2011-2016)**

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Swann Arp Adams, PhD  
Sue P. Heiney, PhD, RN, FAAN  
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Michael D. Wirth, MSPH, PhD  
Samira Khan, MSW  
Hiluv Johnson, BA  
Cassandra M. Wineglass, MA  
Tatiana Y. Warren-Jones, MS  
Elizabeth A. Murphy, PhD  
James R. Hebert, MSPH, ScD

### **Background**

Some of the most alarming health disparities in South Carolina (SC) are associated with elevated breast cancer mortality rates among African-American (AA) women. The SISTAS Program is a five-year randomized controlled trial utilizing a “centralized” community-based participatory research (CBPR) recruitment strategy for the promotion of physical activity (PA) and healthy diet among AA women to reduce biomarkers of inflammation which have been linked to increased breast cancer risk and mortality.

### **Methods**

Prior to study funding, the State Baptist Young Women’s Auxiliary Health Ministry worked with the USC study team to develop and design the SISTAS program. Upon funding, university personnel, as well as the Community Advisory Panel and the Professional Advisory Panel, designed and implemented a community-wide marketing campaign. AA women  $\geq 30$  years old, no previous cancer diagnoses, and BMI  $\geq 30$  kg/m<sup>2</sup> met eligibility requirement. At baseline, study participants completed anthropometric and blood pressure measurements, waist/hip circumference, and blood draw. Women are randomized to either receive the 12-month intervention immediately or assigned to a delayed intervention group (e.g. invited to participate in classroom sessions after 12-month follow-up measurements). Participants receive 12-weekly classes followed by 9-monthly booster sessions for the intervention arm. Post measurements are assessed at 12-week and 12-month follow-up. Participants randomized to the control arm do not attend classes but receive incentives throughout the 12-month period and receive follow-up calls and/or letters for post measurements.

### **Results**

A majority of women were 50-64 years of age (42.4%), completed some college (42.6%), and were employed full time (45.5%). Among waves 1-3, the mean BMI significantly decreased among intervention participants compared to controls (mean BMI change: -0.49 vs. 0.24; p-value = 0.02).

**Conclusion**

We will be assaying blood samples to determine levels of inflammatory biomarkers (e.g. CRP, IL-6 & TNF $\alpha$ ) and will be analyzing the effect of the intervention on these levels.

**Funding Source**

National Institutes of Health U54CA153461

**Acknowledgements**

We wish to acknowledge the contributions of Ms. Ernie Weisner, Ms. Kendrea Knight, Ms. Ruby Drayton, Ms. Carly Ingram, and Ms. Kimberly Comer for participant recruitment and/or additional assistance. The authors also wish to acknowledge the community par

## **P20. Elucidating the association between perceived cancer risk, neighborhood environment, and lifestyle behaviors among African Americans in the Lowcountry**

LaShanta Rice, MPH, PhD(c); Heather M. Brandt, PhD, CHES; Lucy Annang, PhD, MPH; James Hardin, PhD; Sacoby M. Wilson, PhD, MS; Saundra H. Glover, PhD, MBA

### **Background**

Studies have demonstrated an association between perceptions and environmental health risks and cancer risk separately, but a paucity of research has explored perceptions as a concurrent contributor of health disparities in at-risk populations. The purpose of this study was to explore the relationship between perceived cancer (PCR) and socioeconomic factors, neighborhood environment, and lifestyle behaviors.

### **Methods**

A 59-item community environmental health survey was administered in Metropolitan Charleston (Berkeley, Charleston, and Dorchester County) from March 2013 to September 2013. A convenience sample of 405 adults was recruited at local venues (e.g., libraries, housing authority, and hair salons) and community events. Multivariate logistic regressions were performed in SAS 9.3.

### **Results**

Respondents (N=405) were 99% African American, 81% female (n=322), 19% male (n=75), and ranged from 18 to 87 years of age. Low PCR when measured by likelihood of cancer was associated with non-alcohol use ( $p=0.0476$ ,  $p=0.0457$ ) and sex ( $p=0.0097$ ,  $p=0.0072$ ), and using sunscreen often ( $p=0.0471$ ). Age groups 25-44 ( $p=0.0276$ ) and 45-64 ( $p=0.0439$ ) were associated with lower perceived risk of cancer. When measured by worry, PCR was significantly associated with non-alcohol use, being a current smoker, minimal sunscreen use (i.e. rarely or never), and the belief that the environment plays no role in the development of cancer.

### **Conclusions**

Our findings suggest that perceived cancer risk is an important indicator of health behaviors and environmental health risks among African Americans. Evaluating perceived cancer risks in environmentally vulnerable populations has long term implications for controlling cancer through preventive action. Future studies will investigate the triangulation between neighborhood environment, risk perceptions and health behaviors.

### **Funding Source**

Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Fellowships for Graduate Environmental Study;  
National Institute on Minority Health and Health Disparities

### **Acknowledgements**

The project described was supported by Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Grant Number FP-91727901-0 and P20MD001770 from the National Institute on Minority Health and Health Disparities (NIMHD). The content is solely

## Other Contributed Abstracts

## 1. A systematic literature review of international immersion experiences for acquisition of cultural competence in nursing students.

Deb McQuilkin DNP

This systematic review sought evidence for the effectiveness of cultural competence pedagogy approaches in professional nursing education. Since estimates of the financial costs of health inequalities in America were \$1.24 trillion (OMH, 2011). IOM findings concluded that —health systems, providers, patients, and utilization managers may contribute to racial and ethnic disparities in healthcare (Smedley, Stith & Nelson (Eds), 2002). The objective of this review was to rank the findings from literature published since 2005, evaluating the effectiveness of educational strategies for cultural competence of undergraduate baccalaureate nursing students. The research question was posed in the PICO format:

Population/Intervention/Comparison/Outcomes): Among undergraduate baccalaureate nursing students (population), are international immersion clinical experiences of greater than two weeks (intervention), compared to current cultural competency education approaches (comparison) more effective in fostering acquisition of cultural competency (outcomes)? The measure of student acquisition of cultural competence consisted of three characteristics identified by Cavillo et al., 2009: 1) increased self-awareness of their own values, attitudes, beliefs and behavior that compose their culture, 2) increased skill in assessment and communication with persons from other cultures, and 3) ability to provide an assessment of transcultural differences (outcomes). The systematic search resulted in a sample of 37 published sources, including systematic reviews, descriptive studies, case study design, and expert opinion articles. Using predetermined criteria from SIGN (2010), evaluation of the strength of the evidence as excellent (A), good (B), fair (C), or poor (D) will be presented.

Findings demonstrated that international immersions provided optimal experiences to develop cultural competence alone, but these immersions are more effective when combined with other strategies. The findings of this analysis of the published literature suggest there is some evidence supporting the effectiveness of international immersion experiences in increasing student self-awareness, cross-cultural communication and assessment skills, and ability to assess cultural differences. Outcomes of international experiences and cultural encounters were cognitive, affective, and adaptive growth. Tables are provided of educational strategies for cultural competence as well as best practice recommendations from the literature for international immersion clinical courses.

### **Funding Source**

Not applicable

### **Acknowledgements**

Not applicable

## **2. South Carolinians' Knowledge and Sources of Information about the Affordable Care Act**

Otis L. Owens, PhD(c), MPH, Diana C. Sisson, MS, PhD(c), Caroline D. Bergeron, DrPH(c), MSc, Daniela B. Friedman, MSc, PhD, Andrea Tanner, PhD, Van Kornegay, MMC, Megan A. Weis DrPH, MPH, MCHES, Teresa Windham, MLIS, Lee Patterson, MSW

### **Background**

Almost half (49%) of Americans report not having enough information to understand the Affordable Care Act (ACA). This lack of awareness may be more pronounced in South Carolina (SC) because the state has opted out of specific ACA components (e.g., Medicaid expansion). To guide educational strategies of SC stakeholders, the purpose of this study was to examine people's knowledge and sources of ACA information.

### **Methods**

A randomized telephone survey of 509 SC residents was conducted between November and December 2013. The survey contained 34 multiple-choice items to assess demographics and knowledge/sources of ACA information. Descriptive and parametric statistics were used to analyze data.

### **Results**

Most respondents were female (51%), Caucasian (46%), employed (61%), and had a college degree (47%). Individuals either somewhat understood (40%) or had a poor understanding (37%) of the ACA. Respondents also had low average knowledge scores ( $M=5.21$  out of 9). Individuals who were 18-26 ( $p=.009$ ), without a college degree ( $p=.0001$ ), with incomes  $< \$20,000$  ( $p=.0001$ ), and/or were unemployed ( $p=.048$ ) were significantly less knowledgeable about the ACA. Most (55%) reported television news as their most common source of ACA information and almost 50% reported being open to using the local library for ACA information.

### **Conclusions**

ACA educational efforts in SC should be tailored to people with less knowledge about the ACA. Using television news to communicate about the ACA and partnering with public libraries may help increase people's awareness of and access to reliable ACA information.

### **Funding Source**

Knight Foundation

### **Acknowledgements**

Knight Foundation

### **3. Role of Fragrances in Pathogenesis of Autism Spectrum Disorders and Health Disparity**

Leanna Sealey and Omar Bagasra M.D., Ph.D.

Autism spectrum disorders (ASDs) are developmental conditions characterized by deficits in social interaction, verbal and nonverbal communication, and obsessive/stereotyped patterns of behavior. Although there is no reliable neurophysiological marker associated with ASDs, dysfunction of olfactory bulb has been documented (1-2). In addition, there are significant racial differences in the timing and type of ASD diagnosis among Caucasian and African American children. Recent studies have suggested differences in ASD symptoms and associated behavioral features exhibited by African Americans as compared to Caucasian children with ASD (3). According to CDC 2013 report, approximately one in 80 children suffer from ASD in the US (1). We have hypothesized that synthetic fragrances which all of us are exposed to daily in the form of perfumes, detergent, soap, fresheners, food flavors, drinks and food have potential to cause neurological damage to developing fetuses and young children. We have shown that majority of perfumes are highly mutagenic and selectively cytotoxic to olfactory progenitor cell types of human neuroblastoma cells (NBCs), at femtomolar concentrations, and cause significant neuromodulations in NBCs resulting in increased neuronal cell proliferation (2). Numerous studies have shown that children with autism have significantly lower levels of oxytocin (OXY) in plasma samples than their typical peers. Further, in normal children, lower concentrations of OXY in plasma are associated with lower social and cognitive functioning. Affectionate behavior can be impaired even with normative levels of OXY, indicating OXY receptors, and thus OXY receptor genes, may be important factors in social development. Our studies have revealed both OXY and arginine-vasopressin receptor positive cells are depleted in male fetal brain cell lines as compared to female brain cells. This is the first study to reveal a direct connection between fragrance exposures as the potential neuropathic agent that may cause autism and explains the gender bias.

#### **Funding Source**

Department of Education

#### **Acknowledgements**

Clafin University

#### 4. Analysis of Interpreter-Mediated Healthcare Interactions: Preliminary Findings

Robin Dawson Estrada, PhD(c), CPNP and DeAnne K. Hilfinger Messias, PhD, RN, FAAN

##### **Background**

Healthcare providers in South Carolina face the growing need for interpreter services. Existing research demonstrates the barriers limited English proficient patients face in accessing healthcare. However, there is very little research that directly examines interpreter-mediated healthcare interactions, and more specifically, the intricacies of actual interactions.

##### **Objective**

The purpose of this qualitative research was to explore interpreter-mediated healthcare interactions and identify ways in which language processing may facilitate or limit patient-provider communication, understanding, and decision-making, as well as contribute to healthcare disparities.

##### **Methods**

Data was collected from two clinics that served Hispanic patients in the greater Charlotte, NC area - one a non-profit primary care clinic, the other a private obstetrics and gynecology clinic. Five triads composed of a monolingual (English) nurse practitioner, a Spanish-speaking adult patient, and a bilingual (Spanish/English) language interpreter participated. Multiple sources of data were collected, including audio recordings of interpreter-mediated healthcare interactions, self-administered participant surveys of providers and interpreters, audio-recorded qualitative interviews with limited English proficient patients, and field observations.

The data analysis process incorporated conversation analysis techniques into the transcription of the audio-recordings of the interpreter-mediated encounter data. The aim of conversation analysis is examine conversations within context of social action, including the sequencing of turn-taking, interactional detail, and how participants manage the course of conversation.

##### **Preliminary Findings**

The findings revealed the impact of political and social circumstances such as undocumentedness, healthcare reform, and economic constraints on each of the participants in these interactions. Additionally, interpretation was experienced by the participants as a process of consensus.

##### **Discussion**

These findings add to the existing body of knowledge regarding interpreter-mediated health care interactions, and highlight the complexity and impact of contextual factors. The findings will inform training for nurse practitioners and healthcare interpreters and suggest educational interventions for patients with limited English proficiency.

##### **Funding Source**

Not applicable

##### **Acknowledgements**

Not applicable

## **5. Effective Communication about the Affordable Care Act: The Use of Innovative Partnerships & Community Forums**

Diana C. Sisson, MS, Shaun Owens, MPH, PhD(c), Caroline D. Bergeron, DrPH(c), MSc, Daniela B. Friedman, MSc, PhD, Andrea Tanner, PhD, Van Kornegay, MMC, Megan A. Weis, DrPH, MPH, MCHES, Teresa Windham, MLIS, Lee Patterson, MSW

### **Background**

Assessing knowledge about the Affordable Care Act (ACA) can help health educators effectively communicate policy information. An innovative partnership between a public library system, an academic institution, and a non-partisan health policy institute seeks to promote ACA understanding. Different strategies employed included developing ACA web content, library signage, staff, magazines, as well as water bill inserts, local newspapers and television, word-of-mouth, and community forums. The purpose of this research was to assess the effectiveness of community forums in educating the public about the ACA.

### **Methods**

Findings from educational community forums conducted at public library branches are described. Paper-pencil surveys were distributed following the forums. The survey instrument assessed forum quality, satisfaction, clarity, perceived knowledge, and demographics. Descriptive statistics and frequencies were used to analyze 15 close-ended items; thematic analysis evaluated two open-ended questions.

### **Results**

109 surveys were completed (180 attended; 61% response rate) at three forums. Most attendees were female (66%), Caucasian (63%), and employed full-time (40%). Forum quality was rated excellent by about half (48%) and just over 40% were very satisfied with ACA content presented. Findings suggest an increase in respondents' understanding of the ACA (42% "pretty well" prior; 71% "pretty well" post).

### **Discussion**

Findings suggested community forums may be valuable educational tools for conveying ACA information. Partnering with public libraries can help increase outreach efforts regarding important health issues and is recommended for future ACA research and education.

### **Funding Source**

The Knight Foundation

### **Acknowledgements**

Knight Foundation

## 6. End-Stage Renal Disease: Medication Self-Management and Historical Oppression

Tamara Estes Savage, MSW, PhD Student

### **Background**

End-stage renal disease (ESRD) disproportionately affects historically oppressed groups: African Americans, Hispanics, Native Americans, and Asians. In addition, there is research that race/ethnicity is associated with unsuccessful medication self-management. Specifically African Americans have poorer rates of medication self-management when compared to Whites. Poor medication self-management leads to increased risk for morbidity and mortality in ESRD patients.

### **Methods**

As a first step in exploring poor medication self-management as it relates to historically oppressed groups, a literature review was conducted to examine the factors that contribute to this lack of parity in the ESRD population. An online search was conducted from August 2013 to December 2013 using MEDLINE, PubMed, Ovid, CINAHL, and Psych LIT databases to identify research and summarize findings from meta-analyses, systematic reviews, clinical reviews, and clinical trials published in English between January 1985 and December 2013, as they relate to factors associated with patient medication self-management and historical oppression.

### **Results**

This literature search resulted in the delineation of a new conceptual model. This model elaborates the pathway of factors that influence medication self-management in historically oppressed ESRD patients. The conceptual model is comprised of nine concepts: oppression, social class, educational attainment, trust in healthcare system/provider, pill burden, mental health status, health literacy, patient satisfaction, and health beliefs.

### **Conclusion**

In conclusion, there is indeed a problem of parity as it is related to medication self-management in the ESRD population. There are many barriers to medication self-management parity and further research needs to be conducted to ascertain how the factors explicated in the conceptual model are empirically related to unsuccessful medication self-management in historically oppressed ESRD patients.

### **Funding Source**

Not applicable

### **Acknowledgements**

Not applicable

## 7. Exploring What Adults of All Ages Know and Think About the Affordable Care Act

Caroline D. Bergeron, Diana C. Sisson, Otis L. Owens, Daniela B. Friedman, Andrea Tanner, Van Kornegay, Megan A. Weis, Teresa Windham, Lee Patterson

### **Background**

The Affordable Care Act (ACA) was signed into law in 2010. It is important to understand what adults of all ages know and think about the ACA.

### **Methods**

Twelve one-hour focus groups (FGs) were conducted with 123 individuals in one South Carolina county in November-December 2013. FGs were divided by age (younger/older), race/ethnicity (white/African American/Latino), and language (English/Spanish). For this analysis, transcripts were analyzed for themes by age.

### **Results**

57% of participants were older (Mage: 53); 43% were younger (Mage: 29). 64% were female. 29% were White, 49% African American, 20% Latino, 2% mixed race. Participants were employed full-time (25%), part-time (19%) or unemployed (25%); and either did not have health insurance (37%), were on Medicaid (17%), or were insured through an employer (11%). All participants had heard of the ACA, labeling it as "confusing" and "overwhelming" due to excessive yet unclear or biased media coverage. Both older and younger groups mentioned the importance of preventive care and being covered with pre-existing medical conditions. Younger groups discussed the value of making healthcare affordable to all. Conversely, costs associated with coverage represented a major concern. Younger groups worried about rises in premiums; older adults discussed penalties associated with not having insurance. Both age groups mentioned concerns about ACA sustainability through the next administration.

### **Conclusion**

The ACA is an important issue for individuals across the lifespan. Targeted ACA education messages are needed to reduce confusion and increase understanding of its implications. Benefits and concerns of both younger and older adults should be addressed in all education efforts.

### **Funding Source**

Knight Foundation

### **Acknowledgements**

Not applicable

## 8. African-American and White Rural Caregivers: Needs, Barriers and Service Improvement

Kelley, S., Levkoff, S., Emanuel, L., Martin, A., Ford, M., Coburn Smith, C., Duke, C., Elk, R.

### Background

Caregivers in rural areas face many obstacles related to lack of specialist treatment, isolation, lack of services, and financial strain. Additionally, racial disparities exist between White and African-American rural residents, with African-Americans having a higher mortality risk than urban or rural Whites.

### Methods

The present study used a Community Based Participatory Research (CBPR) approach to design and test the feasibility, acceptability and short-term effectiveness of a palliative care (PC) consult program delivered via telemedicine for African-American (AA) and White (W) rural elders and their families in Beaufort, SC. Focus groups were used to elicit caregivers' (N=31) perceptions of care their loved one received, recommendations for service improvement and their needs and barriers relating to caregiving at end of life. Differences by race were coded with regards to economic needs, desire for culturally-tailored services, knowledge of available services, and need for specialists in rural areas.

### Results

AA and W caregivers differed in their perceived needs regarding education about resources, and indicated variance in their desire for culturally-tailored services within their community.

### Conclusions

These findings will inform developments the next step of the study, the development of a culturally-tailored PC program, delivered via telemedicine, for future elders at end of life.

### Funding Source

This publication (or project) was supported by the South Carolina Clinical & Translational Research (SCTR) Institute, with an academic home at the Medical University of South Carolina CTSA, NIH/NCATS Grant Number UL1TR000062 and ASPIRE, U of S Carolina, USCeRA ID #11150-13-33258. The contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH or NCATS.

### Acknowledgements

University of South Carolina, Columbia; Medical University of South Carolina, Charleston; Beaufort Memorial Hospital; Medical University of Illinois, Chicago.

## 9. Promoting the Dissemination and Implementation of Evidence-based Strategies to Address Health Disparities: Innovative Initiatives of the South Carolina Cancer Prevention and Control Research Network

Daniela B. Friedman, MSc, PhD 1,2, James Lyndon McCracken, MA 1, Heather M. Brandt, PhD, CHES 1,2, Darcy A. Freedman, PhD 3, Swann Arp Adams, PhD 1,4,5, Vicki M. Young, PhD 6, Dayna A. Campbell, PhD 6, Sudha Xirasagar, MBBS, PhD 7, John R. Ureda, DrPH 8, James R. Hebert, ScD 1,4

1Statewide Cancer Prevention and Control Program, Arnold School of Public Health, University of South Carolina; 2Department of Health Promotion, Education, and Behavior, Arnold School of Public Health, University of South Carolina; 3Department of Epidemiology and Biostatistics, Case Western Reserve University; 4Department of Epidemiology and Biostatistics, Arnold School of Public Health, University of South Carolina; 5College of Nursing, University of South Carolina; 6South Carolina Primary Health Care Association; 7Department of Health Services Policy and Management, Arnold School of Public Health, University of South Carolina; 8Insights Consulting, Columbia, South Carolina

The South Carolina Cancer Prevention and Control Research Network (SC-CPCRN) is one of ten Centers for Disease Control and Prevention and National Cancer Institute-funded networks working to reduce cancer-related health disparities by advancing dissemination and implementation (D&I) science. In partnership with the SC Primary Health Care Association, federally qualified health centers (FQHCs), and other community stakeholders, the SC-CPCRN uses innovative, evidence-based strategies and community-based participatory research (CBPR) principles for the D&I of efficacious cancer prevention and control messages, programs, and interventions. Three innovative communication initiatives from our D&I research include: (1) visual representation of geospatial mortality-to-incidence ratio (MIR) and health outcomes data to inform future interventions; (2) integrating a farmers' market intervention within an FQHC's clinical system; and (3) creating a documentary film to tell the story of an FQHC-based farmers' market. All three of these efforts are guided by five core values recommended for D&I science: (1) rigor and relevance, (2) efficiency and speed, (3) collaboration, (4) improved capacity, and (5) cumulative knowledge. Incorporating innovative strategies into community-based cancer prevention and control programming and interventions will help ensure that important information reaches high-risk populations and policymakers and that initiatives continue to be funded and sustained. While the focus of the SC-CPCRN is cancer related, our communication strategies (i.e., visual display of MIR data, farmers' market prescription initiative, instruction manual, and documentary film) have the potential to positively influence the burden of other chronic conditions. Using communication strategies that align with core values recommended for D&I will help advance the science and assist researchers in selecting methods that will more rapidly and widely inform evidence-based practices in underserved communities.

**Funding Source**

Funding for the SC-CPCRn provided by the Cooperative Agreement Number U48/DP001936 from the Centers for Disease Control and Prevention (Prevention Research Centers) and the National Cancer Institute (PI: D.B. Friedman; Co-PI: J.R. Hébert; <http://sccpcrn.sph.sc.edu/>). This work is also partially supported by an Established Investigator Award in Cancer Prevention and Control from the Cancer Training Branch of the National Cancer Institute to J.R. Hébert (K05 CA136975).

**Acknowledgements**

We would like to thank our community partners and research participants.

## 10. Evaluating Disparities in Access to Primary Care for South Carolina Medicaid Recipients: Race, Rurality, and Persistent Poverty Make a Difference

Lopez-De Fede A, Stewart JE, Wilkerson RC, Mayfield-Smith K.

### Background

Recent federal requirements mandate ongoing assessment of health care accessibility for persons enrolled in Medicaid. This study explores the effects of race, rurality, and persistent poverty on access to primary care for Medicaid beneficiaries in South Carolina.

### Methods

Travel distance to the nearest primary care provider was calculated for 1,090,241 South Carolina Medicaid enrollees (CY2012). Primary care/preventive care utilization rates were derived using CY2012 HEDIS scores for 301,683 children ages 1 to 19 years and 240,205 adults ages 20 years and older.

### Results

Rural residents lived farther from primary care than urban residents (3.2 versus 2.6 miles,  $p < .0001$ ). Similarly, residents of persistent poverty counties lived farther from primary care than residents of non-persistent poverty counties (3.7 versus 2.6 miles,  $p < .0001$ ). Urban and rural African Americans lived slightly closer to primary care than their white counterparts (urban mean distance to care: African American = 2.4 miles, white = 2.9 miles,  $p < .0001$ ; rural mean distance to care: African American = 3.0 miles, white = 3.7 miles,  $p < .0001$ ). Among child Medicaid recipients, lower rates of primary care utilization were associated with rural residence (% with primary care visit: rural = 82.6, urban = 87.5,  $p < .0001$ ), residence in a persistent poverty county (% with primary care visit: persistent poverty = 79.6, non-persistent poverty = 86.7,  $p < .0001$ ), and African American race (urban % with primary care visit: African American = 84.8, white = 89.7,  $p < .0001$ ; rural % with primary care visit: African American = 79.8, white = 85.4,  $p < .0001$ ). Similar associations (all statistically significant) were observed for adults.

### Conclusions

Despite slightly better geographic access to primary care, African American Medicaid recipients are less likely to access primary care services. Ongoing evaluation and programmatic efforts are warranted to address persistent barriers to health care for African Americans, particularly in rural and persistent poverty counties.

### Funding Source

This work was done under the contract between the Institute for Families in Society, University of South Carolina, and the SC Department of Health and Human Services, Medicaid Program.

### Acknowledgements

The views expressed in this article are solely the responsibility of the authors and do not necessarily represent the views of the SC Department of Health and Human Services, Medicaid Program.

## 11. Disparities in Treatment Access Among Individuals With Co-occurring Mental Health and Substance Use Disorders: An Integrative Review of the Literature

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### Aim

To explore disparate access to treatment services among individuals with co-occurring substance use and mental health disorders.

### Background

Twenty percent of individuals with a severe mental health disorder will develop a substance abuse disorder during their lifetime yet only 7.4% receive treatment for both disorders and 55% receive no treatment at all (SAMHSA, 2010). These persons frequently have a history of homelessness and criminal justice involvement, are more likely to be women, and have low rates of mental health services utilization (Watkins et al., 2004). Their substance abuse often exacerbates mental health symptoms, creating psychosocial instability and decreasing their ability to seek and access treatment (Green, Drake, Brunette, & Noordsy, 2007). The purpose of this integrative literature review is to highlight disparities in access to treatment among underserved and vulnerable individuals with co-occurring disorders.

### Methods

Electronic scholarly databases (PubMed, Sociological Abstracts, Social Services Abstracts, EBSCO multi-database portal) were searched for peer-reviewed articles using combinations of the search terms: “co-occurring”; “dual-diagnosis” substance abuse”; “mental illness”; “treatment”; “access”; “engagement”; and “client”. To gain a comprehensive picture of disparities in treatment access across populations, eligibility for inclusion was broadly defined and included empirical/ non-empirical studies, and theoretical/ conceptual literature.

### Results

Underserved populations (rural, youth, racial/ ethnic minority, low income, no insurance) have the greatest unmet need for treatment with structural, cultural, service system, and environmental barriers related to gender, age, race, socioeconomic status, and geographic location as primary reasons for disparate treatment access.

### Conclusion

This integrative literature review identified several subpopulations of individuals with co-occurring disorders who experience differential access to treatment services. From the literature, four types of barriers to service access were identified: structural, service-system, cultural, and environmental barriers. This review suggests specific literature-based programmatic components to address these barriers and increase treatment access among underserved and vulnerable populations.

### Funding Source

South Carolina Department of Health and Human Services

### Acknowledgements

Not applicable

## 12. Racial disparities in colonoscopy screening among persons with a family history of colorectal cancer

Meng-Han Tsai, Sudha Xirasagar, Yi-Jhen Li

### Background

Family history of colorectal cancer (CRC) is a risk factor for CRC; 20% of newly diagnosed CRC patients report a family history compared to only 11% of the general population. Because African Americans (AA) suffer 46% higher CRC mortality than Whites despite only 16% higher incidence, one question arises whether AAs with a CRC family history, particularly younger AAs are receiving colonoscopy screening at similar rates as Whites.

### Methods

The study examines screening patterns among the US general population with a family history of CRC, using National Health Interview Survey data for 2010.

### Results

Of 6,344 respondents, 1,124 (17.7%) reported a CRC family history. Of them 46.2% had a colonoscopy in the previous 5 years (49.3% of Whites, 34.5% of AAs). Among the 40-49 age group, AAs had 45.7% lower colonoscopy rates than Whites, the disparity decreasing with age, to 24.9% in the 65-plus age group. Multivariate analysis showed that AAs and Whites with high school or less education were 68% and 33% less likely than Whites with a bachelor's degree or higher to have been screened. Respondents aged 40-49 years were 40% less likely to be screened than at aged 50-64. Having Medicare coverage (alone or in combination) were most likely to be screened (OR range, 5.0 to 5.6) relative to the uninsured.

### Conclusion

Significant racial disparity in screening exists, particularly in the 40-49 age group. Education and insurance are the key mediating factors. Targeted patient navigation may increase screening rates among less educated and younger Americans with CRC family history.

### Funding Source

not applicable

### Acknowledgements

not applicable

### 13. Use of an Environmental Health Core to Assess Environmental Health Disparities in South Carolina

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Saundra H. Glover  
Sacoby M. Wilson  
Hongmei Zhang  
Heather Brandt  
Lashanta Rice  
Dayna Campbell

The environmental health (EH) core was established as an extension of the Coordinating Center of Excellence in the Social Promotion of Health Equity in Research, Research Education and Training, and Community Engagement and Outreach (CCE-SPHERE), an NIMHD-funded Center of Excellence (CoE) housed in the Institute for Partnerships to Eliminate Health Disparities (IPEHD), at the University of South Carolina. Pilot Project #1 assessed environmental health disparities and the spatial distribution of hazardous waste sites in the state of South Carolina through data collected by the South Carolina Department of Health and Environmental Control (SCDHEC). Pilot Project # 2 used photovoice as a tool for community engagement to address the environment and health disparities. A convenience sample of adult community members in Orangeburg and Charleston Counties, SC, completed a brief descriptive survey, received instructions, and took photos over a specified period of time; selected and provided written descriptions for up to 10 photos; and engaged in a discussion after review of photos. Building on photovoice results, a survey was administered in each community to gather further information on environmental risk and health disparities. Pilot Project # 3 used community block assessments to identify and assess the social and physical features that may contribute to poor health outcomes. Twenty-eight community members were trained to identify, document, and map the social and physical features in selected neighborhoods in both Orangeburg and Charleston counties. A structured assessment was adapted from existing tools to best suit the rural nature of the two counties. All non-residential physical features were both mapped and marked with lat/longs using GPS unit and photos were taken. Findings were indicative of health inequalities across South Carolina and further research conducted by the EH core will explore those gaps.

#### **Funding Source**

Supplemental to 5P20MD00170

#### **Acknowledgements**

N/A

## 14. Racial differences in the prevalence and cancerous potential of adenomas found at screening colonoscopy

Sudha Xirasagar, MBBS, PhD, Yi-Jhen Li, PhD, Thomas G. Hurley, MS, Meng-han Tsai, MHA

### Background

African Americans (AA) suffer higher incidence, earlier-than-average age at onset, disproportionately advanced cancer stage at diagnosis than Whites (61% vs. 57%), and even greater mortality disparities (46% and 32% higher among AA men and women respectively relative to Whites). Recent increased rates of screening colonoscopy have been accompanied by greater incidence declines among AAs than among Whites without change in death rates. CRC mortality disparities are postulated to be due to AAs having more adenomas, histologically more advanced adenomas, and more rapid transformation into cancer. We present racial differences in the prevalence of adenomatous polyps and advanced neoplasms at screening colonoscopy performed with a clinical protocol designed to maximize polyp clearance which produced a CRC prevention rate of 83%.

### Methods

To determine racial differences in polyp detection rate (PDR, percent of subjects with polyp(s)), mean polyps detected per screened subject (MNP), adenoma detection rate (ADR), mean adenomas per subject (MNA), advanced neoplasm rate, and percent of small (<5 mm) polyps that are histologically advanced neoplasms.

### Results

Among total 20,570 persons (52% AA, 54% female) provided screening colonoscopies from September 2001 through February 2011, the PDR was lower among AA (60.7% vs. 64.5% among Whites,  $p < 0.0001$ ), as were the ADR (29.2% vs 34.3%,  $p < 0.0001$ ), advanced neoplasm rate (6.7% vs 7.1%,  $p < 0.0001$ ), MNP and MNA. The proportion of small polyps among all polyps was higher for Whites than AAs (31% vs. 26%,  $p < 0.0001$ ), but both racial groups had similar proportions of histologically advanced small adenomas (16% vs. 17%,  $p = 0.3487$ ). The adjusted odds of AAs vs. Whites having an adenoma (OR: 0.91), advanced neoplasm (OR: 1.08), or small adenomas being histologically advanced (OR: 0.97) were statistically not significant.

### Conclusions

Our findings do not support current speculations about the reasons for CRC mortality disparities. Other factors should be explored such as differences in quality of colonoscopies.

### Funding Source

National Cancer Institute

### Acknowledgements

not applicable

## 15. Associations of Sedentary Behaviors and Health Risks Among African-American Women in the Faith, Activity, and Nutrition Study

Tatiana Y. Warren-Jones, MS, PhD(c), Sara Wilcox, PhD, Brent Hutto, MSPH, Steven N. Blair, PED, Russell R. Pate, PhD, & Heather M. Brandt, PhD, CHES

### Background

Low levels of physical activity (PA) contribute to high rates of chronic health conditions in African American (AA) adults. However, until recently, few studies have examined the association between high levels of sedentary behavior (SB) and chronic health conditions. This study examined associations between total SB as well as bouts of and breaks in SB and health-related variables in AA women.

### Methods

SB was assessed with the ActiGraph GT1M accelerometer. Mean minutes per day spent sedentary; number of sedentary bouts  $\geq 10$ , 30, and 60 minutes; and mean number of sedentary breaks were calculated in 210 AA women (mean age  $53.4 \pm 11.9$ ). Associations with waist circumference, obesity, and hypertension were examined.

### Results

Most participants were hypertensive (61%), obese (69%), and had substantially increased waist circumference (65%). On average, participants were sedentary  $561.7 \pm 100.5$  minutes/day (65% of wear time). After adjusting for all sociodemographic and health-related variables, total sedentary time was positively associated with obesity and negatively associated with hypertension (Model 4). Total number of sedentary bouts  $\geq 10$  minutes was positively associated with obesity; whereas, total number of sedentary bouts  $\geq 60$  minutes was inversely associated with substantially increased waist circumference (Model 4). Total number of breaks in SB was beneficially associated with obesity in AA women (Model 4).

### Conclusions

AA women spent a majority of the day sedentary. Weight loss programs that target PA, diet, and behavior change have been less successful in AA women. For individuals at increased risk for diseases and health conditions who have not embraced an organized or structured program of daily PA, decreasing bouts of and/or increasing breaks in SB may be a more achievable and viable approach to increasing movement and energy expenditure, eventually resulting in reduced health risk (i.e., weight loss, reduced waist circumference, and lower blood pressure) and elimination of health disparities.

### Funding Source

The project described was supported by Grant Number R01HL083858 from the National Heart, Lung, and Blood Institute. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Heart, Lung, and Blood Institute or the National Institutes of Health.

**Acknowledgements**

We wish to thank The Right Reverend Preston Warren Williams II and the participating Presiding Elders, Reverends Sandy W. Drayton, Alonzo Middleton, Charles J. Graves, and Rosalyn Coleman, for their support of FAN. We thank the many churches and members w

## 16. Assessing environmental determinants and perceptions of cancer risk: opportunities for community-engaged interventions

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### **Purpose**

To assess perceptions of local environmental hazards, pollution sources, and potential impact on health among residents to inform action steps to address environmental health disparities.

### **Methods**

A non-probability sample of residents of Orangeburg County, South Carolina, a predominantly minority, underserved area with disparate health outcomes, completed a cross-sectional, 58-item environmental health survey in paper-and-pen format or online from June-December 2013. The survey included items on family history of disease, knowledge of cancer information and environmental justice issues, perception of local environmental quality, perceived cancer risks, and descriptive items. Data were analyzed to calculate descriptive statistics and examine relationships.

### **Results**

Respondents (n=190) were predominantly African American, female, and had lived in the county for >10 years. Overall knowledge of cancer information and environmental justice issues were low to moderate. Sources of pollution, soil contamination, and toxic waste exposure were reported as being “very serious” health threats and problems in their community. Environmental conditions were viewed “very important” by most respondents. Perceptions of cancer risk on a community-level were high (e.g., environment plays a major role in causing cancer) but less so on an individual-level (e.g., low levels of perceived risk).

### **Conclusion**

Respondents indicated a high level of concern about the role of environmental determinants in their community and their health and exhibited low levels of perceived risk as individuals. The results underscore opportunity for community-engaged interventions to focus on the importance of individual, protective behavior but also action to address community-level environmental risks to address health disparities.

### **Funding Source**

The project described was supported by Grant Number 3P20MD001770-07S1 from the National Institute on Minority Health and Health Disparities. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Minority Health and Health Disparities or the National Institutes of Health.

**Acknowledgements**

We thank the Community Action Board, Inc. in Orangeburg, South Carolina for their active participation in the research.

## 17. **An assessment of community environmental health and perceived cancer risks: A study in Metropolitan Charleston**

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Dayna Campbell, MS, PhD candidate  
Evangeline Cornelius, AA  
Jamilah Giles, BA  
Sacoby M. Wilson, PhD, MS  
Saundra H. Glover, PhD, MBA

### **Background**

The purpose of this study was to explore community perceptions of cancer risk, environmental hazards, and lifestyle behaviors in an at-risk population.

### **Methods**

A convenience sample of residents in Metropolitan Charleston, South Carolina was recruited at local venues and community events to complete a 59-item health survey. Survey questions explored 6 domains: sociodemographic characteristics, environmental health risks, perceived cancer risk, risk-reducing health behaviors, self-efficacy, and social support which were adapted from existing surveys. Paper and online surveys were distributed from March to September 2013. SAS 9.3 was used to perform descriptive statistics.

### **Results**

Survey respondents (N=405) were 81% female (n=322) and 19% male (n=75), employed (60%), owned their home (60%), were college graduates (52%) with an annual household income of \$20,000-49,999 and 25-64 years of age. Overall, respondents were none smokers (88%), perceived as overweight (59%), engaged in physical activity (79%), had a good diet (48%), none drinkers (59%), and never wore sunscreen (40%). They rated their community as a “somewhat good” place to live. Air pollution, water pollution, soil contamination, and toxic waste were not perceived as problems where most respondents lived; however, each was identified as a “very serious” health threat. Environment was perceived to play a “very important” role in causing disease especially cancers (69%). Respondents frequently worried about developing cancer, yet 36% felt that they were neither likely nor unlikely to develop cancer in their lifetime.

### **Conclusions**

At-risk communities perceive the environment to be a major contributor in the development of cancer and therefore worry more often about developing cancer. Future studies will elucidate the relationship between perceived cancer risk and environment by sociodemographic characteristics to determine if differences exist within this population.

### **Funding Source**

National Institute on Minority Health and Health Disparities

**Acknowledgements**

The project described was supported by Grant Number P20MD001770 from the National Institute on Minority Health and Health Disparities. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Nat

## 18. African Americans Would Be at Higher Risk In Case of Smallpox, Anthrax or Other Bioterrorism: A Rational Design for Smallpox Post-Exposure Therapy in Case of a Bioterrorism

Mahmud Hasan and Omar Bagasra, M.D., Ph.D.

### Background

Although, smallpox is completely eradicated there is always a possibility of a zoonotic epidemic and it still can be used as a bioterrorism weapon. If smallpox is used as a bioterrorism weapon it may devastate the US minorities like Native Americans (NA) and African Americans (AA), Historically, it is well documented that the Native Americans would be most susceptible to Poxviruses, whereas, AA would rank second. During the peak of the colonial era in 1920s, the most cases of smallpox were recorded in African Continent. Here we describe a post-exposure therapy design to treat exposed individuals infected with smallpox like agent(s).

All poxviruses replicate in specialized cytoplasmic factories and have the ability to sequester necessary raw materials from the host including translation initiation factors. Our laboratory is investigating the potential use of microRNAs (miRNAs) that can be used a post translational silencing vehicles against smallpox in case of exposure to variola (the etiological agent of smallpox) or a chimera virus that can be used as bioterrorist attacks Our goal is to uncover miRNAs that can completely silence smallpox upon exposure to the deadly agent. Methods: We computationally analyzed the human miRNAs that show near perfect homology to smallpox and vaccinia viral genomes by sophisticated alignment tools.

### Results

We identified 26 miRNAs for variola and 23 miRNAs for Vaccinia that showed >90% homology with human miRNAs. Whereas, 13 miRNAs showed mutual homology with both viral genomes. Conclusion: We present evidence using bioinformatics tools, and hypothesize that the utility of 13 miRNAs (i.e., hsa-miR-32-5p, hsa-miR-599, hsa-miR-103a-3p, hsa-miR-876-3p, hsa-miR-488-3p, hsa-miR-4647, hsa-miR-1264, hsa-miR-5186, hsa-miR-198, hsa-miR-6781-3p, hsa-miR-3128, hsa-miR-7161-5p, hsa-miR-3668, hsa-miR-338-3p, hsa-miR-3121-5p, hsa-miR-1205, hsa-miR-4789-3p, hsa-miR-548a-5p, hsa-miR-4528, hsa-miR-337-3p, hsa-miR-6824-3p, hsa-miR-545-5p, hsa-miR-4719, hsa-miR-3921, hsa-miR-33a-3p and hsa-miR-514b-3p can be utilized as a post exposure therapy in case of any kind of zoonotic or bioweapon chimera pox created as a weapon of mass destruction.

### Funding Source

Not applicable

### Acknowledgements

Clafin University and  
SC Center for Biotechnology at Clafin University.

## 19. Addressing obesity and health disparities through food systems change using community-based participatory research methods

Holly Pope, MSPH, PhD; Sonya Jones, PhD; Carrie Draper, MSW; Amrit Caleyachetty, MBBS, MSc; Mary Wilson, MPH; Casey Childers, MA

### Background

In South Carolina (SC) a larger proportion of African-Americans are overweight or obese compared to Whites, and obesity levels are higher among African-American women (SC DHEC). Obesity is typically framed as a lifestyle issue, with individual behavior change, and individual motivation as the primary solutions. However, policy, systems, and environmental (PSE) changes have been identified as a strategy to address obesity at a community level (CDC, 2009). The focus of the Childhood Obesity Prevention in SC (COPASCItyes) is to improve PSE related to food systems through community coalitions. Therefore, community engagement approaches are needed to examine re-framing obesity prevention strategies specific to the local food system in partner communities.

### Methods

We used community-based participatory research methods (CBPR) including: 1) Q-methodology; 2) capacity building trainings; and 3) community organizing approaches to catalyze and examine re-framing obesity prevention in partner communities.

### Results

1) Using a Q-methodological study, uncontested/contested childhood obesity prevention strategies among diverse stakeholders in SC were assessed. Finding a common ground among diverse groups is helping to mobilize groups for collective action for childhood obesity prevention; 2) the Food Systems Change Certificate Program is a community-based participatory training series being implemented to bring together coalition members, Supplemental Nutrition Assistance Program (SNAP) recipients, and food system stakeholders to reframe the prognosis of obesity as food system changes; and identify challenges/opportunities within their current food systems, and strategies to transform them to improve access and strengthen local food economies; and 3) community organizers were trained to work with coalitions to strengthen local food systems. Trainers participated in interviews that explored challenges and successes on a weekly basis for 4 months. Challenges common to all communities are discussed.

### Conclusions and Implications

Childhood obesity prevention through PSE requires that communities have the capacity to re-frame obesity prevention using a variety of CBPR methods to motivate collective action.

### Funding Source

USDA

### Acknowledgements

Not applicable

## 20. Technical Assistance Needs to Support Care Delivery for Patients with Bleeding Disorders: Findings from a National Survey of Federally-Funded Hemophilia Treatment Centers

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<sup>1</sup>South Carolina Rural Health Research Center, Arnold School of Public Health, University of South Carolina; <sup>2</sup>American Thrombosis and Hemostasis Network

### Background

Patients with rare bleeding disorders, including hemophilia and Von Willebrand disease (VWD), have high rates of morbidity. The majority of patients with bleeding disorders in the United States receive care in federally funded hemophilia treatment centers (HTC) located in eight regions. In 2012, the Health Resources and Services Administration (HRSA) awarded funding to the American Thrombosis and Hemostasis Network to establish the National Hemophilia Program Coordinating Center (NHPCC). The NHPCC facilitates and coordinates activities carried out by Regional Core Centers (RCC) to optimize the health of this special population. The study purpose was to identify technical assistance (TA) needs of HTC staff.

### Methods

In 2013, a 29-item electronic survey was administered to HTC staff to identify perceived need for future TA related to knowledge, tools, models, and other resources that improve availability, access, and quality of services to persons with bleeding disorders. Self-reported data about staff role, estimated patient population, and services offered were collected. RCCs emailed letters with a secure survey hyperlink to HTC staff in their regions. Responses were received from 524 staff. Bivariate analyses were conducted in STATA 11.

### Results

Responses were received from core staff (program administrators, data managers, clinicians, physical therapists, and social workers) in each region. Nurses (33.02%), hematologists (17.37%), and social workers (16.41%) were the top three respondents. The top three future TA needs identified by the respondents were: data management (60.1%), staff development (59.9%), and grants or financial opportunity to support HTCs (58.6%).

### Conclusion

Survey respondents, representing different types of HTC core staff, identified TA priorities. Survey findings will inform TA provided by the NHPCC, which will increase staff capacity to improve access, quality of care, and ultimately, health outcomes.

### Funding Source

The project described was supported by the American Thrombosis and Hemostasis Network and HRSA Grant Number UC8MC24079. The views expressed do not necessarily reflect the official policies of the Department of Health and Human Services.

**Acknowledgements**

Regional Coordinating Center (RCC) staff provided feedback during the instrument development process and distributed the survey link to HTC staff within their regions. The authors are grateful for their input (J. Baker, D. Baxter, D. Brown, R. Brown, R.

## 21. Exploring an undergraduate minor program partnership to reduce health disparities among vulnerable populations: sharing mutual expertise between a majority institution and historically black college

Cheryl Armstead<sup>1, 2</sup>, Ph.D., Godwin Mbamalu, Ph.D.<sup>3, 4</sup>, Kinjal Pandya<sup>1</sup>, James Hebert, Sc.D.<sup>2, 4</sup>

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### Background and Objective

The South Carolina Cancer Disparities Community Network Program II Training Core (SCDCN) and Benedict College (BC) partnered to collaboratively develop a prototype for an Inter-disciplinary Undergraduate Minor Program in Health Disparities. The partnership's objectives are as follows: 1) Educating the next generation of scholars, leaders, and practitioners to address health disparities, and 2) Developing an undergraduate minor program that broadens the scope of health disparities training across disciplines.

### Methods

Our initial developmental step was to assess the acceptability of this minor. A convenience sample of faculty and undergraduate students at BC and University of South Carolina (SC) responded to an online survey encompassing the following categories: 1) strengths and weaknesses in departmental efforts to address South Carolina's health disparities education needs, 2) anticipated impact of a health disparities minor upon existing undergraduate programs, 3) probability that students would enroll in a health disparities minor program, and 4) evaluation of the proposed health disparities minor's impact.

### Results

The final analytic sample included fifty-seven faculty from USC and BC. Forty-two USC undergraduates participated in a student version of the survey. BC student data is being collected. Chi-square tests showed that USC and BC faculty responded similarly across categories (all  $p > .100$ ). 74% of faculty and 68.19% of USC students agreed that undergraduates are likely to enroll in a health disparities minor program. 84.15% of faculty and 71.11% of students agreed that a health disparities minor is important. 76% of faculty agreed that budgetary concerns and evaluation of the program are major weakness. 57.78% of students agreed that their jobs after graduation may require them to have training in health disparities research or applications.

### Conclusion

This needs assessment guides USC and BC in their combined development of a heuristic model for undergraduate health disparities training at majority and HBCU institutions.

**Funding Source**

South Carolina Cancer Disparities Community Network-II.  
National Cancer Institute / Center to Reduce Cancer Health Disparities [PI: Hébert;  
U54CA153461].

**Acknowledgements**

Not applicable

## 22. Cognitive-contextual Experiences of coping with racism in health care

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### **Background and Objective**

Negative experiences in the context of the health care setting may profoundly impact attitudes towards receiving care and influence further utilization of health care services. Although there are a number of studies examining basic emotional styles, such as anger and depression, there are no studies that identify cognitive-contextual factors influencing complex racial stress responses to biased treatment in health care settings. The objectives of this project were to: 1) characterize racial stress coping behaviors among middle-aged AAs, 2) examine the range of cognitive-contextual coping styles experienced with everyday racial stress, and, 3) explore the cognitive-contextual experience of coping with racial stress in health care.

### **Methods**

Middle-aged male (N=17) and female (N=42) AAs 30 to 55 years of age participated in one of eight focus groups. Participants described their experiences of everyday racism and discrimination in health care settings. Transcripts were content analyzed using The Ethnograph V6. A branch structure iterative coding scheme was used.

### **Results**

Seven cognitive-contextual coping styles to racial stress were identified: (1) Avoidance Coping, (2) Overall Mistrust of Whites, (3) Assimilation, (4) Humiliation, (5) Physical Reactivity (6) Problem-focused Coping, and (7) Emotional Coping. Thematic content suggested that cognitively demanding coping in health care settings is embedded in location and event context, while emotion focused coping appears to function as a generalized response to racism in multiple everyday settings.

### **Conclusion**

The results are inconsistent with previous research that suggests that coping with racial stress is primarily emotional in nature, regardless of context and cognitive demand. The study also, demonstrates that AAs prefer to use complex cognitive-contextual strategies for dealing with racism that are pro-social in nature, particularly when responding to bias in health care settings. Further research is needed to enhance our understanding of stress-related responses to discrimination associated with the context of health care.

### **Funding Source**

USC Institute for African American Studies Research Fellowship

### **Acknowledgements**

Not applicable

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