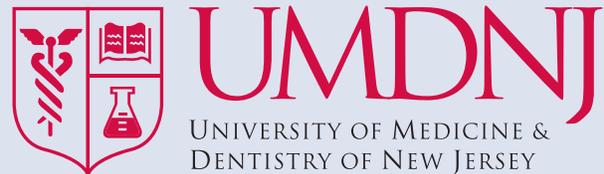




HISPANIC CENTER OF EXCELLENCE  
&  
INSTITUTE FOR THE ELIMINATION OF HEALTH DISPARITIES



*CULTURAL  
COMPETENCE  
AND HEALTH  
DISPARITIES:  
SEEKING TO MAKE  
A DIFFERENCE  
IN OUR  
COMMUNITIES*

A COMPENDIUM OF  
RESEARCH INITIATIVES



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## **AN EFFECTIVE PARTNERSHIP**

The University of Medicine & Dentistry of New Jersey's Hispanic Center of Excellence and Institute for the Elimination of Health Disparities have collaborated on this publication as we are deeply committed to promoting culturally competent health care, advocacy, collaborative research and community outreach programs for the elimination of health disparities throughout New Jersey. This publication highlights the Universities' diverse research and outreach efforts which have the goal of ultimately leading to a health care system and workforce that is capable of delivering the highest-quality care to every patient regardless of race, ethnicity, culture, or language proficiency.

### **Hispanic Center of Excellence**

The Hispanic Center of Excellence (HCOE) is situated in the New Jersey Medical School (NJMS) in Newark. Its mission is to improve the health status of Latinos represented in the health professions who will in turn practice medicine in the nation's underserved areas and conduct research on health issues afflicting Latinos.

Some of the Center's goals are to:

- Offer educational programs which will inform faculty, staff and students about health issues affecting the Hispanic and other underserved populations;
- Increase library holdings on issues that impact the health of Hispanics;
- Increase student and faculty involvement in research on issues affecting the Hispanic Community;
- Implement culturally competent curricula.

### **Institute for the Elimination of Health Disparities**

The Institute for the Elimination of Health Disparities (IEHD) is a University wide, integrated center of leadership and excellence, dedicated to the elimination of health disparities in New Jersey and the nation. The IEHD develops and supports collaborative networks and initiatives to promote research, effective interventions, education, and advocacy for the benefit of eliminating health disparities across all populations in New Jersey, but especially those who are most at risk for disproportionate morbidity and mortality.

In embracing UMDNJ's strategic mission, the Institute's agenda builds upon the conduct of research and the acquisition of scientific evidence required to guide the interventions needs to eliminate health disparities across a spectrum of conditions and diseases. A major thrust is the promotion and promulgation of health disparities research being conducted by UMDNJ faculty and staff. The Institute provides funding for faculty pilot projects, provides training and fieldwork opportunities for students, collects data and information on health disparities, links faculty with internal resources and external partners and resources, and maintains a database of faculty research on health disparities.

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The contents of this publication are solely the responsibility of the Hispanic Center of Excellence and the Institute for the Elimination of Health Disparities at UMDNJ and do not represent the official views of the Health Resources and Services Administration or the Office of Minority Health, DHHS.

## INTRODUCTION

The changing demographics and economics of today's increasingly multicultural world, as well as the persistent inequality in the health care of our diverse populace, has challenged healthcare professionals to reflect on *Cultural Competency* as an approach to assist in the elimination of health disparities.

Health Disparities are the differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States. Racial and ethnic minorities tend to receive lower-quality health care than whites do, even when insurance status, income, age, and severity of conditions are comparable. Reasons for health disparities include but are not limited to differences in risk factors, lack of access to health care, inadequately targeted prevention messages, and cultural differences between the healthcare system and the population it serves.<sup>1</sup>

In New Jersey, as in the country as a whole, disparities in health status exist between whites and other racial and ethnic groups. For example, recent studies show that 32.2% of Latinos, 20.7% of African-Americans and 14.5% of Asian American/Pacific Islanders in New Jersey lack health insurance whereas only 11.3% of Whites lack the same coverage.<sup>2</sup> Also, African Americans in New Jersey have higher mortality rates from cardiovascular disease than do whites, both for heart disease (287.6 versus 249.6 per 100,000) and for stroke (65.6 versus 41.9 per 100,000).<sup>3</sup> The disparities illustrated by these two examples can be found across numerous diseases and conditions including Cancer, HIV/AIDS, Diabetes and Infant Mortality.

Eliminating racial and ethnic disparities in health will require enhanced efforts at preventing disease, promoting health and delivering appropriate care. This will necessitate improved collection and use of standardized data to correctly identify all high risk populations and monitor the effectiveness of health interventions targeting these groups. It will also require new knowledge about the determinants of disease, causes of health disparities, and effective interventions for prevention and treatment. It will require improving access to the benefits of society, including quality preventive and treatment services, as well as innovative ways of working in partnership with health care systems, State and local governments, tribal governments, academia, national and community-based organizations, and communities.<sup>4</sup>

Cultural competence has gained attention as a potential strategy to improve quality and eliminate racial/ethnic disparities in health care. Cultural competence is defined as "The ability of systems to provide care to patients with diverse values, beliefs and behaviors including tailoring delivery of care to meet patients' social, cultural, and linguistic needs. The ultimate goal is a health care system and workforce that can deliver the highest quality of care to every patient, regardless of race, ethnicity, cultural background, or English proficiency."<sup>5</sup> Fundamentally, cultural competence is the assimilation and transformation of knowledge about individuals and groups of people into specific standards, policies, practices, and attitudes used in suitable cultural settings to augment the quality of services; thereby producing better healthcare outcomes.

Cultural competence has emerged as an important issue for various practical reasons. First, as the United States becomes more diverse, clinicians will increasingly see patients with a broad range of perspectives regarding health, often influenced by their social or cultural backgrounds. For instance, patients may present their symptoms quite differently from the way they are presented in medical textbooks. They may have limited English proficiency, different thresholds for seeking care or expectations about their care, and unfamiliar beliefs that influence whether or not they adhere to providers' recommendations.

Second, research has shown that provider-patient communication is linked to patient satisfaction, adherence to medical instructions, and health outcomes. Thus, poorer health outcomes may result when sociocultural differences between patients and providers are not reconciled in the clinical encounter. Ultimately, these barriers do not apply only to minority groups but may simply be more pronounced in these

cases. Finally, two landmark Institute of Medicine (IOM) reports—*Crossing the Quality Chasm* and *Unequal Treatment*—highlight the importance of patient-centered care and cultural competence in improving quality and eliminating racial/ethnic health care disparities.<sup>6</sup>

Presently, cultural competence training is a critical area of interest to regulatory bodies and policy makers in charge of overseeing the operations of healthcare institutions. The Liaison Committee on Medical Education, which accredits programs of medical education leading to MD degrees, and the Accreditation Council for Graduate Medical Education, which evaluates and accredits medical residency programs in the United States, have established guidelines and standards requiring medical students, residents and faculty to receive cultural competence training.

The United States Department of Health and Human Services – Office of Minority Health has established National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care. This model, which contains fourteen standards for recognizing processes in the skills and development of linguistic and cultural competency, demands that we embrace and continue to challenge our creativity and adherence to ethical principles through formal instructional efforts.

State legislatures are also beginning to recognize the importance of patient-centered care and cultural competence in improving quality care and eliminating racial and ethnic health disparities. On March 23, 2005 New Jersey became the first state to require all physicians to complete “Cultural Competency Training” as a condition of licensure or re-licensure. As a result of this legislation, physicians will be provided with educational programs to help them keep abreast of the necessary knowledge, skills and attitudes they need to care for New Jersey’s diverse population.

Under the new strategic plan being developed at UMDNJ, cultural and linguistic competency is a major objective in meeting our mission. The University has embraced strategic initiatives geared towards enhancing its role in establishing a culturally and linguistically competent healthcare organization. UMDNJ’s Hispanic Center of Excellence and Institute for the Elimination of Health Disparities serve as advocates, partners and a resource for the accomplishment of this goal.

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## TABLE OF CONTENTS

	<u>PAGE</u>
Theodore Barrett Jr., Jennifer Winters, Sarajane Rath, Lisa Bernstein. Literacy and Health: Preliminary Results of a Health Literacy Intervention by OB/GYN Associates at University Hospital, Newark and the Newark Literacy Campaign	1
Sima C. Bennett. Supplementing Guided Self Study with Simulation Exercises in Medical Education – A Demonstration Module: Tobacco Use & Dependence	2
M. Bennet, K. Markowitz, D. Fine. Quantitative Light-Induced Fluorescence (QLF) Assessment of Acid Induced Enamel Lesions	2
John Bogden, Francis W. Kemp, Prasad Neti, Roger W. Howell, Peter Wenger, Donald B Louria. Winter and Summer Blood Lead and Serum 25 Hydroxy-Vitamin D Concentration in Newark, NJ, Children	3
Hilary L. Broder. Reliability and Validity of the Child Oral Health Impact Profile (COHIP)	4
Michael Brimacombe, Debra Heller. Disparities in the Incidence and Causes of Stillbirth	5
Diane R. Brown. Clinical Trials and Cancer Treatment Decision-Making: A Pilot Study to Examine Awareness, Access and Utilization by Diverse New Jersey Populations	6
Diane R. Brown. Spiritual-Based Intervention for African American Women with Breast Cancer	7
Diane R. Brown, Valerie N. Pogue. Understanding Diabetes Self Management in Culturally Diverse Urban Populations	8
Diane R. Brown. Resources and Strategies for Community-Based Cancer Prevention and Control in A Diverse Urban Population	9
Irina McKeehan Campbell. Community Health Mapping	9
Rufus Caine, Jr., Samuel Quek, Elise Kumar, Richard Montgomery. Oral Cancer Age-Adjusted Incidence and Mortality Rates Among Adults in New Jersey from 1996-2002	10
Barbara Caldwell. Sleep Issues Related to Psychological Stress	11
Katherine D. Chung, Demissie K, Rhoads GG. Asthma in Pregnancy-Its Relationship with Race, Insurance, Maternal Education and Prenatal Care Utilization.	12
Carman A. Ciervo, Frank A. Filippetto, Claudia Switala. Project Interact: A Model for Cultural and Interdisciplinary Training of Predoctoral Students	12
Bernadette Cracchiolo, Gabriela Kaplan, Cheryl Kennedy. Needless Deaths: Cervical Cancer in Newark, Essex County NJ and the Nation	13

	<u>PAGE</u>
D. Getahun, CV Ananath, N. Selvam, K. Demissie. Mixed Parental Race: High Risk for Adverse Perinatal Outcomes?	14
Kitaw Demissie, OO Oluwole, BA Balasubramanian, OO Osinubi, D. August, GG Rhoads. Racial Differences in the Treatment of Colorectal Cancer: a Comparison of Surgical and Radiation Therapy between Whites and Blacks.	14
Kitaw Demissie, Heather O’Kelly. Trends in Childhood Asthma: Ambulatory Care, Hospitalization, and Anti-Asthma Medication	15
Kitaw Demissie, GG Rhoads, CV Ananath, GR Alexander, MS Kramer, MD Kogan, KS Joseph. Trends in Preterm Birth and Neonatal Mortality among Blacks and Whites in the United States from 1989 to 1997	16
Scott R. Diehl. Genetic Issues in Oral Health Disparities Research	16
Viktor Dombrovskiy, A.A.Martin, J.Sunderram, H.L.Paz. Racial Differences in the Epidemiology of Sepsis in New Jersey	17
Robin Eubanks. The Transition of African American Women on Public Assistance to Economic Self-Sufficiency: A Qualitative Study of Cultural Resiliency as Related To Positive Psychology	18
Frank A. Filipetto, F Humphrey, A. Clowers, A. Gupta, LB Weiss, M Herring, C. Ciervo. Mechanisms for Learning: Residency Curricula in Mental Health, Cultural Competency and Palliative Care	19
Denise C. Fyffe, Brown EL, McAvay GJ, Raue PJ, Bruce ML. Late-Life Depression Among Black and White Homecare Patients	19
Lisa Gittens-Williams, Anthony Al-Khan, Joseph Apuzzio. Dispelling the Myth that Thrombophilia is Less Common in Ethnic Minorities	20
Lisa Gittens-Williams, Stacy Zamudio, Nicholas Illsley. Ethnic Disparities in the Development of Insulin Resistance, Leading to Gestational Diabetes	21
Jan Gottlieb, Rhina Acevedo, Nicholas Napoli. Overcoming Language Barriers in Health Care: A Skill-Building Workshop for Clinical-Level Students and Residents	22
Shawna V. Hudson, Barbara DiCicco-Bloom, John Orzano, John Scott, Benjamin Crabtree. Addressing Cancer Disparities in a Family Practice Setting	23
Shawna V. Hudson, Mary Todd, Howard Leventhal. Physician Views About Clinical Trials for Cancer Research: Examining Barriers to Clinical Trial Accrual	23
Robert L. Johnson. The Brotherhood Health Initiative	24
William Johnson. Common Dihydrofolate Reductase (DHFR) 19bp Deletion Allele – a Novel Risk Factor for Preterm Delivery (PTD)	25

	<u>PAGE</u>
Sun Kim, Haein Son, Kyoung A. Nam. The Experiences of Korean Men's Smoking and Quitting	26
Robert C. Like, Mark C. Fulcomer, Jo Ann Kairys, Kimberly D. Wathington. Assessing the Impact of Clinical Cultural Competency Training in Two Academic Family Practice Centers	27
Robert C. Like, Mark C. Fulcomer, Jo Ann Kairys, Kimberly D. Wathington, Jesse Crosson. Assessing the Impact of Cultural Competency Training Using Participatory Quality Improvement Methods: Project Synopsis	28
Kenneth Markowitz, Karen Fairlie, Daniel Fine, Javier Ferrandiz. An Epidemiological Study of Caries in Newark NJ School Children	29
Gloria J. McNeal. Diversity Issues in the Home Care Setting	29
Gloria J. McNeal. End of Life Issues in a Palliative Care Framework for a Critically Ill adult African American with Cystic Fibrosis: a Case Study	30
Gloria J. McNeal, Abraham Ndiwane, Kathleen H. Miller, Alice Bonner, Kristal Imperio, Marianne Matzo, Ninon Amertil, Zoila Feldman. Enhancing Cultural Competencies of Advanced Practice Nurses: Health Care Challenges in the Twenty-first Century	30
Gloria J. McNeal. Organizational Culture and African American Nurse Faculty Productivity: A Comparative Study	31
Gloria J. McNeal. African American Nurse Faculty Satisfaction and Scholarly Productivity at Predominantly White and Historically Black Colleges and Universities.	31
Lauren Moschetta, Rajita Bhavaraju, Gabrielle Benenson, Nick DeLuca, Maria Fraire. Development of Culturally and Linguistically Appropriate Tuberculosis (TB) Patient Education Materials	32
Ariz R. Mehta. Cardiac Rehabilitation: Barriers to Participation	33
Frances Munet-Vilaro, Susan Folkman <sup>1</sup> , Steven E. Gregorich. Sources of Stress and Coping Strategies in Three Latino Groups	33
Dula Pacquiao, Svetlana Polyakova. Attitudes Towards Psychological and Mental Illness of Elder Immigrants from the Former Soviet Union (FSU)	34
Dula Pacquiao, Majuvy Sulse, Linda Ferguson, Noli Garcia-Luna. Experiences with Acculturation: A Comparative Study of Foreign Educated Nurses (FENs) and their Managers, Educators and Preceptors	35
Francis Patterson, Charles Jordan, Matt Monteleone, Joseph Benevenia, Kathleen S. Beebe. Socioeconomic Disparities in the Evaluation and Treatment of Musculoskeletal Oncology Patients	36

	<b><u>PAGE</u></b>
Ana Natale Pereira, Marielos L. Vega, Jonnie Marks, Debbie Salas-Lopez, Mark S. Johnson. Factors that Influence Colorectal Cancer Screening Practice in the Latino Community	37
Rachel Pruchno, Francine Cartwright. Patient and Spouse Preferences for Dialysis Continuation: Does Race Matter?	38
Rebecca Reed, HL Broder, R. Chaviano-Moran, G. Jenkins, M. Janal. Oral Health Status and Utilization among Children in Head Start	39
Rebecca Reed, H. Broder, G. Jenkins, E. Spivack, M. Janal, R. Chaviano-Moran. Oral Health Promotion Among Older Persons and Their Caregivers	40
Lee B. Reichman. NJMS National Tuberculosis Center	41
Daniel Rosenblum, Margaret L. Knight, Susan L. Collini, Jung Y. Kim, Judith B. Klotz, David L. Hom, Loretta L. Morales, Sharon L. Smith, Marcia M. Sass, Stanley H. Weiss. The Use of Epidemiologic Data in Developing Capacity and Needs Assessments in Comprehensive Cancer Control Efforts	42
Monique Roy. Diabetic Complications in African-Americans with Type I Diabetes: The New Jersey 725	43
Carl H. Rush. The New Jersey Community Health Worker Institute	44
Carl H. Rush. Community Health Worker National Workforce Study (CHW-NWS)	44
Robert Richards, Stephen Crystal. Repeat and Follow-up Tests (RAFTs) After Colonoscopy	45
Robert Richards, Dean M. Reker. Racial Differences in the Use of Colonoscopy, Sigmoidoscopy and Barium Enema in Medicare Beneficiaries	45
Robert Richards, Tsu-Hon Wang. Colorectal Cancer Screening in Hispanics: Effect of Sociodemographics and Access to Care	46
Asha Samant, Joel Martin, Robert Flinton. Need for Oral Health Education and Outreach Projects for Better Utilization of Oral Health Care Services in Urban and Under Privileged Communities.	47
Arun Samanta. Treatment of Chronic Hepatitis C Virus Infection in African Americans: Need for Re-assessment of Current Practice Guideline	48
Keerti Sharma, Debbie-Salas Lopez, Carmen McLaughlin. House Calls for Seniors: Establishing Community-based Geriatrics Services in Newark	49
Debbie Salas-Lopez, Dawne Mouzon, Ana Natale-Pereira, Vincent J. Barba, John Kolassa, Jonnie Marks, Maria Soto-Greene. Perspectives on Cancer Screening Among Internal Medicine Residents and Latino Community Members: A Work in Progress	50

	<u>PAGE</u>
Debbie Salas-Lopez, Ana Natale-Pereira, Vincent J Barba, John Kolassa, Jonnie Marks, Maria Soto-Greene. Beliefs and Attitudes on Cancer Screening: Perspectives from Internal Medicine Residents and Members from the Latino Community	51
Debbie Salas-Lopez, Maria Soto-Greene, Ruth Enid Zambrana, Alex Stagnaro-Green, Carmen McLaughlin, Vincent Barba, Ana Natale-Pereira, Loretta Morales, David Hom. Addressing Language Barriers for Minority Patients with Limited English Proficiency	52
Maria L. Soto-Greene, Jorge Sanchez, Debbie Salas-Lopez, Robert Like. Antecedents to Effective Treatment of Hypertension in Hispanic Populations	52
Claudia A. Switala, Tiffany Lowe. A Model Interdisciplinary Training Program for Predoctoral Students	53
Leslie-Faith Morrit Taub. An Evaluation of the Concordance of Selected Self-Reported Provider Recommendations for the Care of Patients With Diabetes With the Recommendations of the American Diabetes Associations Evidence Based Guidelines Using a National Survey	53
Azadeh Tasslimi, Punam J. Parikh, William Bullock, Daniel M. Rosenblum, Diana R. DeCosimo, Stanley H. Weiss. Identification of Cancer Priorities in Essex County: Results from a Cancer Capacity & Needs Assessment (C/NA) Performed As Part of a Statewide Initiative of the New Jersey Comprehensive Cancer Control Plan	54
Marielos Vega, Jeanne Ferrante, Mark S. Johnson, Sue Rovi, Elizabeth Nelson, Stanley H. Weiss, Ana Natale-Pereira, Ping-Hsin Chen. Colorectal Cancer Screening in Primary Care Settings: A Retrospective Review	55
Marielos Vega, Mark S. Johnson, Ping-Hsin Chen, Jeanne Ferrante, Ana Natale-Pereira, Sue Rovi, Stanley H. Weiss. Estimates of Colorectal Cancer Screening among Hispanics in the US: Current National Data Likely Overestimates the True Rates	56
William A. Vega, Paulette Hines. Workforce Cultural Competence Development in Behavioral Health	57
William A. Vega. National Latino and Asian American and Services Survey	57
William A. Vega. Cultural Competence in Mental Health Services	57
William A. Vega. Culture Based Models of Youth Risk Reduction	58
William A. Vega. Michael Gara. Ethnicity and the Diagnosis of Affective Illness	58
William A. Vega. Mexican Family Culture & Substance Abuse Risk & Resilience	58
Stanley H. Weiss, Judith B. Klotz, Daniel M. Rosenblum. Estimation and Utilization of County-Level Cancer Prevalence Estimates	59

	<b><u>PAGE</u></b>
Lynn Waishwell. Community Perceptions about Health-Related Research: A Focus Group Needs Assessment	60
H. Wolen, D. Furgang, K. Markowitz, K. Fairlie, J. Ferrandiz, D. Fine. Actinobacillus Actinomycetemcomitans and Localized Aggressive Periodontitis in Newark Schoolchildren	60
Denise M. Young, Sindy Paul, Abdel Ibrahim, Kitaw Demissie. Rapid HIV Testing in New Jersey: A State-wide Primary Care Initiative	61
Stacy Zamudio. Health Care Access and Reproductive Outcomes in Native Americans Living in Poverty in Bolivia	62

## **Literacy and Health: Preliminary Results of a Health Literacy Intervention by OB/GYN Associates at University Hospital, Newark and the Newark Literacy Campaign**

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**Co-Authors:** Jennifer Winters MRN, Sarajane Rath CHES, Lisa Bernstein<sup>1</sup>  
**School:** New Jersey Medical School

**Introduction:** Functional health literacy is defined as “the patient’s ability to read, comprehend, and act on medical instructions”. The DHHS Healthy People 2010 plan concludes that addressing health literacy is not only an issue of promoting improved individual health outcomes for residents in poorer neighborhoods, but an essential step in addressing the overall question of health disparities.

<http://www.healthypeople.gov/document/html/objectives>

**Methods:** Beginning in December 2004, The Test of Functional Health Literacy in Adults (TOFHLA) was administered to all pregnant patients at the prenatal care orientation meeting. Patients are classified into three groups: functionally illiterate, marginally literate, and fully literate. Functionally illiterate patients are given appointments with Jennifer Winters and marginally literate patients are given appointments with Theodore Barrett, at which time the mother-to-be is invited to participate in the literacy intervention. Clients are paired off with Newark Literacy Campaign tutors for literacy education, which is conducted in conjunction with our Health Educator (Sarajane Rath). The core curriculum is designed by The What to Expect Foundation\* and the goals are de-mystification of the healthcare system, keeping appointments, roles of the health care team members and prenatal education. Outcome measures include the time between first contact and first physician/provider visit, gestational age on entry to prenatal care, number of appointments missed, number of emergency visits to the Hospital, number returning for the postpartum visit, and the number of women who abandon care.

**Results:** To date we have screened 678 English speakers and 284 Spanish speakers, with 94% and 98%, respectively, completing and returning the TOFHLA. Among English speakers, 14% are functionally illiterate and 9% are marginally illiterate, while among Spanish speakers, 40% are functionally illiterate and 15% are marginally illiterate. Because the research design calls for two providers to see all intervention patients, we can only enroll a portion of all eligible women in the literacy intervention, and hence women who are not enrolled, but who have similar literacy skills comprise the normal care comparison groups. To date, 108 functionally illiterate and 29 marginally illiterate women have been enrolled in the literacy intervention. Their respective comparison groups are comprised of 78 functionally illiterate women and 65 marginally literate women receiving usual care. Results through March, 2005, indicate a marked reduction in the time to first prenatal visit and gestational age at entry to care (3 days, 16.9 weeks vs. 39 days, 19.8 weeks and 7 days, 16.9 weeks vs. 38 days, 18.7 weeks for the functionally illiterate and marginally literate groups respectively). There is greater educational contact hours/patient and fewer women abandoning care in the intervention group. There are no differences in the number of patients who missed appointments or who had emergency visits between usual care and intervention groups.

**Conclusion:** While still early in the project, participation in literacy training gets women into care sooner and at earlier gestational ages. Moreover fewer women abandon care in the intervention group. Support: Health Care Foundation of New Jersey, the Newark Literacy Campaign, The What to Expect Foundation

<sup>1</sup>The What to Expect Foundation, New York, New York 10024

## Supplementing Guided Self Study with Simulation Exercises in Medical Education – A Demonstration Module: Tobacco Use & Dependence

**Primary Author:** Sima C. Bennett, MPH, RD.  
**School:** School of Osteopathic Medicine

Community Medicine I, a required course for first year students, uses an evidence based medicine approach, including independent reading and small group discussion, to introduce students to various public health “hot topics,” including health disparities. This course also gives students their first experience in direct patient care through a preceptorships program in family medicine clinical offices in the community. To compel students to combine their newly acquired skill in use of evidence based medicine and apply it to patient care, a stand-alone e-learning (WebCT) module was created on Tobacco Use & Dependence. The module focuses primarily on introducing students to the US Public Health Service’s clinical practice guidelines on caring for the tobacco addicted patients. Links to evidence based and anecdotal readings on tobacco are provided, including readings on health disparity issues regarding tobacco use, nicotine metabolism and cigarette marketing. Following study through the module, students engage in a standardized patient encounter in which they are challenged with counseling a minority teen regarding her tobacco use. This poster showcases design of module and standardized patient case components.

### Quantitative Light-Induced Fluorescence (QLF) Assessment of Acid Induced Enamel Lesions

**Primary Author:** M. Bennet  
**Co-Authors:** K. Markowitz, D. Fine  
**School:** New Jersey Dental School

**Objectives:** The anatomic features of pit and fissures caries make early diagnosis difficult. Quantitative light-induced fluorescence (QLF: Inspektor Research BV) offers a method of assessing early lesions. We used QLF to examine the progression of enamel lesions induced by repeated treatments with 2 acids that cause different patterns of enamel damage.

**Methods:** Two acid treatments were used to create lesions on smooth surfaces (SS) and occlusal surfaces (OS) of sterile extracted teeth (5 teeth in each group): 1) Ultradent® 35% phosphoric acid ( $H_2PO_4$ ) gel, pH 1. 2) 36.5% HCl, pH 0. QLF readings were made before and after 1, 2, 4, 6 and 8 hours of demineralization on dry OS and one 2-hour treatment on dry SS and Fluorescent change ( $\Delta F$  %) calculated. Enamel  $\Delta F$  % reflects mineral density changes. Statistical significance of  $\Delta F$  was established by ANOVA and post-hoc testing ( $P < 0.05$ ).

**Results:** OS treated for 6 hours with  $H_2PO_4$  demonstrated an average  $-\Delta F$  of 25.5% (mineral loss). Smaller  $-\Delta F$  values were recorded at lower time intervals. 8 hours  $-\Delta F$  was 17.4%. 6 and 8 hours changes in  $\Delta F$  were statistically significant ( $P < 0.05$  compared to baseline). Photography revealed a white frosted appearance. QLF analysis of HCl treated OS failed to demonstrate significant  $\Delta F$  (maximum  $-\Delta F = 8.5\%$ ) even though photography revealed loss of enamel. Similar QLF and photographic observations were made following acids treatment of SS. A statistically significant  $-\Delta F$  ( $P < 0.05$ ) of 17.8 % was seen after  $H_2PO_4$  only. In contrast, QLF measures small (non-significant)  $+\Delta F$  after SS were treated with HCl even though erosions were observed photographically.

**Conclusion:** Early caries often appears as a small white area. The QLF reads the white opaque surfaces of phosphoric acid tooth surfaces as demineralized but failed to correctly assess HCl eroded enamel as being demineralized based on  $\Delta F$  determination.

## Winter and Summer Blood Lead and Serum 25 Hydroxy-Vitamin D Concentrations in Newark, NJ, Children

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**Co-Authors:** Francis W Kemp, BS, Prasad Neti, PhD, Roger W Howell, PhD,  
Peter Wenger, MD, Donald B Louria, MD  
**School:** New Jersey Medical School

**Introduction:** Although the seasonal variability of blood lead is widely recognized, specific climate and other factors that may cause this phenomenon have not been rigorously studied. Sunlight-induced vitamin D synthesis is greater in the summer, is influenced by skin pigmentation, and may modify gastrointestinal lead absorption or release into blood of lead stored in bones.

**Methods:** We studied the effect of season on serum 25-hydroxyvitamin-D (25-OH-D) and blood lead in 78 1-3 year-old and 63 4-8 year-old Newark children. Of the 141 children 90 were African-American and 51 were Hispanic.

**Results:** Blood lead concentrations were  $4.94 \pm 3.94$  mcg/dL and  $6.54 \pm 7.27$  mcg/dL during the winter and summer months for ages 1-3, a winter/summer (W/S) increase of 32.4%. There was a smaller W/S increase of 13.3% in blood lead from  $3.68 \pm 2.51$  to  $4.17 \pm 2.90$  mcg/dL for ages 4-8. None of the 51 Hispanic children had an elevated blood lead concentration ( $\geq 10$  mcg/dL) during the winter, and only 1 had an elevated summertime concentration. In contrast elevated blood lead concentrations were frequent in African-American children, especially those ages 1-3. For the latter, the percentage with elevated blood lead levels increased from 12.2% in winter to 22.5% in summer. Ages 1-3 had serum 25-OH-D concentrations during the winter and summer of  $39.8 \pm 14.7$  mcg/L and  $40.4 \pm 13.1$  mcg/L, a 1.5% W/S increase. However, in ages 4-8 the W/S increase in 25-OH-D was from  $29.7 \pm 12.6$  to  $39.3 \pm 11.3$  mcg/L, an increase of 32.3%. The percentages of children with low ( $<16$  mcg/L) serum 25-OH-D concentrations were 8.5% in winter and 0.7% in summer. The percentage of children with low serum 25-OH-D concentrations was consistently greater in African-American than Hispanic children. The large seasonal increase in blood lead in ages 1-3 was not accompanied by a significant increase in serum 25-OH-D concentrations. In contrast the seasonal increase in blood lead in ages 4-8 was accompanied by a large increase in serum 25-OH-D levels, and the increases were significantly associated ( $r=0.373$ ,  $p=0.0026$ ).

**Conclusion:** The higher summertime 25-OH-D concentrations for the 4-8 year old children are likely due to increased sunlight-induced vitamin D synthesis and may contribute modestly to the seasonal increase in blood lead. Age and race appear to be key factors that affect blood lead and Vitamin D nutrition, as well as their interactions, in young urban children.

Supported by the Institute for Elimination of Health Disparities and the Healthcare Foundation of New Jersey.

## Reliability and Validity of the Child Oral Health Impact Profile (COHIP)

**Primary Author:** Hilary L. Broder, PhD, MEd  
**School:** New Jersey Dental School

**Objectives:** The purpose of the current study was to evaluate the reliability and validity of the Child Oral Health Impact Profile (COHIP). The questionnaire consists of 34 items that assess oral symptoms, functional well-being, emotional well-being, social well-being, health/self-esteem and health expectancies. In an effort to develop a culturally-sensitive instrument to reduce health disparities and evaluate oral health needs among children and adolescents, the COHIP was designed to measure oral health-related QOL of children as reported by children or by their caregivers. The items assess positive as well as negative impacts.

**Methods:** Children and their caregivers were recruited from pediatric, orthodontic, and craniofacial clinical settings in the US and Canada. A comparison group of children not seeking dental treatment was recruited from elementary and middle schools in NJ. Reliability was assessed with Cronbach's alpha coefficient, and subscale independence with Spearman's correlation. Groups were compared by ANOVA to test discriminant validity.

**Results:** The children (N=525) averaged 11.6 years (s.d.=1.60); 51.6 % were female; and represented diverse ethnicities (black= 21.5%, Latino= 25.8%, Asian= 5%, white=43.3%, other 4.4%). Total COHIP scores ranged from 28 to 135 (mean SD, 99.0 19.2) for the children and 38 to 101.5 (mean SD, 101.6 19.0) for the caregivers. Reliability for the total COHIP was favorable: Cronbach's alpha coefficient = 0.92 for both the children and caregivers. Spearman correlations between the subscales were modest, ranging from .20-.48 for children and from .25-.55 for caregivers, indicating that they were measuring different constructs. Discriminant validity was indicated by reliable differences between diagnostic groups for both children ( $p < .0075$ ) and caregivers ( $p < .0001$ ). Payor status (Medicaid vs. non-Medicaid) and ethnicity were associated with COHIP summary scores.

**Conclusion:** The COHIP is a reliable and valid measure for assessing oral health-related quality of life in children by both self-report and informant report. Further testing will examine the utility of the instrument in both clinical and epidemiological samples. NIDCR supported: R01 DE13732

## Disparities in the Incidence and Causes of Stillbirth

**Primary Author:** Michael Brimacombe, PhD.  
**Co-Author:** Debra Heller, MD.  
**School:** New Jersey Medical School

**Introduction:** Fetal demise is an ongoing tragedy for which there is often no explanation, even with detailed clinical examination and autopsy. It may strike the same family several times, suggesting that genetic and/or environmental factors are contributory. That environment plays a major role is supported by higher incidence rates among women in lower-socio-economic groups, who likely are subject to greater levels of stress and/or to greater exposure to environmental toxins. In this study we sought to compare the incidence and causes of stillbirth in two communities within the same geographic region in New Jersey, one characterized by affluence (Hackensack Medical Center, Bergen County) and one by poverty (University Hospital, Essex County).

**Methods:** A stillbirth is defined as an intrauterine fetal death at  $\geq 20$  weeks of gestational age or intrapartum death of a third trimester infant. The data presented here are the results obtained from 4 years of the stillbirth autopsy service (operated by Dr. D. Heller) which is available to all Obstetrics – Gynecology clinicians at University Hospital in Newark, as well as on a consultation basis to clinicians in the New Jersey area. Approximately 30 cases have been investigated each year. This study focuses on 52 stillbirths from University Hospital and 55 from Hackensack Medical Center. In order to better interpret the clinical results for our sample, background stillbirth-related data was obtained for Essex and Bergen Counties from the NJ Center for Health Statistics, a component of the NJDHSS. This background data, shown here for the years 1998 – 2000, compares overall rates of common prenatal risk factors such as low birth weights, lower gestational age and delayed access to prenatal care between Essex and Bergen County.

**Results:** In these validated cases that underwent autopsy we were able to identify a cause of death in 70%, better than the national average of 50% of cases having no explanation at autopsy. The most pronounced difference between groups is that infection, potentially preventable, was detected in nearly 35% of stillbirths from University Hospital vs. 14% from Hackensack Medical Center. Mothers of stillbirths in Essex versus Bergen County are characterized by younger age, higher levels of parity, gravidity, smoking, single marital status and very low birth weight infants. There is no difference in the incidence of stillbirth due to unknown cause between the two sites.

**Conclusion:** This case series forms an observational study serving as a type of natural experiment with rare pediatric autopsy data being collected in a comparable setting for stillbirths drawn from socio-economically distinct populations. The differences observed can be interpreted as being related primarily to prenatal care, existing maternal health and a higher rate of infection in lower socio-economic settings where prenatal care is less pervasive. Good background demographic data allows for useful interpretation of these case series. Surprisingly, the numbers of cases with unknown causation are equally high in both case series and underscore the need for more detailed study. The high incidence of infection in Newark stillbirths suggests potential for interventional strategies designed to detect and treat occult infections in pregnant women in order to reduce the incidence of stillbirth.

## **Clinical Trials and Cancer Treatment Decision-Making: A Pilot Study to Examine Awareness, Access and Utilization by Diverse New Jersey Populations**

**Primary Author:** Diane R. Brown, PhD  
**School:** School of Public Health

This is a proposal to assess the extent to which participation in clinical trials is a part of the treatment decision-making process for persons diagnosed with cancer in New Jersey. The project is a follow-up to the many efforts undertaken in New Jersey to publicize and recruit persons into clinical trials. The proposed project will also assess differences by race/ethnicity, gender, and cancer site in knowledge of clinical trials, access to clinical trials, as well as actual participation. The research uses a telephone survey of cancer survivors diagnosed during 2001 prior to major New Jersey clinical trials initiatives such as Project Impact and Clinical Trials Connect. These findings will be contrasted with data from a telephone survey of cancer survivors diagnosed during the latter part of 2003 and early 2004, after the initiation of these major New Jersey clinical trials initiatives. The proposed project will be implemented by the UMDNJ's Institute for The Elimination of Health Disparities in collaboration with the Office of the NJ State Cancer Registry and be implemented over a two year period. The specific aims are to: 1) examine the extent to which persons diagnosed with cancer in New Jersey are knowledgeable of clinical trials and how to access them and to determine if there are disparities in these outcomes by race/ethnicity, gender and cancer site; 2) examine the extent to which clinical trials are a part of treatment decision-making among persons diagnosed with cancer in New Jersey and to determine if there are disparities in these outcomes by race/ethnicity, gender and cancer site; 3) examine the extent to which persons diagnosed with cancer in New Jersey have participated in cancer clinical trials and their assessment of participation and to determine if there are disparities in these outcomes by race/ethnicity, gender and cancer site; and 4) assess the extent to which the gap in clinical trial participation rates between African Americans and Caucasians have changed (decreased) after the implementation of the specific New Jersey clinical trials initiatives. Findings from the study are expected to provide a basis for future interventions. Funding: Cancer Institute of New Jersey.

## Spiritual-Based Intervention for African American Women with Breast Cancer

**Primary Author:** Diane R. Brown, PhD  
**School:** School of Public Health

**Introduction:** Social support has been shown to have value in decreasing morbidity and possibly in increasing length of survival in cancer patients (Spiegel, 1990; Fawzy, Cousins, Fawzy, et al., 1990). Yet, few studies using psychosocial interventions have included African Americans, even though breast cancer mortality is higher for African American women than their Caucasian counterparts. Some studies have noted the significance of religion and spirituality in the lives of African Americans, while other studies have suggested a link between spiritual well-being and the ability to cope with chronic illnesses, such as cancer. However, few studies have examined the impact of a spiritual -based social support intervention on enhancing treatment-related outcomes for African American women with breast cancer. The proposed work has four objectives: 1) to utilize a network of oncology services, churches, and community organizations to recruit African American women diagnosed with breast cancer for project participation; 2) to implement the spiritual-based intervention; 3) to assess the efficacy of the intervention to positively impact treatment-related outcomes; and 4) to refine the intervention for broader dissemination. Based upon a social support paradigm, four hypotheses are posed: (H1) Women in the spiritual-based intervention will have less depression, anger and anxiety than women who are in the control groups. (H2) Women in the spiritual-based intervention will have greater overall quality of life than women who are in the control groups. (H3) Women in the spiritual-based intervention will have greater use of health promoting behaviors than those who are in the control groups. (H4) Women in the spiritual-based intervention will have greater treatment compliance than those who are in the control groups.

**Methods:** The intervention involves an experimental/control group design approach. The experimental support group (intervention group) will receive the Spiritual-based support intervention. There will be two control groups: control group A will include participants in a traditional support group model and control group B will include individuals who receive the standard care consisting of no additional structured support. An Advisory Committee comprised of breast cancer survivors and local clergy will provide guidance to project implementation. The basic content for the support groups covers well-established topics ranging from grief, family and intimate relationships to self esteem, stress management and goal-setting. However, the spiritual support group encompasses exercises and practices such as prayer, and personal expressions of spirituality. Over a three year period the intervention will be tested in three separate rounds. Each round consists of seven sessions, with one session held each month. It is projected that 45 women will participate in each round, 15 women in each group. Participants will be African American breast cancer patients within 24 months of diagnosis, 40 to 65 years of age, diagnosed at stage I, II, or III, have no history of recurrent disease and present with a maximum of one co-morbid condition. Data will be gathered through a pre-test at baseline (T1), a post test at the conclusion of the 7 month intervention (T2), and at a three-month follow-up at the end of the support group sessions (T3). The outcome measures have been validated on minority and/or illness populations. Participants will receive a \$70 incentive at the end of each round. Given the higher mortality rate among African American breast cancer patients, it is hoped that the intervention will be successful in demonstrating an improved quality of life and mental health for African American women with breast cancer; that they will exhibit more health promoting behaviors and that they will be more adherent to their treatment regimens.

**Results:** Preliminary results suggest the importance of spirituality as an activity that can be legitimately used to complement medical care. Funding: Department of Defense.

## Understanding Diabetes Self-Management in Culturally Diverse Urban Populations

**Primary Author:** Diane R. Brown, PhD  
**Co-Author:** Valerie N. Pogue, MPH  
**School:** School of Public Health

**Introduction:** The purpose of the study is to obtain a better understanding of diabetics' perceptions of self-management, and whether or not they currently engage in self-care practices. Such data are needed to serve as a foundation for the development of a community-based intervention to improve self-management within the diabetic community of Essex County, with the possibility of expansion to other parts of NJ.

**Methods:** Three focus groups of 8-10 persons were held with diabetic patients identified in the federally qualified health centers. The focus group script was designed to collect data on patient's knowledge of diabetes, their use of health care and their adherence to diabetes treatment protocols. Barriers to adherence were also ascertained. The focus group script was translated into Creole and Spanish.

**Results:** Results showed that a major need among diabetics is that of information. This was more of an implication, and not directly stated, but patients need to understand that complications are not inevitable, and usually result from non-compliance; they don't have to happen. Specific to Haitian participants, they need to be informed about the effectiveness of modern medicine, without being culturally insensitive. They can supplement their medical regimens with home remedies, but they should not act as a substitute. Another theme revolving around information deals with perceived severity. Some of the participants will only go for regular medical check-ups, when they perceive that there is a problem. The focus should be on the importance of regular monitoring of the disease, or primary prevention of complications. It comes up again, specifically with Haitian patients, but reliance on home remedies is common because they don't require money and are customary in their homeland, where access to basic healthcare resources is limited. The results also show that there is a language barrier among some of the Haitian patients. Some felt that language inhibited their ability to adhere with medical regimens. Other participants were more fluent in the English language, or had family members who were able to translate.

Culture was not as blatantly obvious with the African American population. For this group, adherence issues were related to lifestyle. Some participants expressed extreme frustration around having to give up foods that they were accustomed to (i.e. high fat, high salt food) so they would rather eat what they want, versus submit to a disease in which they didn't have enough information about what the end result would be. The following are pivotal to the improvement of, and/or adoption of self-care techniques among the study population: Education about disease prevention; Information on accessing necessary resources & access to the resources; Instructions in multiple languages; Information on living with diabetes and how to alter entire lifestyle.

**Conclusion:** While it is important that the diabetic population work collaboratively with the physicians to improve their health, there exist barriers to doing so. Haitian patients were dealing with language barriers as well as lacking access to health insurance and appropriate glucose monitoring devices. African Americans wanted more information on how to find a happy medium between managing their health and maintaining some semblance of their current lifestyle. They also wanted to know what progressive measures are being taken to find a cure for this chronic illness. Overall, it appears that the key to improved self-management practices revolves around diabetics having access to the resources that they feel are necessary, as well as more information on how to deal with this chronic condition.

## **Resources and Strategies for Community-Based Cancer Prevention And Control in a Diverse Urban Population**

**Primary Author:** Diane R. Brown, PhD  
**School:** School of Public Health

**Introduction:** Statistics from the New Jersey State Cancer Registry clearly show disparities in cancer incidence and mortality by gender, race, age and geographic location. Despite encouraging strides made in the assessment and treatment of many cancers, New Jersey residents in a number of population subgroups do not seem to be benefiting from these advances. These disparities suggest an inconsistency in access and use of screening, education and treatment services.

**Methods:** In an effort to address these disparities and develop services that are culturally competent and responsive to the needs of diverse populations, the proposed project will identify existing cancer resources in the greater Newark area and use focus groups to gain community perspectives on the screening, educational and unmet treatment needs. The focus groups will be conducted with diverse ethnic populations including Latinos, Blacks of various ethnic backgrounds, and Caucasian residents of Newark. This proposed project will assess the current availability, awareness and perceptions of screening, education and treatment services for each of the following cancer sites: breast, prostate, lung and colon cancer.

**Results:** After assessing the gaps in service, a community-based cancer summit will be convened for the purposes of sharing findings with the broader community, devising appropriate community-based strategies and establishing an implementation plan to meet service needs. Funded by Cancer Institute of New Jersey

### **Community Health Mapping**

**Primary Author:** Irina McKeehan Campbell, PhD, MPH  
**School:** School of Nursing

Community health policy for reducing health disparities is often based on data derived from government sponsored health surveys which do not systematically monitor community risk factors of chronic diseases, together with personal health practices. Community health interventions are often reduced to modifying those individual behaviors which appear to be most controlled by individual choice. Much of public health surveillance is structured by data collection protocols which do not easily permit linking proximal risks for chronic diseases with distal risks from environmental or socioeconomic data. A current trend in the growth of evidence-based health policy is the recognition that research cannot be translated into practice without multidisciplinary collaboration with such fields as Health Informatics. The application of information technology, like Geographic Information Systems (GIS), permits linking public health data with a variety of databases through geocoding techniques. The expansion of computerization in statistical methods permits analyzing a variety of causal relationships derived from geocoded data, through linear and nonlinear mixed models. Such technological advances enable the empirical testing of theoretical paradigms not possible without this technology, as well as the creation of health information from existing unmined resources. Availability of health information is vital for policy interventions that propose to improve health outcomes a.) by increasing community participation in designing interventions, b.) by increasing access to and delivery of high quality health care, and c.) by defining consumer self-care as the single most significant factor in the prevention of chronic diseases and premature mortality. The availability of health information is also vital for the evaluation of cost-benefit and effectiveness of interventions.

## **Oral Cancer Age – Adjusted Incidence and Mortality Rates Among Adults in New Jersey from 1996-2002**

**Primary Author:** Rufus Caine, Jr., DDS, MPH  
**Co-Authors:** Samuel Quek, DMD, MPH, Elise Kumar, Msc, Richard Montgomery, DDS, MPH.  
**School:** School of Public Health

**Objective:** The aims of the study were to describe the age-adjusted incidence and mortality trends for oral cancer from 1996-2002 for the New Jersey State Cancer Registry (NJSCR); and to compare the age-adjusted incidence and mortality trends for state (NJSCR) and national (SEER) oral cancer trends.

**Materials and Methods:** The sample size was 3164 cases of primary and in situ neoplasm of the oral cavity that was reported to the New Jersey State Cancer Registry (NJSCR). It was a population-based incidence registry with a population of 8.4 million people. The sampling design was a nonprobability based convenience approach. The sampling elements were adult males and females with oral cancer from 1996-2002. The secondary source of data reflected age-adjusted incidence rates from 1998-2002 and the age-adjusted mortality rates from 1998-2001. The study design was cross-sectional. The dependent variables were the age-adjusted incidence and mortality rates for oral cancer. Univariate analyses were performed.

**Results:** Current trends revealed a general decline for white males and females in their age-adjusted incidence and mortality rates. Black males had the highest age-adjusted incidence rates (23.1-27.8, X = 21.72, S.D. = 3.80776) and mortality rates (8.5-10.5 X = 9.1667, S.D. = 1.11295). Black females age-adjusted incidence rates were (7.9-4.2, X = 6.5, S.D. = 1.50665). White females had incidence rate (6.9-5.6, X = 6.157, S.D. = 0.56231) and mortality rates (1.8-1.3, X = 1.5167, S.D. = 0.19408). Black females had higher age-adjusted incidence and mortality rates than white females. All Males groups had higher age-adjusted incidence rates (16.6-14.3, X= 15.4, S.D. = 0.93452) and mortality rates (4.9-3.6, X = 4.2667, S.D. = 0.45461) than all female incidence rates (6.9-5.9, X = 6.286, S.D. = 0.52099) and mortality rates (2.0-1.3, X = 1.6167, S.D. = 0.23166). White males had higher age-adjusted incidence and mortality rates than white females. Black males had higher age-adjusted incidence and mortality rates than black females. Age-adjusted incidence and mortality rates for cancer of the oral cavity were higher than the oral pharynx. The tongue and the tonsil had the highest anatomical sites for age-adjusted incidence and mortality rates. The age-adjusted incidence rate increased in 2000 (23.3) but declined in the following two years to (19). The national (SEER) oral cancer trends and NJSCR were consistent with finding from this study.

**Conclusion:** Early screening and detection is needed to reduce the incidence and mortality rates for cancer of the oral cavity and pharynx.

## Sleep Issues Related to Psychological Stress

**Primary Author:** Barbara Caldwell, PhD, APRN-BC  
**School:** School of Nursing

**Introduction:** The proposed study addresses the compelling need for studies of sleep disturbance and its relationship to stress, mood disturbances and traumatic symptoms among inner city women of childbearing age. Sleep disturbance is common among women of childbearing age (Schweiger, 1972; Suzuki, Dennerstein, Greenwood, Armstrong & Satohisa, 1994; Voderholzer, Al-Shajlawi, Weske, Feige & Riemann, 2003). However, little is known about the characteristics of sleep patterns of childbearing women living in inner cities. It is likely that sleep disturbance in these women may contribute to the exacerbation of mental health problems, including symptoms of PTSD, anxiety, and depression (Harvey, Jones, & Schmidt, 2003).

**Methods:** Our own preliminary data (Caldwell, 2002) indicate that inner city childbearing women suffer disproportionately from symptoms of post-traumatic stress disorder (PTSD) as did the study by Bassuk, Dawson, Perloff & Weinrib (2001). Approximately 35% of the low-income women had a lifetime incidence of PTSD, a rate about three times that of women of all ages in the National Comorbidity Survey completed by Kessler, Sonnega, Bromet, Hughes and Nelson (1995). Sleep disturbance and psychiatric-mental health problems, including symptoms of trauma, depression, and anxiety, are frequently comorbid conditions (Orsillo et al, 1996).

**Results:** A growing body of evidence suggests that sleep disturbance contributes to the development of these problems (Morin, & Ware, 1996; Saldotas, 1994; Koren, Arnon, Lavie & Klein, 2002). Insomnia was a causative factor for depression and/or anxiety in a study by Ford & Kamerow (1989). Insomnia of at least two weeks duration increases the lifetime risk for depression (Wingard & Berkman, 1989; Lustberg & Reynolds, 2000). Persistent sleep problems increase the risk of relapse and recurrence of depressive episodes and the risk for suicide (Wingard, & Berkman, 1989; Fawcett, Schiftnr, Fogg, et. al, 1990). Breslau, Roth, Rosenthal, & Andreski (1996) found that 40% of those with insomnia and 46% of those with hypersomnia had a psychiatric disorder as compared to 16% of those with no sleep complaints.

**Conclusion:** Soldators (1994) and Morin and Ware (1996) noted that individuals with insomnia and co-occurring chronic stress could be at risk for the development of anxiety. Disturbed sleep is closely associated with stress, hyperarousal, disturbed mood, and symptoms of PTSD (American Psychiatric Association, 2000). Rothbaum and Mellman (2001) noted that if deprived of adequate sleep, one would expect the trauma survivor to be more sensitized by, reactive to, and therefore more avoidant of, exposures to reminders of the trauma, whereas a well-rested state would enhance the individuals capacity for coping. Krakow, Hollifield et al (2001) noted that sleep quality disruption for trauma victims will impair processing and resolution of the trauma and increase anxiety.

## **Asthma in Pregnancy – Its Relationship with Race, Insurance, Maternal Education, And Prenatal Care Utilization**

**Primary Author:** Katherine Chung, MD, MPH  
**Co-Author:** Demissie K, Rhoads GG  
**School:** School of Public Health

**Objective:** This study examines racial/ethnic disparities in the rate of asthma during pregnancy, and examines insurance type, maternal education, and prenatal care initiation/utilization as potential determinants of the disparities.

**Design and Setting:** This historical cohort study utilizes the linked birth certificates and maternal hospital claims data for all singleton live births to New Jersey residents in New Jersey hospitals in 1989-1993 (N=556,597).

**Results:** Compared to whites, African-American (odds ratio, OR=1.56, 95% confidence interval, CI: 1.44, 1.70) and Hispanic (OR=1.35, 95% CI: 1.23, 1.49) mothers had elevated rates of asthma. Medicaid (OR=2.08, 95% CI: 1.87, 2.32) and Medicaid HealthStart (OR=2.23, 95% CI: 2.04, 2.44) enrollees, compared to those with traditional indemnity coverage, were more likely to have asthma during pregnancy. When measures of socioeconomic status were included in the model, the effect of race decreased. Insurance status was the most important of the socioeconomic factors and accounted for most of the racial/ethnic disparity in African Americans and Hispanics.

**Conclusion:** Insurance type as a possible indicator of socioeconomic status explains much of the racial disparity in asthma during pregnancy. Monitoring the quality of medical care for disadvantaged women may have a significant public health impact.

## **Project Interact: A Model for Cultural and Interdisciplinary Training of Predoctoral Students**

**Primary Author:** Carman A. Ciervo, D.O.  
**Co-Author:** Frank A. Filipetto, D.O., Claudia Switala M.Ed.  
**School:** School of Osteopathic Medicine

The UMDNJ-School of Osteopathic Medicine, Department of Family Medicine received a grant from the US Bureau of Health Professions to develop, integrate, implement, and evaluate an innovative cultural and interdisciplinary training program for predoctoral students utilizing three components: curriculum, standardized patient lab, and clinical experiences. Eleven interactive curriculum modules and four clinical experiences were designed and integrated into the predoctoral curriculum. A two-week 3<sup>rd</sup> year community service rotation was developed and implemented in partnership with the New Jersey Area Health Education Center to allow students the opportunity to practice their cultural and interdisciplinary competencies in medically underserved communities. Twelve standardized patient cases were developed and implemented to assess students' cultural and interdisciplinary competencies in standardized patient encounters. Students completed three standardized patient encounters each year with specific tasks required for each case. A majority of the tasks were completed satisfactorily by 70% - 91% of the students. There were five tasks that 50% to 70% of the students completed satisfactorily with two of these tasks requiring revision to the curriculum based on student feedback.

## Needless Deaths: Cervical cancer in Newark, Essex County NJ and the Nation

**Primary Author:** Bernadette M. Cracchiolo, MD  
**Co-Authors:** Gabriela Kaplan, Cheryl Kennedy MD  
**School:** New Jersey Medical School

### Introduction:

Death from cervical cancer is preventable by early screening. It is well-documented that equal access to screening and treatment ensures equal survival irrespective of race or ethnicity<sup>1</sup>. We examined local trends in diagnosis and survival of cervical cancer with state and national statistics.

### Methods:

SEER database statistics and data from the New Jersey State Cancer Registry were compared with data from the University Hospital Tumor Registry and United States Census data.

### Results:

Nationwide the disparity in the relative 5-year survival rates from cancer of African-American versus Caucasian patients is increasing: Between 1974 and 1997, disparity more than doubled, and is presently increasing linearly. The relative 5-year survival rates of African-American women with cervical cancer is decreasing, from 64% in 1974 to 58% in 1997, with projected disparity predicted to exceed 21% by 2006. These trends are even more pronounced within our Gynecological Oncology Service at University Hospital, New Jersey Medical School, Newark. In 2000, cancer of the cervix was the most common new cancer diagnosis at University Hospital at the New Jersey Medical School in Newark. 60% of the newly diagnosed cases were in African-American women and 24% in Hispanic women, with a significant proportion presenting at advanced stages of disease.

We thus examined cervical cancer rates in Newark / Essex County and compared them with the state of New Jersey and the Nation as a whole. We also examined what factors may have contributed to the still-increasing rates we observe in Essex County today. We found that during the early eighties, funding cuts in citywide preventive health initiatives had markedly reduced Pap screening in Newark. Subsequently, cervical cancer rates increased from 8.7 in 1988 to 13.9 in 1992. Cases more than doubled among African-American women in Essex County at the same time, and they experienced twice the rate of invasive disease of age-matched Caucasians<sup>2</sup>.

Diagnosis of local disease (curable) was distinctly less common in Essex County than at the state or the national level (43% vs. 47% and 52% of all cases, respectively). Statewide, 72% of cervical cancers in Caucasians were diagnosed while still in situ, compared with only 61% of cervical cancers in African-American and 67% in Hispanic women. This results in a higher age-adjusted mortality rate from cervical cancer in Essex County (4.8/100,000) than at the state (2.8/100,000) and national level 2.7/100,000 women). Years-of-potential-life-lost (YPLL) before age 65 is thus 72% higher in Essex County than in the state of NJ as a whole.

The burden of death by this mostly curable disease is disproportionately borne by minority women in New Jersey, with race/ethnicity specific mortality rates of 2.3/100,000 women among Caucasians, versus 6.3 in African-Americans and 4.1 in Hispanic women.

### Conclusion:

The continuing trend in racial/ethnic disparities in death from cervical cancer is alarming, and requires targeted interventions by local, state, and federal authorities.

Supported by the UMDNJ Foundation (19-99)

<sup>1</sup>Farley et al., Cancer 91, p869; 2001.

<sup>2</sup>-Holland et al., Am J Pub Health 83, p45; 1992

## Mixed Parental Race: High Risk For Adverse Perinatal Outcomes?

**Primary Author:** Getahun D., MD, MPH  
**Co-Authors:** Ananath CV, Selvam N, Demissie K.  
**School:** School of Public Health

**Objective:** The authors examined the association between parental race and adverse fetal and infant outcomes.

**Methods:** A retrospective cohort study was conducted using the U.S. linked birth/infant death dataset between 1995 and 2001. The study was restricted to singleton births at  $\geq 20$  weeks, and fetuses weighing  $\geq 500$ g (n=21,005,786). Rates of fetal and infant outcomes were examined. Parental race was categorized as: mother white-father white (WW), mother white-father black (WB), mother black-father white (BW), and mother black-father black (BB). Multivariable logistic regression analysis was performed to examine the association between parental race and rates of stillbirth, early- (<7days), late- (7-27 days) and post-neonatal (28-364 days) deaths, and small for gestational age (SGA) births after controlling for confounding variables.

**Results:** Although risks varied with parental race categories, stillbirth was associated with a higher-than-expected risk for inter-racial couples; WB, RR: 1.17 (95% CI: 1.01, 1.25) and BW, RR: 1.36 (95% CI: 1.21, 1.52) compared when both parents being whites. The RR for stillbirths was even much higher where both parents were blacks, RR: 1.70 (95% CI: 1.66, 1.75). The overall pattern of the RRs for the 5<sup>th</sup> and 10<sup>th</sup> percentile, SGA, and early-neonatal mortality was similar to that seen for stillbirths. Mixed race parents present with similar risk of post-neonatal infant mortality.

**Conclusion:** Both maternal and paternal race appear to be associated with risks of stillbirth and infant mortality.

## Racial Differences in the Treatment of Colorectal Cancer: A Comparison Of Surgical and Radiation Therapy between Whites and Blacks

**Primary Author:** Kitaw Demissie, MD, PhD  
**Co-Authors:** Oluwole OO, Balasubramanian BA, Osinubi OO, August D, Rhoads GG.  
**School:** School of Public Health

**Objective:** To evaluate black to white differences in treatment for colorectal cancer.

**Methods:** Only whites or blacks diagnosed with colon or rectal cancer between 1988 and 1997 were identified from SEER database.

**Results:** A total of 106,377 (91.3% white, 50.5% male) patients formed the study population. The vast majority of these patients received standard cancer treatment. Although the number of subjects who did not receive such treatment was small, their proportion was higher among blacks than among whites. The odds of non-receipt of surgical treatment was higher among blacks than whites for stage I (OR = 2.08, 95% CI, 1.41, 3.03 among males; OR = 2.38, 95% CI, 1.69, 3.45 among females) and stage IV colon cancer (OR = 1.25, 95% CI, 1.01, 1.56 among males; OR = 1.41; 95% CI, 1.14, 1.72 among females). A similar pattern was also seen for most stages of rectal cancer.

**Conclusion:** Most black and white colorectal cancer patients received standard treatment. Although the number of subjects without standard treatment was small, their proportion was higher among blacks than among whites. Blacks were also more likely to refuse recommended treatment. Efforts in educating black patients about the benefits of treatment may help to eliminate the remaining racial disparity.

## **Trends in Childhood Asthma: Ambulatory Care, Hospitalization, and Anti-Asthma Medication**

**Primary Author:** Kitaw Demissie, MD, PhD  
**Co-Author:** Heather O'Kelly  
**School:** School of Public Health

**Objective:** To study trends in ambulatory care, hospitalization, and anti-asthma medication for asthma in children by age and race categories.

**Methods:** The National Ambulatory Medical Care Survey, the National Hospital Ambulatory Care Survey, and the National Hospital Discharge Survey for the years 1995-2002 were used to examine trends in ambulatory care, hospitalization, and anti-asthma medication in which the primary diagnosis was asthma for children between 0-17 years of age. United States Census Bureau population estimates were used as the denominator. Change in rates for ambulatory care, hospitalization, and anti-asthma medication between the years 1995-1996 and 2001-2002 were calculated.

**Results:** Visits to physician offices for asthma decreased 30% among blacks (55/1,000 in 1995-96 to 38/1,000 in 2001-02) and increased 33% among whites (48/1,000 in 1995-96 to 64/1,000 in 2001-02). Use of controller medication increased 183% among blacks (7/1,000 in 1995-96 to 19/1,000 in 2001-02) and increased 155% among whites (13/1,000 in 1995-96 to 33/1,000 in 2001-02). Use of reliever medication decreased 45% among blacks (50/1,000 in 1995-96 to 28/1,000 in 2001-02) while it remained unchanged among whites (40/1,000 in 1995-96 to 39/1,000 in 2001-02). Among blacks, hospitalization decreased 22% (71/10,000 in 1995-96 to 55/10,000 in 2001-02), while emergency department visits increased slightly (26/1,000 in 1995-96 to 28/1,000 in 2001-02). Among whites, emergency department visits decreased 16% (7/1,000 in 1995-96 to 6/1,000 in 2001-02), and hospitalization decreased 10% (17/10,000 in 1995-96 to 16/10,000 in 2001-02).

**Conclusion:** Increased use of controllers by black children is associated with a decrease in hospitalization during the study period. Increased use of controllers by white children is associated with a decrease in hospitalization and emergency room visits during the study period.

## **Trends in Preterm Birth and Neonatal Mortality Among Blacks And Whites In the United States from 1989 To 1997**

**Primary Author:** Kitaw Demissie, MD, PhD  
**Co-Authors:** Rhoads GG, Ananth CV, Alexander GR, Kramer MS, Kogan MD, Joseph KS.  
**School:** School of Public Health

**Introduction:** Preterm birth, a major determinant of infant mortality, has been increasing in recent years.

**Methods:** The authors examined trends in preterm birth and its determinants by using the US birth and infant death files for 1989-1997. The impact of trends in preterm birth rates on neonatal and infant mortality was also evaluated.

**Results:** Among Whites, preterm births (<37 completed weeks of gestation) increased from 8.8% of live births in 1989 to 10.2% in 1997, a relative increase of 15.6%. On the other hand, preterm births among Blacks decreased by 7.6% (from 19.0% to 17.5%) during the same period. An increase in obstetric interventions contributed to increases in preterm births for both races but was outweighed by other unidentified favorable influences for Blacks. Neonatal mortality among preterm Whites dropped 34% during the 8 years of the study, while the decrease was only 24% among Blacks. This large disparity countered the changes in preterm birth rates so that the percentage decline in neonatal mortality was similar in the two racial groups (18-20%).

**Conclusion:** The anticipated mortality benefit from a lower preterm birth rate for Blacks has been blunted by suboptimal improvement in mortality among the remaining preterm infants. The widening race gap in mortality among preterm infants merits attention.

## **Genetic Issues in Oral Health Disparities Research**

**Primary Author:** Scott Diehl, PhD  
**School:** New Jersey Dental School

The still-challenging question of nature versus nurture will be explored in the context of a brief review of what we know about the causes of several oral and craniofacial diseases. Disparities in disease prevalence, severity and outcome exist for a severe form of periodontitis that affects teenagers and young adults. Infections by pathogenic oral bacteria are clearly involved in development of this disease, but how our bodies respond biologically to infection is also very important. There are also differences in disease risk for the birth defect cleft lip and palate and for oral cancer, diseases caused by a complex interaction between inherited (genetic) and environmental risk factors (such as nutrition, smoking and alcohol exposures). Responses to pain medications used in dentistry and for other conditions differ substantially among racial and ethnic groups. For most common diseases and disorders, there is no simple yes/no answer to the question of what role biology and environment play in disease risk and response to treatment, as there is usually a highly complex interaction of factors that need to be carefully explored.

## Racial Differences in the Epidemiology of Sepsis in New Jersey

**Primary Author:** Viktor Y. Dombrovskiy, MD, PhD, MPH  
**Co-Authors:** A.A.Martin, J.Sunderram, and H.L.Paz  
**School:** Robert Wood Johnson Medical School

**Introduction:** This study was designed to evaluate differences in the rates of hospitalization, mortality, and case fatality for sepsis between white and black adults in New Jersey and, if so, to find the possible causes for these disparities.

**Methods:** All cases of sepsis were collected from the 1995-2002 New Jersey State Inpatient Databases (SID) that contain information on all hospital discharges in the state. To calculate rates of hospitalization and population based mortality, we used population estimates as denominators and 2000 Census data as a standard for direct standardization while performing trend analysis. Hospital case fatality rates were computed as number of deaths/number of cases expressed as a percentage and normalized to the hospitalized population distribution in New Jersey in 2000.

**Results:** A total of 233,432 patients with sepsis, including 87,675 those with severe sepsis were hospitalized in New Jersey in 1995-2002. Whites and blacks accounted for 86.6% of hospitalization. For each year reviewed, the rates of severe sepsis hospitalization and population based mortality (per 100,000 population) in blacks were significantly greater than in whites, both males and females. Thus, in 1995 age-adjusted rates of hospitalization were  $217.91 \pm 8.28$  and  $141.85 \pm 2.69$  in black and white males, respectively ( $P < 0.0001$ ), and  $186.81 \pm 7.03$  and  $137.87 \pm 2.52$  in black and white females, respectively ( $P < 0.0001$ ). Population based mortality rates at this time were  $112.65 \pm 5.96$  and  $72.59 \pm 1.93$  ( $P < 0.0001$ ) in black and white males, respectively, and  $95.26 \pm 5.03$  and  $71.55 \pm 1.82$  ( $P < 0.0001$ ) in black and white females, respectively. During the study period, both these rates significantly increased but they remained considerably greater in blacks versus whites. However, we could not find differences in hospital case fatality rates for severe sepsis between blacks and whites, both males and females. Moreover, from 1995 to 2002, case fatality rates decreased both in black and whites patients and remained similar. Using the same database for 2002, we performed a more comprehensive analysis of cases of sepsis to identify possible explanations for these racial disparities. The association between sepsis and diabetes as well as HIV infection is well known. We found that blacks with sepsis compared to white patients were 1.7 times more likely to have diabetes (95% CI= 1.56-1.78) and 1.4 times more likely to have obesity (95% CI= 1.14-1.75). The likelihood of having HIV infection in black patients was 19.6 times greater than in whites (95% CI= 16.2-23.6). In concordance with that, blacks were younger than whites: the average age of black patients with sepsis in our data was  $61.6 \pm 0.25$  years compared to  $72.8 \pm 0.11$  years in white patients ( $P < 0.0001$ ). Among whites with sepsis, only 24.9% of subjects were younger than 65 years old whereas among blacks this proportion was twice greater – 52.2%. Blacks with sepsis were 4.0 times more likely to be uninsured compared to whites (95% CI= 3.44-4.56) and were 1.4 times more likely to be admitted to the hospital through the emergency room (95% CI= 1.27-1.50). Finally, blacks have greater risk of sepsis than whites. In adults, the relative risk of sepsis in blacks versus whites in age group 18-34 years was 3.5 (95% CI= 3.05-3.96). It rose to 4.4 (95% CI= 3.93-4.82) in age group 35-44 years and then steadily decreased to 1.7 (95% CI=1.58-1.87) in persons at age 85 years old and above.

**Conclusion:** There is a significant increase in the hospitalization and mortality rates for severe sepsis in black adults compared to whites, and this difference is stable over time. However, case fatality rates are similar for both races. The greater incidence of sepsis in black population may be partially explained by the disparities in the disease prevention and care of preexisting conditions.

## **The Transition of African American Women on Public Assistance to Economic Self-Sufficiency: A Qualitative Study of Cultural Resiliency as Related to Positive Psychology**

**Primary Author:** Robin Eubanks, PhD  
**School:** School of Health Related Professions

African American women have a remarkable ability to effectively cope and survive in diverse and hostile environments. However, minimal attention has been given to their stories about resilience, that is, how they manage their environmental and sociocultural resources so that they are able to move beyond survival to actively thrive and enjoy life. The study is propelled by concerns for the African American female population in New Jersey, as they experience the impact of the welfare reform phenomenon. The intentions and results of welfare reform can not be seen as a cure-all for poverty. More information is needed about these families over time. Although it seems to be the American public opinion that all poor mothers should simply get a job, it is just as important to examine the unstable life and risk factors associated with living on low wages. Those that leave the welfare system still have substantial needs not only financial but also educational, physical, and psychological. The purpose of this study is to describe the process of resilience in this population of African American women who have successfully left the welfare system to become employed. A womanist ethnography was used to gather and interpret the stories of nine African American women. Interviews were taped and transcribed for content analysis and major themes were developed.

Concepts from a Black feminist theoretical perspective were used to facilitate non-exploitive research and examine hidden agendas, power imbalances and assumptions. A qualitative method of research was conducted to yield valuable exploration and explanations of processes including a naturalistic inquiry method and the ethnographic interview was employed for data collection. Nine African American women were interviewed with an age range from twenty-seven to forty-eight. The data analysis led to the identification of three primary themes, with twelve sub-themes, emerging from the data. The primary themes are as follows: (a) The Welfare system was viewed as a “mixed blessing”, (b) Participants identified diverse support systems that made their sustainability and transitional process successful, and (c) Specific transitional experiences were identified that impacted level of resiliency, motivation, and self-confidence.

Knowledge generated by this research will increase understanding of resilience and the impact of the transitional process for African American women from welfare to work. Such knowledge would be instrumental in the (a) design of culturally appropriate welfare-to-work programs that may foster resiliency for women, and (b) identification of culturally appropriate resources that may promote resiliency.

## Mechanisms for Learning: Residency Curricula in Mental Health, Cultural Competency and Palliative Care

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**School:** School of Osteopathic Medicine

The UMDNJ, School of Osteopathic Medicine, Department of Family Medicine is developing new curricula in Mental Health, Cultural Competency and Palliative Care for the Family Medicine Residency Program. Project faculty will identify the competencies (knowledge, skills and attitudes/behaviors) needed by residents in each of the following areas: mental health, cultural competency and palliative care. Each of these three training areas will be addressed via specific training modalities, including WebCT, Standardized Patient exercises and clinical experiences.

## Late-Life Depression among Black and White Homecare Patients

**Primary Author:** Denise C. Fyffe, PhD  
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**Objective:** Depression is prevalent in later life and associated with negative outcomes when untreated. Homecare (HC) provides important care for medically and functionally frail older adults. Little is known about the racial differences in the prevalence and correlates of depression among HC patients. This study compared the prevalence and risk factors of depression as well as the prescription rates of antidepressant medication among Black and White HC patients.

**Method:** As part of an epidemiological study of the prevalence of depression in HC, this study randomly sampled Black (n=56) and White (n=458) newly admitted HC patients. Major and minor depression was assessed using SCID interviews and medical records. Prescription rates of antidepressants were obtained from medical records and in-home prescriptions.

**Results:** The prevalence of depression among Black patients was 19.6% and 26.4% among White patients ( $\chi^2=1.201$ ,  $p=.273$ ). Sociodemographic, medical and functional correlates of depression were similar in both racial groups. Both groups expressed similar clinical patterns of symptoms. Among depressed patients, only 16.7% of Black patients and 32.0% of White patients were prescribed antidepressant medication.

**Conclusion:** Similarities in prevalence, symptoms, correlates of depression were observed across Black and White HC patients. Only a minority of depressed HC patients received antidepressant medication, however, Black HC patients were less likely to be prescribed antidepressant medications. These results suggest that both groups are in need of effective treatment to reduce the burden of depression; however, these treatment disparities are particularly severe for Black HC patients. Further investigation will examine factors that moderate treatment initiation and adherence among HC patients.

## Dispelling the Myth That Thrombophilia Is Less Common In Ethnic Minorities

**Primary Author:** Lisa Gittens-Williams, MD  
**Co-Authors:** Anthony Al-Khan MD, Joseph Apuzzio, MD  
**School:** New Jersey Medical School

**Introduction:** Thrombophilia, the tendency towards excessive coagulation of the blood, is a common condition, affecting as many as 1 in 5 to 1 in 10 people. The combination of a constitutional predisposition to increased coagulation, combined with pregnancy is associated with a variety of adverse pregnancy outcomes, because pregnancy is already characterized by increased pro-coagulant versus fibrinolytic activity. Available literature suggests that the association between adverse pregnancy outcome and thrombophilias, either inherited or acquired, is most pronounced in women of European ancestry, and relatively rare in Hispanic or Black women. Because University Hospital has a high incidence of adverse pregnancy outcome, we tested whether, in our diverse patient population, previously undiagnosed thrombophilias might be associated with some proportion of poor pregnancy outcomes.

**Methods:** We conducted a retrospective chart review of 100 patients who were screened for thrombophilia after a prior adverse pregnancy outcome in 2003 (adverse outcomes were severe preeclampsia, unexplained stillbirth and deep vein thrombosis). The patients were tested for deficiency of Antithrombin 3 (activity assay), Protein C (activity assay), Protein S (activity assay), for the Factor V Leiden mutation (DNA), hyperhomocysteinemia and for the acquired antiphospholipid syndrome (Lupus anticoagulant or anti-cardiolipin antibodies). Of these 100 patients, 64 were Black, 13 were Hispanic, 9 were white and 14 were of mixed or “other” ethnicity.

**Results:** In contrast to the widely cited literature showing that genetic coagulation defects are relatively rare in minority populations, we found that 32% of our series of 100 women with adverse pregnancy outcome had an inherited thrombophilia. The frequency of these disorders by ethnicity/race was 31% of the Black women, 36% of the Hispanic women, 23% of the white women, and 35% of the “mixed” or “other” ethnicity group. The frequency of thrombophilic disorders was, in ascending order, Antithrombin 3, Protein S deficiency, Factor V Leiden and hyperhomocysteinemia. In this small study there were no differences in the frequency of these disorders between ethnic groups.

**Conclusion:** We concluded from this data that the prevalence of thrombophilia is not as low as thought among minority women in our population and that the bulk of cases are due to inherited, not acquired thrombophilias. The category of “mixed and “other” require further investigation, as the population we serve is ethnically diverse and these might well represent subsets of women from particular countries who do not consider themselves Black or African-American or as generically Hispanic.

## **Ethnic Disparities in the Development of Insulin Resistance Leading To Gestational Diabetes**

**Primary Authors:** Lisa Gittens-Williams, MD  
**Co-Authors:** Stacy Zamudio, Ph.D., Nicholas Illsley, D.Phil.  
**School:** New Jersey Medical School

**Introduction:** Gestational diabetes mellitus (GDM) is a form of diabetes which is only observed in pregnancy and occurs when a mother's insulin resistance increases over the normal, pregnant level. GDM has a number of perinatal consequences but the most important of these is its effect on fetal growth. Fetal overgrowth is the primary growth defect, observed with increased frequency in GDM. The spectrum of clinical problems caused by gestational diabetes is also wider than has been traditionally recognized. In addition to the short term, perinatal effects, there are a range of longer term consequences of GDM for both mother and offspring. Mothers who have GDM are at an increased risk for subsequent development of type 2 diabetes. The offspring of GDM pregnancies have an increased risk for obesity later in life, especially those who were large at birth. They also have a higher risk for type 2 diabetes and GDM, thus producing a potential mechanism for non-genomic, intergenerational transmission of diabetes. An increased incidence of GDM in Hispanics and African-Americans compared to non-Hispanic whites has been documented in a number of studies, and both have an increased risk of giving birth to a large infant ( $\geq 4000$  g), for a recurrent GDM pregnancy and for subsequent development of type 2 diabetes themselves. Research in non-pregnant subjects has shown that there are significant variations in insulin resistance between ethnic groups, with higher values for Hispanics and African-Americans. Despite these observations, the effects of ethnic differences on insulin resistance during pregnancy have not been addressed.

**Aims:** The aims are to determine the association between insulin resistance and fetal growth in normal and GDM pregnancies of non-Hispanic white, African-American and Hispanic women

**Methods:** The proposed study will recruit non-Hispanic white, African-American and Hispanic women with normal pregnancies and those at high risk for GDM. Measurements will be made of fetal growth and insulin resistance at weeks 12-16, 20-24 and 28-32 of pregnancy. Insulin resistance will be measured using a modification of the standard 3-hr oral glucose tolerance test.

**Results:** We will compare the extent and duration of changes in maternal insulin resistance between the three ethnic groups to determine the correlation between:

- Insulin resistance and fetal growth in normal and GDM pregnancies
- Whether insulin resistance is greater in African-Americans and Hispanics than non-white Hispanics at various time points during pregnancy (12-32 weeks)
- If changes in insulin resistance occur earlier in pregnancy or are of greater duration in African-Americans and Hispanics

**Conclusion:** The data we obtain from this project will enable us to determine if development of insulin resistance in normal and GDM pregnancies differs between non-Hispanic white, African-American and Hispanic women. If, as we expect, there are significant differences, this information will help us devise population-specific programs to monitor insulin resistance in women at high risk of GDM and to develop specific therapeutic preventive programs. (Supported by NIH R01 DK55369/HD48692)

## **Overcoming Language Barriers in Health Care: A Skill-Building Workshop For Clinical-Level Students and Residents**

**Primary Author:** Jan Gottlieb, MPH  
**Co-Authors:** Rhina Acevedo, MD, Nicholas Napoli, BA<sup>1</sup>  
**School:** Robert Wood Johnson Medical School

**Introduction:** In response to the increasingly diverse patient population our students and residents are treating, the Robert Wood Johnson Medical School-Department of Family Medicine in collaboration with the New Brunswick Community Interpreter Project has developed two educational models for teaching students and residents to overcome language barriers in the clinical encounter. The primary goal of both is to enhance skills in communicating with Limited English Proficient (LEP) and hearing impaired and deaf patients with the help of interpreters. Both models include a didactic component and a practical role-play component. The workshops are co-taught by a health educator, family practice physician, a trained interpreter and speech and hearing specialist. One model is a two-hour workshop including small group role-plays. The other is a one-hour workshop followed by a formative OSCE (Objective Standardized Clinical Experience) station in which students practice skills one-on-one with a patient via an interpreter.

**Methods:** The objectives of the workshops are to: discuss the rationale for using trained interpreters and risks of not using them; to become familiar with tools for communicating with deaf/hearing-impaired patients; to make use of an interviewing tool (ETHNIC) for eliciting cultural health beliefs and practices' and to be able to utilize techniques for communicating with (LEP) patients via trained and untrained interpreters. The objectives are accomplished through multiple methods including discussion of videotape vignettes, demonstration of a phone-interpreter service and the practice of skills learned.

**Results:** In the small group role-play students take turns interviewing a bilingual individual playing the role of a "patient" via an "untrained interpreter". The "patient" bases his/her portrayal on a written case. The case has varied but one depicts a patient presenting with stomach pain (symptoms of GIRD). He/she has been taking a "digestif" with high alcohol content which is contributing to the problem. Interpreters are instructed to act as if they are untrained by having side-conversations with the patient or not interpreting everything that is said either by the patient or doctor. Utilizing the skills they've learned in working with interpreters, approximately 5 participants per group, acting as clinicians, practice making a diagnosis and developing a treatment plan using ETHNIC. Following the role-play, the groups debrief their experience. The bilingual individuals may be students or residents in the class or people recruited from outside the class. The 2 hour workshop has been taught as part of the family medicine clerkship for each rotating group of 20 medical students. It has also been taught to residents (and faculty).

**Conclusion:** More recently, the workshop has been taught as part of the "Introduction to the Clerkship" course provided at the beginning of the academic year for all entering RWJMS 3<sup>rd</sup> year medical students. It includes a one-hour workshop followed by a "working with interpreters" OSCE station. As part of the formative OSCE, students receive feedback from the simulated patient and interpreter and a faculty preceptor. Feedback on the workshops and OSCE has been uniformly positive. For more specific information about the workshop and resources needed as well as other tools for teaching about cultural competence see Jan Gottlieb's website "toolkit" <http://depts.washington.edu/ccph/2002fellows-gottlieb.html>, click link #7.

<sup>1</sup>New Brunswick Community Interpreter Project

## **Addressing Cancer Disparities in a Family Practice Setting**

**Primary Author:** Shawna V. Hudson, PhD  
**Co-Authors:** Barbara DiCicco-Bloom, PhD; John Orzano, MD, MPH; John Scott, PhD;  
Benjamin Crabtree, PhD  
**School:** Robert Wood Johnson Medical School

Recent advances in diagnostic and treatment technologies have produced great opportunities to decrease morbidity and mortality from a variety of cancers such as breast, cervical, colorectal, and prostate cancers. These are cancers that disproportionately affect racial and ethnic minority populations. This study examines disparities in the implementation of cancer screening guidelines in primary care settings. Specifically, the study aims to: (1) describe cancer screening disparities in New Jersey primary care practices, (2) examine differences in cancer screening disparities across different types of practices, and (3) identify characteristics of practices that have greater or fewer screening disparities using a qualitative comparative case analysis. Data collection was conducted in 22 primary care practices across NJ. Primary data sources for the study include medical record reviews (N=1,756), organizational climate surveys from practice staff and clinicians (N=219), practice information forms, and qualitative field notes that describe organizational characteristics of the practices approximately 50 single spaced pages per practice.

## **Physician Views about Clinical Trials for Cancer Research: Examining Barriers to Clinical Trial Accrual**

**Primary Author:** Shawna V. Hudson, PhD  
**Co-Authors:** Mary Todd, DO; Howard Leventhal, PhD  
**School:** Robert Wood Johnson Medical School

Nationally, participation rates for cancer clinical trials among adult patients who are eligible are low, ranging from 3 to 5%. New Jersey enrollment rates for eligible patients are comparable, ranging from 2 to 4% for cancer clinical trials. While increased enrollment is a priority, increasing access to members of the medically underserved is also critical. This study collected self-reported data about physician referral patterns for cancer clinical trials. A random stratified sample of 103 community physicians including oncologists, family practice doctors, internal medicine doctors, obstetricians/gynecologists, surgeons, and urologists were surveyed. Physicians in the study were recruited from hospitals affiliated with The Cancer Institute of New Jersey, the states only NCI designated Comprehensive Cancer Center. Half of the physicians were recruited from five hospitals that have significant numbers of diagnosed racial and/or ethnic minority cancer patients as defined by the NJ State Cancer Registry. The other half practice at hospitals with low numbers of diagnosed racial and/or ethnic minority cancer patients.

## The Brotherhood Health Initiative

**Primary Author:** Robert L. Johnson, MD, FAAP  
**School:** New Jersey Medical School

Young minority men in the United States die nearly seven years younger than women, and suffer from more chronic diseases and have higher mortality rates for all 15 leading causes of death. Many of these adverse outcomes are related to the choice of or participation in a variety of adverse health behaviors. Minority males have rates of serious suicide attempts during high school years that are 25% higher than that of minority females and 113% higher than that for white males. The minority male is twice as likely as the white male and three times as likely as the minority female to have tried marijuana before the age of 13. The minority male is three times as likely as the minority female and four times as likely as the white male to have sexual intercourse before the age of 13. The minority male is twice as likely as the white male and nine times as likely as the minority female to carry a gun.

An Intensive Case Management Model (i.e. emergency financial assistance, housing, transportation, legal services, childcare, buddy/companion services, focused health education and counseling, assistance with entitlements, etc.) has been demonstrated to effectively mitigate the barriers that impede effective treatment and compliance for individuals with chronic illnesses such as HIV, Asthma and Diabetes.

*The Brotherhood Health Initiative* is a health services research project that seeks to demonstrate that an adapted *multifaceted intensive case managed healthcare model* can mitigate health disparities among young minority men through the improvement of their participation in and utilization of comprehensive health services. This effort is funded through the Robert Wood Johnson Foundation's New Jersey Health Initiative Program.

## Common Dihydrofolate Reductase (DHFR) 19bp Deletion Allele – A Novel Risk Factor for Preterm Delivery (PTD)

**Primary Author:** William Johnson, MD  
**School:** Robert Wood Johnson Medical School

**Background:** Folate is a critical requirement for cell division, a major feature of *in utero* development. Dihydrofolate reductase (DHFR) is required to convert the folic acid used in supplements and for food fortification and the dihydrofolate produced by thymidylate synthetase (TYMS) during DNA synthesis to the reduced folate forms used by the cell.

**Objective:** To determine if a common, recently discovered DHFR deletion polymorphism was a risk factor for preterm delivery or low birth weight.

**Design:** We studied 324 gravidas from Camden during pregnancy. The intake of folate was computed from folate supplement intake plus the mean of two 24-hour recalls during the course of pregnancy. Genomic DNA was extracted from gravidas' leukocytes and genotyped.

**Results:** Gravidas with a deletion allele had a significantly greater risk of preterm delivery (adjusted odds ratio [AOR] 3.0, 95% CI 1.0-8.8,  $p < 0.05$ ) compared with those without a deletion allele. Gravidas with both a DHFR deletion allele and low folate intake ( $< 400$ mg/day from diet plus supplements) had significantly greater risk of preterm delivery (AOR 5.5, 95% CI 1.5 - 20.4,  $p = 0.01$ ) and a significantly greater risk of low birth weight (AOR 8.3, 95% CI 1.8 - 38.6,  $p = 0.01$ ) compared to gravidas without a deletion allele and with folate intake  $\geq 400$ ug/day.

**Conclusion:** The DHFR 19bp deletion allele may be a risk factor for PTD. In the presence of low dietary folate, the allele may also be a risk factor for both PTD and LBW. This may be a gene-environment interaction.

## **The Experiences of Korean Men's Smoking and Quitting**

**Primary Author:** Sun Seog Kim, PhD, RN, CS  
**Co-Authors:** Haein Son, Kyoung A. Nam  
**School:** School of Nursing

The purpose of this study was to identify personal, social, and cultural factors affecting smoking behavior among Korean male immigrants in the United States. Participants were 11 current and 11 former cigarette smokers who resided in New York City. The participants attended one of four focus groups and talked about their experiences of smoking initiation, changes in smoking behavior over time, smoking in Korea and the United States, strategies used for smoking cessation, and suggestions for a smoking cessation program. The focus group interviews were audio taped and transcribed verbatim. Culture, gender, addiction, health, and age emerged as the major themes reflecting factors that influence Korean men's smoking initiation, maintenance, and cessation. The first two are sociocultural factors and the remaining three are personal factors. Smoking is a common thread in Korean men's social world and a prime component of Korean men's gender identity. The three personal factors affected individual differences in the experiences of smoking behavior that had changed from a social practice to nicotine addiction. Korean men's experiences in relation to addiction were similar to those reported in other racial/ethnic groups, whereas the dramatic change in the perception of smoking-related health risks coming with their forties, some cessation strategies used by former smokers, and preference for group meetings over individual counseling appeared to be specific to Korean men.

Adapted from the published abstracts:

Sun Seog Kim, Haein Son, & Kyoung A Nam (2005). The sociocultural context of Korean American men's smoking behavior. *Western Journal of Nursing Research*, 27(5), 604-623.

Sun Seog Kim, Haein Son, & Kyoung A Nam (2005). Personal factors influencing Korean American men's smoking behavior: Addiction, health, and age. *Archives of Psychiatric Nursing*, 19(1), 35-41.

## **Assessing the Impact of Clinical Cultural Competency Training In Two Academic Family Practice Centers**

**Primary Author:** Robert C. Like, MD, MS  
**Co Authors:** Mark C. Fulcomer PhD, Jo Ann Kairys MPH, Kimberly D. Wathington BA,  
**School:** Robert Wood Johnson Medical School

**Context:** Cultural competence has been proposed as a key strategy for helping to reduce racial and ethnic health care disparities. The Future of Family Medicine Report recommends that family physicians improve their ability to provide more culturally proficient care.

**Objective:** Does a cultural competency training program result in improved physician knowledge, skills, attitudes, and comfort levels relating to the care of patients from diverse backgrounds?

**Design:** Longitudinal study employing self-administered questionnaires *Setting:* Two urban family practice centers affiliated with a medical school. *Participants:* Fifteen of the 17 faculty physicians at the 2 practice sites completed the study. Socio-demographic characteristics included: mean age: 45.6 years; 53% male; 93% self-identified as Caucasian and 7% Asian American; 40% bilingual; and 73% attended medical school in the United States. *Intervention/Instrument:* A *Clinical Cultural Competency Questionnaire* was administered before and after a *Cultural Competency for Health Care Providers Training Program* consisting of five 1.5-hour seminars over an 8 month period. *Main and Secondary Outcome Measure(s):* Physician knowledge, skills, attitudes, and comfort levels relating to the delivery of culturally competent health care

**Results:** Pre- and post-test changes in physician's self-assessments using correlated t-tests. Seven of the 16 knowledge items, 8 of the 15 skills items, and 4 of the 12 comfort in encounters items demonstrated statistically significant improvements (14 at  $p < .05$  and 5 at  $p < .01$ ). Overall satisfaction with the training program was 3.7 on a 5-point Likert scale.

**Conclusion:** Despite the small number of participating physicians, there is strong evidence of self-rated improvement in cultural competency. It is unclear, however, if these positive changes can be directly attributed to the training intervention given the lack of a control group and the influence of other organizational and environmental factors. Implications of this Aetna Foundation-funded study for cultural competency education and research will be discussed.

**Citation:** Like R.C., Kairys J.A., Fulcomer M., Wathington K., Assessing the Impact of Clinical Cultural Competency Training in Two Academic Family Practice Centers, North American Primary Care Research Group Annual Meeting, Orlando, FL, October 13, 2004.

## Assessing the Impact of Cultural Competency Training Using Participatory Quality Improvement Methods: Project Synopsis

**Primary Author:** Robert C. Like, MD, MS  
**Co-Authors:** Mark C. Fulcomer PhD, Jo Ann Kairys MPH, Kimberly D. Wathington BA,  
Jesse Crosson PhD  
**School:** Robert Wood Johnson Medical School

Providing more culturally competent health care has been proposed as a key strategy for reducing racial and ethnic health disparities. This Aetna Foundation-funded project addressed the following four questions:

- What are the views and perspectives of physicians, staff, and patients on addressing the Office of Minority Health's National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care in a family practice setting?
- Does a cultural competency training program result in improved physician knowledge, skills, attitudes, and comfort levels relating to the care of patients from diverse backgrounds?
- What impact does patient request fulfillment have on patient satisfaction with cross-cultural Clinical encounters?
- How were participatory quality improvement activities and methods utilized to address the care of patients from diverse backgrounds?

Four substudies employing qualitative and quantitative methods were carried out at two urban academic family medicine practices in Central New Jersey:

Substudy 1. Addressing the CLAS Standards – Four Depth Interviews were held with the Medical Directors and Practice Managers; and six Focus Group Interviews were conducted with physicians, staff, and patients at the two study sites.

Substudy 2. Increasing Clinical Cultural Competency – A *Cultural Competency for Health Care Providers Training Program*, a series of five, 1.5 hour interactive seminars and workshops was presented to faculty physicians, residents, and medical students over an eight-month period. A *Clinical Cultural Competency Questionnaire (CCCQ)* was administered prior to and one year after training to 17 faculty physicians from the two practice sites.

Substudy 3. Providing Patient-Centered Care – A trend analysis design was utilized, and two self-administered surveys, the *Patient Request for Services Schedule (PRFSS)* and *Patient Services Received Schedule (PSRS)* were completed by 1,004 patients at the two study sites immediately prior to and after clinical encounters over a fifteen-month period.

Substudy 4. Improving Quality in Primary Care Practice Settings – Field notes were kept and participant observation carried out during a series of six facilitated Participatory Quality Improvement (PQI) team meetings held at each of the two practice sites after the cultural competency training was completed.

Our study revealed important and significant findings about the complexity and multifaceted dimensions of addressing clinical and organizational cultural competence in primary care practice settings. Additional information about the project tools and results can be obtained at the following website: [http://www2.umdnj.edu/fmedweb/chfcd/aetna\\_foundation.htm](http://www2.umdnj.edu/fmedweb/chfcd/aetna_foundation.htm)

## **An Epidemiological Study of Caries in Newark NJ School Children**

**Primary Author:** Kenneth Markowitz, DDS  
**Co-Authors:** Karen Fairlie, Daniel Fine, DMD, Javier Ferrandiz  
**School:** New Jersey Dental School

**Objectives:** Caries remains a significant problem in urban communities. We are conducting a large-scale longitudinal study of dental health of Newark NJ school children aged 11-17. We will determine the prevalence of caries in the community and identify teeth with early lesions that would benefit from preventive measures.

**Methods:** 535 children were examined in a mobile dental van. Following prophylaxis charting of decayed, missing and filled teeth was performed by mirror/explorer examination. The permanent molars were dried and examined with transillumination to determine the presence of white, or brown-gray subsurface discolorations indicative of early decay.

**Results:** Examination of molars revealed that 43.9% had probe detectable lesions and 74% had discolorations as determined by transillumination. Based on the whole mouth charting, 59% of the population had at least one decayed tooth. 32% of the population had between 3-9 decayed surfaces and 6% had 10 or more decayed surfaces. 2.4% were entirely free of restorations or lesions of any kind. African-American children constituted 37.4% of the population and Hispanics 53.5%. However, of the students with 3 or more probe detectable cavities, 56.4% were African-American (significantly higher than expected by Chi Square analysis  $p = 0.0009$ ) and 40% Hispanics (significantly lower than expected by Chi Square analysis  $p = 0.0009$ ).

**Conclusion:** The proportion of children in this population having at least one decayed tooth exceeds that reported in the recent Surgeon General's report on oral health. Disparity also exists between ethnic groups. The incidence of early decay is underestimated due to lack of radiographs. A large number of subjects had occlusal surfaces with white or dark discolorations indicating early decay. This population will be followed over a 3-year period with repeat examinations, radiographs and evaluation with various caries detector devices. This study is supported by the Delta Dental Foundation.

## **Diversity Issues in the Homecare Setting**

**Primary Author:** Gloria J. McNeal, PhD, APRN, BC  
**School:** School of Nursing, Newark

As this nation becomes increasingly more culturally diverse and seeks to compete in a global health care market, it is incumbent upon the nursing profession to prepare high-tech homecare nurses who are experts in their ability to make appropriate culturologic assessments of the clients for whom they provide care. The culturologically competent high-tech homecare nurse is one who is able to obtain value-free culturologic information, and who utilizes that information in the development of culturally sensitive plans of care. This article has provided a framework, with supporting rationale, to assist the high-tech homecare nurse in the gathering of culture-specific data from clients whose care delivery occurs in the richly diverse home setting.

McNeal, GJ. (1998). Diversity issues in the homecare setting. *Critical Care Nursing Clinics of North America*. 10:3, 357-368.

## **End of Life Issues in a Palliative Care Framework for a Critically Ill Adult African American with Cystic Fibrosis: A Case Study**

**Primary Author:** Gloria J. McNeal, PhD, APRN, BC  
**School:** School of Nursing

The purpose of this investigation, using case study methodology, was to explore the end of life issues and to give meaning to the biopsychosocial experiences of the study participant, an adult African American female patient diagnosed with Cystic Fibrosis. Two theoretical frameworks were used to guide the investigation of the study: Kubler-Ross Model of the Stages of Dying and the Conceptual Framework for Palliative Care Practice. Data analysis included review of medical records and patient journals, interviews, observations and clinical assessment. The findings indicated that end of life issues can be articulated within the context of a palliative care framework and that the biopsychosocial experiences of the dying person acquire meaning when situated within life history, ethical values and metaphysical belief systems.

McNeal, GJ (2002). End of life issues in a palliative care framework for a critically ill African American with Cystic Fibrosis – A Case Study. *Journal of Cultural Diversity*. 9:4, 118-127

## **Enhancing Cultural Competencies of Advanced Practice Nurses: Health Care Challenges In the Twenty-First Century**

**Primary Author:** Abraham Ndiwane, EdD, RN<sup>1</sup>  
**Co-Authors:** Gloria J. McNeal, PhD<sup>2</sup>, APRN, BC Kathleen H. Miller, Alice Bonner, Kristal Imperio, Marianne Matzo, Ninon Amertil, Zoila Feldman  
**School:** <sup>1</sup>University of Massachusetts  
<sup>2</sup>UMDNJ-School of Nursing

Shifting population demographics will have a major impact on the practice of advanced practice nurses (APNs). The ethnic composition of people in this country is becoming increasingly diverse. Massachusetts and, in particular, the city of Worcester is also experiencing changes in the diversity of its population. These trends testify to the great need for APNs who are sensitive to and competent to care for culturally diverse populations. To address these changes, specific curricula enhancements focused on ethnically diverse populations were implemented for the nurse practitioner specialties at the Graduate School of Nursing (GSN), University of Massachusetts Worcester. The processes used for this project included visiting community and clinical sites, identifying key curricular components, and evaluating existing didactic and clinical learning experiences. The GSN faculty developed a systematic plan for integrating these components into the graduate nursing core, advanced practice core, and specialty courses of the respective curricula. A major outcome of this project was the enhanced preparation of APN students to meet the multifaceted needs of ethnically diverse patients, families, and communities.

Ndiwane, A, Miller, K, Bonner, A, Imperio, K, Matzo, M, McNeal, G. et al. (2004). Enhancing cultural competencies of advanced practice nurses: Health care challenges in the twenty-first century. *Journal of Cultural Diversity*. 11:3, 118-121 - 1 University of Massachusetts

## **Organizational Culture and African American Nurse Faculty Productivity: A Comparative Study**

**Primary Author:** Gloria J. McNeal, PhD, APRN, BC  
**School:** School of Nursing

The primary purposes of this study were: (a) to examine the relationships among factors associated with organizational culture and the scholarly productivity of African American women nurse faculty teaching at historically black (HBCUs) and predominantly white colleges and universities (PWCUs) and, (b) to compare the differences in African American women nurse faculty productivity at HBCUs and PWCUs. Data were collected using a two-part survey, mailed to the campus addresses of 467 African American nurse faculty. A 31.5% response rate (N = 147) was achieved. A variety of scales using multiple statistical techniques were employed to analyze the data sets.

McNeal, GJ. (2000). Organizational Culture and African American nurse faculty productivity: A comparative study. *Journal of Cultural Diversity*. 7:4, 114-127

## **African American Nurse Faculty Satisfaction and Scholarly Productivity At Predominantly White and Historically Black Colleges and Universities**

**Primary Author:** Gloria J. McNeal, PhD, APRN, BC  
**School:** School of Nursing

The aim of this study was to examine faculty satisfaction and the relationships among selected elements of African American women nurse faculty productivity at two types of institutions: predominantly white (PWCUs) and historically black colleges and universities (HBCUs). Organizational Culture Theory was used as the conceptual framework to provide the basis to explore the extent of productivity and levels of satisfaction among the study participants. Satisfaction was measured using a six-point Likert attitudinal scale. Scholarly Productivity was measured as the extent of published/submitted works (authorship), number and dollar amounts of grant submissions (grantsmanship) and elected/appointed positions held in professional organizations (leadership). Consistent with previous research studies of minority faculty in other disciplines, the current study found that the majority of African American women nurse faculty tended not to hold senior professorial rank, administrative positions, or tenure status. When comparisons were made between HBCU and PWCU faculty, however, a higher percentage of HBCU faculty reported holding deanships or program coordinator positions and, on average, had slightly larger dollar amounts for funded grant awards and held significantly more leadership positions in professional nursing organizations.

The aggregated data findings of this study did not support a strong relationship between selected elements of satisfaction with the academic institution's organizational culture and the scholarly productivity of African American women nurse faculty teaching at HBCUs and PWCUs. However, when the data were disaggregated by type school, moderately significant differences between HBCU and PWCU faculty were found, such that along several dimensions of the constructs of organizational culture the levels of dissatisfaction among PWCU faculty significantly skewed the overall data findings. In general, while PWCU faculty demonstrated higher levels of authorship, reported larger salaries, and held more tenured positions when compared with HBCU faculty, PWCU respondents tended to be significantly less satisfied with the leadership, environment, and socialization processes of their respective collegiate schools of nursing than were their HBCU counterparts. Among HBCU faculty the extent of productivity positively correlated with satisfaction for three of the six dimensions of organizational culture.

McNeal, GJ (2003). African American nurse faculty satisfaction and scholarly productivity at predominantly white and historically black colleges and universities. *The ABNF Journal* 14:1, 4-12

## Development of Culturally and Linguistically Appropriate Tuberculosis (TB) Patient Education Materials

**Primary Author:** Lauren Moschetta  
**Co-Authors:** Rajita Bhavaraju, Gabrielle Benenson<sup>1</sup>, Nick DeLuca<sup>1</sup>, Maria Fraire<sup>1</sup>  
**School:** New Jersey Medical School National TB Center (NTBC)

**Introduction:** Health education research demonstrates that materials targeted to specific populations effectively change health behaviors in those populations. As United States (U.S.) TB rates remain highest in the foreign-born, the need for culturally and linguistically appropriate TB patient educational materials becomes more apparent. In response, NJMS NTBC, in 2002-2003, conducted 8 focus groups in 5 geographically diverse regions of the U.S. to gather needs assessment data on preferred content and format for new culturally and linguistically appropriate TB patient materials. Research findings guided the development of 6 new TB patient education materials in three languages. New materials were field tested with preferred populations and revised according to feedback received.

**Methods:** Standardized focus group methods were used with members of the preferred populations; high-risk English speaking, Filipino, Mexican, and Vietnamese (formative research only) TB patients and non-patients, for both formative research and field testing. Discussion topics included: perceptions of illness, healing and treatment, TB knowledge, impact of diagnosis, contact investigation, treatment adherence, latent TB infection (LTBI), mantoux tuberculin skin testing, barriers to health seeking behavior, and preferred educational materials format. Data from this research guided the development of new culturally and linguistically appropriate TB patient education materials. Materials were developed according to the principles of health literacy with color photographs. Materials were field tested with preferred populations to assess comprehension of key concepts. Participants also evaluated layout, including: placement, amount and size of text, appropriateness of language and photographs, as well as the overall visual appeal of materials.

**Results:** Needs assessment data confirmed that cultural beliefs and issues impact perceptions of TB. This leads to gaps in knowledge about the mechanism of TB, possibly impacting treatment adherence. The following findings were common among foreign-born participants 1) multifactorial theories of causation and prevention of TB 2) TB infection as inevitable among certain populations 3) confusion between LTBI and TB disease 4) difficulty differentiating between vaccinations and diagnostic tests 5) TB medications causing “hot” side effects. This data guided development of 6 TB patient materials (skin testing, TB disease, latent TB infection, contact investigation, adherence, and TB and HIV) in English as well as bilingual Spanish, and Tagalog (Vietnamese deferred until 2006). Field-testing data indicated minimal comprehension of the difference between TB disease and LTBI, particularly for Spanish-speaking participants. The description provided in the material was too confusing. The term ‘contact investigation’ was not readily recognized by TB patients. Other key concepts tested were adequately understood. The amount of white space, text, and photographs were found to be visually appealing, and were said to facilitate ease of reading. Most participants found the language level appropriate. Some of the Tagalog words used were said to be “too deep” for the general public. English-speaking participants suggested more photos of African-American male patients. Several photos were not correctly interpreted to represent the intended behavior. Overall, we received positive feedback on the new patient education materials. Revisions included: clarifying some text, particularly some Tagalog words, and the description of LTBI vs. TB disease, changing the title of the contact investigation material, substituting several photographs, and changing the size and placement of selected text.

**Conclusion:** In developing effective education materials, it is essential to utilize a systematic approach that includes formative research and pre-testing with the preferred population. By including the preferred population in the development process, materials will more likely be appropriate for, and accepted by, the intended audience.

<sup>1</sup>Centers for Disease Control and Prevention (CDC) Division of TB Elimination (DTBE)

## Cardiac Rehabilitation: Barriers To Participation

**Primary Author:** Ariz R. Mehta, M.D.  
**School:** New Jersey Medical School

Barriers to participation in cardiac rehabilitation include the lack of access to appropriate services, reimbursement issues, the lack of physician referral (particularly of women, older adults, and ethnic minority patients), geographic limitations to accessibility of program sites, and at times, personal reluctance to alter lifestyle habits. Females are less likely than males, and blacks are less likely than whites to be referred to cardiac rehabilitation programs. Many factors are associated with participation in cardiac rehabilitation programs, but participation typically is dependent on a referral from a physician. In a study performed in Canada, where cardiac rehabilitation is free, family income was the only socio-demographic variable which was significantly predicative of attending cardiac rehabilitation. Women in cardiac rehabilitation programs surveyed had a greater cardiovascular disease risk factor burden than men, and women were less likely than men to enroll in cardiac rehabilitation following myocardial infarction or coronary artery bypass grafting surgery.

## Sources of Stress and Coping Strategies in Three Latino Groups

**Primary Author:** Frances Munet-Vilaro, PhD, RN  
**Co-Authors:** Susan Folkman<sup>1</sup>, Steven E. Gregorich<sup>1</sup>  
**School:** School of Nursing  
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**Objective:** This study examined the perceived sources of stress and coping styles of Mexican immigrants in the US (referred here as Latino immigrants), Mexicans living in Mexico City and Island Puerto Ricans.

**Design:** A descriptive design was used to elicit information of perceived sources of stressful events from a convenience sample of 1063 subjects. The Spanish version of the Ways of Coping questionnaire was used to examine how participants coped with the stressful events. The data were gathered in surveys conducted between 1994 and 1995 as part of a larger study on caregiver burden of Latinos caring for a family member with AIDS. Demographic data was also collected from participants. Data collection was performed by the first author on site in the three countries.

**Findings:** The most frequently reported sources of stress across the three groups were in the areas of work/finance, family/friends, and health. The groups did differ in the ways they coped with the events. The clearest group differences emerged in the ways people coped with health-related stressful events with Latino immigrants and Mexicans endorsing cognitive/escape avoidance and accepting responsibility more than island Puerto Ricans.

**Conclusion:** Although the Latino groups were similar in their appraisal of sources of stress, there was a clear difference in the ways the groups cope with the events. The results of this study demonstrate the need to carefully consider socio-cultural differences among Latino groups when assessing their sources of perceived stress and coping styles.

**Acknowledgement:** This research was supported by a grant from the National Institute of Mental Health (MH44045 and MH49985)

## **Attitudes towards Psychological and Mental Illness of Elder Immigrants from the Former Soviet Union (FSU)**

**Primary Author:** Dula Pacquiao, EdD, RN, CTN  
**Co-Author:** Svetlana Polyakova, MSN, RN  
**School:** School of Nursing

**Purpose:** A study of cultural influences on attitudes toward psychological and mental illness and help-seeking behaviors of elder immigrants from the Former Soviet Union (FSU).

Theoretical Framework: Kleinman's (1980) Explanatory Model for Illness and Leininger's (1997) theory of culture care diversity and universality.

**Methods:** Descriptive, correlational design using quantitative and qualitative methods. Two instruments used were the Russian versions of the Talbich Brief Distress Inventory (TBDI) (Ristner, et al., 1997) and the Attitudes toward Seeking Professional Psychological Help (ATTPS) (Fischer & Turner, 1970). The TBDI measured self-reported symptoms and intensity of distress experienced by subjects. The ATTPS determined attitudes toward seeking professional help for psych/mental illness. Both instruments have established validity & reliability. Participant-observations for 3.5 months were conducted at 2 sites using field notes and audio taped individual interviews in Russian for at least one hour at the sites or in subjects' homes.

**Sample:** Quantitative sample comprised of 123 elders at least 65 years old, originated from one of the Republics of the FSU, migrated to the US as an adult, read and write in English or Russian and self-identified as Russian or belonging to other ethnic groups in the FSU. 23 elders who completed the quantitative surveys were interviewed.

**Findings:** Overall scores on the TBDI and ATTPS revealed minimal recognition and reporting of psychological symptoms and distress as well as reluctance to seek professional help. Jewish subjects outscored other groups in both TBDI and ATTPS indicating greater recognition of symptoms and more positive attitudes. Availability of medical insurance, years in the US and experience with mental health services in the US were correlated with and predicted scores on the TBDI and ATTPS. Access to Russian speaking primary care provider and presence of chronic medical conditions correlated with higher scores on the TBDI. Qualitative findings revealed that Soviet social and historical context influenced the meaning, attitudes, expressions, and coping strategies toward psychological and mental illness. Cultural stigma influenced the attribution of cause, somatic expression of symptoms, and attitudes towards seeking professional help. Psychological illness was unrecognized while mental illness was attributed to lack of inner strength and moral character equated with loss of one's soul.

## **Experiences with Acculturation: A Comparative Study of Foreign Educated Nurses (FENs) and Their Managers, Educators and Preceptors (MEPs)**

**Primary Author:** Dula Pacquiao, EdD, RN, CTN  
**Co-Authors:** Majuvy Sulse, Linda Ferguson, Noli Garcia-Luna  
**School:** School of Nursing

**Purpose:** Examined the relationship between demographic and organizational variables, and acculturation of Foreign Educated Nurses (FENs) in the workplace and community based on the initial and long term experiences of FENs and their Managers, Educators, Preceptors (MEPs). Conceptual Framework: Padilla's (1980) acculturation model.

**Methods:** Descriptive correlational design using both quantitative and qualitative methods. The Majority-Minority Relations Survey (MMRS) (Sodowsky & Plake, 1991) was used to measure the degree of acculturation of FENs to the dominant American culture. Content validity of the MMRS was established by a panel of experts and internal consistency reported between C-alpha values of .79-.89. Individual and focus group interviews conducted based on participants' preference using a guide with open-ended questions. Interviews were audio taped and lasted between 45-60 minutes.

**Sample:** Three integrated healthcare systems actively recruiting FENs participated. Quantitative sample consisted of 144 FENs from India (28%), Philippines (65%), and Trinidad and Tobago (7%) who took basic nursing education and training in countries outside of the US, employed full-time in one of the hospitals in the 3 healthcare systems, completed totally or partially the employment orientation and/or acculturation program(s) in their workplace, and arrived in the US within the last 3 years. Qualitative sample consisted of 40 FENs and 32 MEPs representing the 3 healthcare systems. All FENs completed the quantitative surveys prior to being interviewed. The MEPs had direct experience in working with FENs within the last 3 years in their current position.

**Findings:** Similarities evident in the FENs' experiences with initial transition and lingering difficulty with professional communication. Language familiarity, length of time in the US, food preferences, ethnicity, and acculturation classes were significant in the mean scores on the MMRS. Trinidadian nurses had higher language acculturation while Indian nurses perceived greater prejudice. Length of time in the US and being precepted by someone of the same ethnicity correlated positively with scores on familiarity with social customs of the host culture. Acculturation programs increased language acculturation. Social environment at home and at work were predictors of acculturation. Exposure to mixed groups demonstrated by company, co-worker and food preferences facilitated acculturation. Personal attributes and support from peers, community and organization were significant in enhancing initial and long term acculturation.

## **Socioeconomic Disparities in the Evaluation and Treatment Of Musculoskeletal Oncology Patients**

**Primary Author:** Francis Patterson, MD  
**Co-Authors:** Charles Jordan, Matt Monteleone, Joseph Benevenia, MD, Kathleen S. Beebe  
**School:** New Jersey Medical School

**Background:** Socioeconomic factors and their effect on healthcare disparities is a topic that has received much attention recently. Little has been done to investigate the effects of such factors in the area of musculoskeletal oncology. Our goal was to assess whether patients in a private office received more timely evaluation and treatment than those in a publicly funded clinic and if other factors contributed to delays in assessment.

**Materials and Methods:** After obtaining IRB approval, socioeconomic status surveys were filled out by patients at their first visit to a musculoskeletal oncologist in either our hospital based clinic (n=20) or the attendings private office (n=36). The survey assessed the patients background information (occupation, marital status, living situation, income) as well as means for obtaining usual health care (primary car provider-PCP and frequency of visits to same) In addition, the survey assessed length of symptoms and pain scale to time of requesting and obtaining an appointment with a physician and to the time to referral to and appointment with a musculoskeletal oncologist. Surveys were analyzed using two-sample t-test to compare the means for the different populations.

**Results:** The average clinic patient waited over 3 times as long (6 months verses 2 years)  $p=.0003$  as the average private patient before seeking medical attention for their condition. Patients without a primary care provider waited 10 days longer than those with a primary care provider for an appointment to see any doctor (  $p=.014$ ). Patients with an annual income < \$25,000 rated their pain at an average of 7.10 as compared to those with an annual income of >\$25,000 at 4.29 ( $p= .002$ ). The length of time from imaging studies to referral to a musculoskeletal oncologist was 59 days longer for the clinic based patients verses the private patients (  $p= .002$ )

**Conclusion:** The results of our study indicate that many factors are associated with a delay in assessment for musculoskeletal oncology conditions. Patients of lower income and those without primary care providers have longer delays. In addition, patients served by publicly funded clinics experience longer wait times until appointments are given.

## Factors that Influence Colorectal Cancer Screening Practice in the Latino Community

**Primary Author:** Ana Natale Pereira, MD, MPH  
**Co-Authors:** Marielos L. Vega, BSN RN, Jonnie Marks, PhD; Debbie Salas-Lopez, MD, Mark S. Johnson, MD MPH  
**School:** New Jersey Medical School

**Context:** Colorectal cancer (CRC) is the third most common form of cancer and the second leading cause of cancer related deaths in the United States. CRC screening rates continue to remain low among Latinos and little information exists on cultural and linguistic barriers.

**Objective:** To increase knowledge and awareness about CRC, and increase the rate of screening and early detection among Latinos.

**Design:** A qualitative study using focus groups. Setting: Five community-based organizations (CBOs) serving the Latino population of Newark, NJ. Participants: Staff members (active participants or leaders) of the five CBOs. Inclusion criteria are: Age 18 or over, be a representative of the demographics of the community, and be involved in the community. Intervention: Focus groups were conducted to determine factors that affect CRC screening among Latinos, such as knowledge, level of awareness, barriers to screening, perceived attitudes, and beliefs. Main Outcome Measures: Perceived barriers to CRC screening, and recommendations to overcome barriers.

**Results:** Thirty-six staff members participated in the focus groups. The top four barriers to CRC screening were: language, lack of insurance, undocumented status, and little knowledge about CRC. Other barriers included: low perceived risk, low priority of CRC, fear of CRC, denial, fatalism, low priority of health care, and no regular source of care. Facilitators to screening included: a desire for information and health services in the community, use of health care providers as source for CRC screening recommendation, using multiple sources of health information, and the feasibility of Fecal Occult Blood Testing. Implementation strategies included: partnering with CBOs for outreach, incorporating CRC screening into other community programs, offering convenient testing, tailoring the education and information provided.

**Conclusion:** Educational programs aimed at increasing CRC awareness and screening, could only be successful if the specific barriers and perceived health beliefs of the Latino community are addressed.

## **Patient and Spouse Preferences for Dialysis Continuation: Does Race Matter?**

**Primary Author:** Rachel Pruchno, PhD  
**Co-Author:** Francine Cartwright  
**School:** School of Osteopathic Medicine

**Introduction:** Medical technology advancements in life-sustaining medical treatment are changing the way we face the end of life. Particularly, there is an increase in the need for medical treatment decisions when a patient's cognitive ability is compromised. In many cases, a health care proxy is designated to make medical treatment decisions that reflect the wishes of the patient. The OPTIONS study examines patients with End Stage Renal Disease (ESRD) and their spouses. ESRD is an incurable, life-threatening disease marked by permanent cessation of kidney function. Hemodialysis treatment is prescribed to sustain the life of an ESRD patient. Foregoing hemodialysis treatment means that the patient will die within days. Surrogate decision-making is especially relevant in this population, where severe co-morbid conditions frequently challenge the decision to maintain a demanding treatment regimen. Also, such conditions often impair decision-making capacity of the patient as health changes. This study examines the factors that predict the patient's and spouse's wishes for continuing hemodialysis treatments.

**Methods:** Nephrology patients diagnosed with ESRD and being treated with hemodialysis were recruited for this study. Recruitment methods included advertisements in newspapers, referral from staff at dialysis centers, and mailings to those receiving financial assistance for dialysis treatment from the Centers for Medicare and Medicaid Services. Couples were eligible for inclusion in the study if patients: 1) had end-stage renal disease; 2) were on hemodialysis for at least 6 months; 3) were at least 55 years old; and 4) were married for at least 5 years. Recruitment efforts yielded a total of 315 couples. Patients and spouses were interviewed within a mean of 5 days of one another. In order to maintain confidentiality, patients and spouses in each couple were interviewed by different interviewers. In order to assess patient preferences and spouses' substituted judgment for continuation of dialysis, respondents were presented with a series of hypothetical situation as asked about the likelihood of the patient continuing on dialysis given each condition. They included those in which the patient developed mild, moderate and severe stroke, mild, moderate and severe dementia, permanent coma and terminal illness, both with and without pain. For these analyses, 34 Caucasian and 34 African American patients were matched on demographic variables (sex, age, education and income) to eliminate the possibility that these demographic variables explained differences in racial categories.

**Results:** Analyses suggest that African American and Caucasian patients do not differ in their preferences for continuing dialysis. However, there is a difference in responses from Caucasian and African American spouses' regarding dialysis continuation. Caucasian spouses were more likely to indicate that they would terminate dialysis than were African-American spouses. Furthermore, African American spouses statistically report less death anxiety, less fear of painful death, less caregiver burden, greater religious activity and greater valuation of life than Caucasian spouses. Caucasian patients were more likely to have signed a living will.

**Conclusion:** Results suggest that spouses' substituted judgment for dialysis continuation can be predicted by caregiver burden, race, and patient preference for dialysis continuation.  
NINR supported: R01 NR 05237.

## Oral Health Status and Utilization among Children in Head Start

**Primary Author:** Rebecca Reed, DMD  
**Co-Authors:** HL Broder, R. Chaviano-Moran, G. Jenkins, M. Janal  
**School:** New Jersey Dental School

**Objectives:** To assess oral health needs of children ages 2-5, and to relate those needs to the level of access to oral health care as reported by parents.

**Methods:** Caregivers of children enrolled in a NE urban Head Start program completed consent forms and responded to a 21- item survey regarding oral hygiene practices and sociodemographic information. Their children received an oral exam where dental experiences (defs) data were collected.

**Results:** Subjects were 136 Head Start preschoolers and their parents (45.6% female; 45.7% Black, 44.2% Latino). Despite the Head Start program requirement for a dental exam, 40% of the children had not received one at the time of enrollment in the program. Dental experience (defs) for the 80 children who had an exam prior to enrollment was 4.0, statistically similar to the defs of 3.8 in those who had not gotten the required examination. Both of these groups showed more pathology than a demographically similar group examined in NHANES III, where the mean defs was 1.4 ( $p < .05$ ). Children whose parents reported Medicaid coverage were found to have more untreated decay than others (68.2 vs. 39.8%,  $p = .01$ ), although children with Medicaid were not more likely to need an exam than others (27.3 vs. 43.0%,  $p = .17$ ), and defs was also similar in the two groups ( $M (SD) = 5.4(8.1)$  vs.  $3.8(7.4)$ ,  $p = .35$ ). While 60% of the children had received the required oral exam, the majority of them had not received follow-up treatment for caries.

**Conclusion:** Exam status for Head Start children did not differ between those who had had an required exam and those that did not have the exam. Regardless of group, the study sample had higher unmet needs than that reported in NHANES. Children with Medicaid had significantly greater defs than children who did not have Medicaid.

## Oral Health Promotion among Older Persons and Their Caregivers

**Primary Author:** Rebecca Reed, DMD  
**Co-Authors:** H. Broder, G. Jenkins, E. Spivack, M. Janal, R. Chaviano-Moran  
**School:** New Jersey Dental School

**Objectives:** To assess oral health status and oral health-related quality of life (OHRQOL) of residents in an extended care facility, and to assess caregivers' oral health attitudes and knowledge.

**Methods:** Participants included 137 residents (58.1% female, mean age was 67.7 yr (range 32- 94), 91.0% black), and 22 caregivers (primarily nurses, LPNs). Residents received an oral exam and completed the OHIP-14, an OHRQOL questionnaire. Dental care was offered to residents with unmet dental needs. Caregivers completed an oral health knowledge (OHK) questionnaire before and after the on-site geriatric oral health service program (four presentations on geriatric oral health issues and oral hygiene demonstration.)

**Results:** Oral exams showed that 58% of the residents had extensive and varied unmet oral health needs. Follow-up care was provided for approximately 50% of those with unmet needs. On the OHIP-14, the mean severity was 9.2 (sd=12.0), extent (number of items rated as 'fairly often' or 'often') was 1.2 (sd=2.6), and prevalence (participants rating at least one item at least 'fairly often') was 37.8%. Most prevalent ( $\geq 25\%$ ) items were negative impact about 'oral pain', 'appearance' and 'self-consciousness'. These scores indicate significantly lower OHQOL ( $p < .05$ ) in this group than has been reported for normative samples of this age [Slade (2003)]. Regarding OHK, caregivers' knowledge improved following instruction, from 65% correct on the pretest to 90% correct on the post-test ( $p < .01$ ). Exit interview data revealed that physical limitations, fear of getting bitten, and time constraints were barriers to providing oral hygiene to the residents.

**Conclusion:** Exam data showed extensive levels of unmet dental needs among the majority of subjects, and significant negative impact on their OHRQOL. Although caregivers improved their oral health knowledge following the geriatric service program, specific barriers reportedly precluded behavior changes in providing oral hygiene to the residents. Supported by HCFNJ.

## **NJMS National Tuberculosis Center Research Highlights**

**Primary Author:** Lee B. Reichman, MD, MPH  
**School:** New Jersey Medical School

The New Jersey Medical School National Tuberculosis Center (NTBC) was established as a joint venture between the University of Medicine and Dentistry of New Jersey-New Jersey Medical School (NJMS) and the New Jersey Department of Health and Senior Services (NJDHSS). Both of these agencies, who at the time had an almost 20 year history of close collaboration in innovative aspects of TB control for the racial and ethnically diverse population of Newark and New Jersey, had recognized the need for a model TB training, care and clinical studies center. The shared vision of the NJMS and the NJDHSS for the model TB Center of Excellence was not only to bring state-of-the-art medical care and social services to the TB patients served under its agencies, but to create new and cost-effective approaches to TB prevention and control. Such an approach would be based upon a consumer-services approach, the hallmark of which is accountability of staff at all levels for all aspects of tuberculosis service and care. NTBC is one of the seven original CDC Clinical Trials Consortium sites (now Tuberculosis Trials Consortium, TBTC) of 1993 contracted to perform studies of TB treatment and prevention and is one of the few contract sites that is both a health department site and an academic center. NTBC is also a charter member of the Tuberculosis Epidemiologic Studies Consortium.

The underlying mission of the Center is to provide exemplary patient care for our clients which leads itself to exemplary clinical, epidemiologic and behavioral studies should the client wish to avail him/herself of them and training of other professionals based on our experiences and results. The Center has dozens of protocols for TB drug treatment, diagnostic tests and epidemiology, several of which will be described.

## The Use of Epidemiologic Data in Developing Capacity and Needs Assessments in Comprehensive Cancer Control Efforts

**Primary Authors:** Daniel M. Rosenblum, PhD

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**School:** <sup>1</sup> New Jersey Medical School  
<sup>2</sup> School of Public Health

**Introduction:** As part of implementing the New Jersey Comprehensive Cancer Control Plan in 2003–2005, cancer resource capacity and needs were assessed under our direction in each county by health planners from community-level organizations.

**Method:** These assessments included: (1) standardized evaluations of population demographics; (2) surveys of health care providers and facilities and of community and faith-based organizations that provide cancer screening, education, treatment, palliation and support services; and (3) analysis of cancer incidence and mortality rates and distribution of disease stage at diagnosis, along with rough estimates of prevalence. Efforts were made to identify health disparities within the county and as compared to the state as a whole. Based on these data, county and state priorities were proposed for implementation by countywide cancer coalitions developed with this assessment.

Analyses of the aforementioned county-level cancer epidemiologic data were needed for the comprehensive assessments. The types and sources of data used will be reviewed and pitfalls examined. Problems related to using published data that had been calculated on the basis of standardized populations will be discussed. Approaches to analyzing incidence and mortality rates and staging data will also be described.

**Results:** Many health planners were recruited based on knowledge of and interest in their communities. However, lack of familiarity with the use and interpretation of epidemiologic data was common. Several types of errors were identified by us. Suggestions for avoiding these in future planning efforts will be discussed.

**Conclusion:** Levels of public support and funding, as well as policy decisions, influence the ability to improve cancer outcomes. The critical components of this process are accurate, up-to-date assessment of community resources and identification of the community's specific cancer needs. Appropriate use and interpretation of epidemiologic data are critical to successful implementation at state and local levels.

<sup>3</sup>NJ Department of Health and Senior Services, Office of Cancer Control and Prevention

## **Diabetic Complications in African-Americans with Type I Diabetes: The New Jersey 725**

**Primary Author:** Monique Roy, MD  
**School:** New Jersey Medical School

The *New Jersey 725* is an ongoing NIH-supported study of 725 African-Americans with type 1 diabetes, diagnosed and treated with insulin before 30 years of age. This is the largest cohort to date of African-Americans with diabetes. Baseline examinations of patients enrolled in this study were carried out between 1993 and 1997. The 6-year follow-up study is ongoing. Data presented today pertain to the baseline examination and encompass: (1) frequency and severity of visual impairment and diabetic retinopathy, (2) eye care statistics, and (3) diabetic renal disease.

When the study was initiated in 1993, little was known about diabetic retinopathy in this population except that non-white women were three times more likely to be blind from diabetes than non-white men, or white men or women. The purpose of the study was to determine the frequency and severity of visual impairment, of diabetic retinopathy, and factors associated with severity of retinopathy in African-Americans with type 1 diabetes.

Patients were identified from New Jersey Hospital Discharge data. Of the 13,615 medical charts reviewed from 31 NJ hospitals within a 20-mile radius from the Medical school, 875 patients were found to be eligible, and 725 participated.

Findings are reported pertaining to: Visual Impairment, Diabetic Retinopathy, Risk Factors for Diabetic Retinopathy, Eye Care, and Diabetic Renal Disease.

### **Conclusions:**

In African-Americans with type 1 diabetes:

- \* Visual impairment is more common in women than in men and than in whites with type 1 diabetes
- \* Older women are at a higher risk of vision threatening retinopathy than any other group.
- \* Longer duration of diabetes, poor glycemic control, and systemic hypertension are risk factors for retinopathy.
- \* Fewer than 50% receive an annual dilated eye examination as currently recommended.
- \* Proteinuria is very common, particularly in men, and appears to precede severe retinopathy.

## **The New Jersey Community Health Worker Institute (NJCHWI)**

**Primary Author:** Carl H. Rush, MRP  
**School:** School of Osteopathic Medicine

A project of New Jersey Area Health Education Centers (AHEC), an affiliate program of UMDNJ-SOM, in partnership with Camden AHEC, Garden AHEC and Shore AHEC, with initial funding from HRSA.

Community Health Workers (CHWs) serve as the “bridge” connecting the community to healthcare and human services. They are effective because they know and are trusted by the community they serve. They ensure that people in underserved communities get the services they need; they provide on-going support for behavior changes critical to improved health outcomes; they are effective at reducing the costs of chronic disease management, increasing immunization rates and improving birth outcomes in minority populations. However, the CHW occupation is neither standardized nor widely recognized; there is no functioning job market, no standards of training and no common career advancement opportunities. NJCHWI is one of only three statewide initiatives of its kind, whose purpose is to lead in: creating statewide networks of CHWs and their employers; developing a statewide workforce plan for CHWs; generating education and training opportunities, and considering credentialing options. NJCHWI has also proposed, with the help of UMDNJ and the New Jersey Council of Teaching Hospitals, to make CHWs a key resource in improving the cultural competence of medical and other health professions students and medical residents, exposing students and medical residents to (a) curriculum content on how to supervise and work effectively with CHWs, and (b) structured clinical experiences working alongside CHWs. HRSA support is expected for these activities, and for designing pilot health care initiatives involving CHWs as part of interdisciplinary teams.

## **Community Health Worker National Workforce Study (CHW-NWS)**

**Primary Author:** Carl H. Rush, MRP  
**School:** School of Osteopathic Medicine

Two-year contract from HRSA Bureau of Health Professions, U.S. Department of Health and Human Services (DHHS) to the Regional Center for Health Workforce Studies at the University of Texas Health Science Center at San Antonio. NJCHWI Director Carl H. Rush is a Co-Investigator on this Study, under a subcontract to Camden AHEC. The purpose of the Study is to draw an accurate profile of the community health worker (CHW) workforce, including quantitative and qualitative aspects of CHW employment and the potential job market. The study is also examining related issues, such as training and credentialing standards, the availability of funding streams for education and compensation as well as current state/federal policy trends and options. The final report will provide a national profile and detailed assessments of the CHW workforce in eight states. Key Research Modules: estimates of the numbers CHWs from current Census and Labor Department Occupation data; a survey of known and potential CHW employers by the Center for Sustainable Health Outreach (CSHO) at the University of Southern Mississippi using an instrument developed by CHSO and partially modified in collaboration with RCHWS; in-depth studies of selected states to provide more detailed information on CHW issues by review of extant data and facilitated “focus workshops.” Other Research Partners include the U.S.-Mexico Border Health Commission; Community Voices (CV), National Center for Primary Care, Atlanta; and the CHW National Education Collaborative, a national initiative by 20 college-supported programs on “best practices” in competency-based education, funded by FIPSE.

## **Repeat and Follow-Up Tests (RAFTs) After Colonoscopy**

**Primary Author:** Robert J. Richards, MD, MS  
**Co-Author:** Stephen Crystal, PhD<sup>1</sup>  
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<sup>1</sup>Rutgers University-Institute for Health, Health Care Policy and Aging Research

**Background:** The number of repeat and follow – up tests (RAFTs) occurring after colonoscopy is a short term outcome, which has not been previously examined in the literature. RAFTs add cost, discomfort and inconvenience to colonoscopy; therefore it is important to identify their frequency and factors associated with their use.

**Methods:** We identified elderly Medicare recipients who had colonoscopy performed in 1999 from the 5% Medicare administrative files (N = 69,282). We determined the number of RAFTs (repeat colonoscopy, barium enema, flexible sigmoidoscopy) occurring within the year of initial colonoscopy.

**Results:** 8.3% of the study sample required at least one RAFT during the year. Using multivariable analysis we found that RAFTs varied significantly with age, race, sex, income, comorbidity, provider type and place of service. RAFT were 22% higher in African-Americans compared to whites. Gastroenterologists used 20 – 35% fewer RAFTs than the other provider types examined.

**Conclusion:** RAFTs are common, occurring in 8.3% of the Medicare population. Gastroenterologists utilized fewer RAFTs than other provider types. RAFTs were more likely to occur in African-Americans compared to whites.

## **Racial Differences in the Use of Colonoscopy, Sigmoidoscopy and Barium Enema in Medicare Beneficiaries**

**Primary Author:** Robert J. Richards, MD, MS  
**Co-Authors:** Dean M. Reker, PhD<sup>1</sup>  
**School:** New Jersey Medical School

Colorectal cancer is often diagnosed at a later stage in blacks. We wanted to know if racial differences existed in the use of tests for detection of colorectal cancer. A 5% random sample was obtained of all Medicare beneficiaries with Part B coverage, aged 65 years and older, classified as white or black race. The numbers of colonoscopy, flexible sigmoidoscopy and barium enema were determined from the Physician/Supplier file. Blacks were 18% less likely to receive colonoscopy and 39% less likely to receive flexible sigmoidoscopy after controlling for age, sex, income and access to care in a multivariable logistic regression model. Barium enema was not significantly different between the races. Black men had 25% lower use of colonoscopy and 50% decreased use of flexible sigmoidoscopy. Blacks receive less colonoscopy and flexible sigmoidoscopy than whites. Black men are particularly vulnerable to the under use of these tests.

<sup>1</sup> Veterans Affairs Medical Center; Department of Health Services Research and University of Kansas Medical Center; Center for Aging; Kansas City, KS

## Colorectal Cancer Screening in Hispanics: Effect of Sociodemographics and Access to Care

**Primary Author:** Robert J. Richards, MD, MS  
**Co-Authors:** Tsu-Hon Wang  
**School:** New Jersey Medical School

**Purpose:** Hispanics (H) undergo colorectal cancer (CRC) screening less frequently than non-Hispanic white and black persons. Also, H have less access to medical care and lower socioeconomic status when compared to whites. It is unknown whether sociodemographic and access to care variables are primarily responsible for the lower CRC screening rates seen in H. Our purpose was to determine if lower screening rates for CRC in H persisted after controlling for sociodemographic and access to care variables.

**Methods:** The study was based on data collected through the 1999 Behavioral Risk Factor Surveillance System (BRFSS), which is a national randomized telephone survey. Included for study were respondents with age  $\geq 55$  or  $\leq 85$  years old whose race was classified as Hispanic (H), White nonHispanic (W) or Black nonHispanic (B). Respondents were categorized as screened if a home fecal occult blood test was done within the past 1 year or a sigmoidoscopy/colonoscopy within 5 years, i.e. within standard recommended time intervals. Independent variables considered were: age, sex, income level, tobacco use, alcohol consumption, marital status, and health insurance coverage. We excluded respondents having an unknown CRC screening status, those refusing to answer questions pertaining to the study variables or those respondents having missing data in any of the variables analyzed. This left 44,700 subjects. For the data analysis, a logistic regression model was performed using sampling weights in SAS (version 8.2). The odds ratio (OR) of being screened was calculated for H (using W as the referent group) before and after adjustment for all covariables in the model. Wald 95% confidence intervals are also given.

**Results:** There were: 2,711 H: 39,443 W: and 2,616 B included in the study. 62% of the sample were women. The mean age of those screened was 67.8 years vs. 66.6 years for those not screened (t-test;  $p < 0.0001$ ). Overall, 45.1% of the total sample had CRC screening performed within the recommended interval. Screening in H (34%) occurred less often than screening in W (46%) and B (45%), yielding an OR of 0.59 (95% C.I. 0.58-0.59). The OR after adjusting for all covariables in the model was 0.76 (95% C.I. 0.75-0.76).

**Conclusion:** After controlling for sociodemographic and access to care variables, Hispanics remain 24% less likely than whites to undergo CRC screening. These results imply that unmeasured variables (possibly culture-specific) may play a significant role in the screening behavior of Hispanics. Further research is needed in this area.

## **Need for Oral Health Education and Outreach Projects for Better Utilization of Oral Health Care Services in Urban and Underprivileged Communities**

**Primary Author:** Asha Samant, DMD, MDS  
**Co-Authors:** Joel Martin, DDS, MS, Robert Flinton, DDS, MS  
**School:** New Jersey Dental School

**Background:** Utilization of and access to oral health care services are variable in communities. Socio-economic disadvantage and household factors are well documented to influence the decision to seek oral as well as general health care. In addition, self perceived status of oral health, psycho-social and behavioral attributes of individuals and physical discomfort might be equally important determinants for seeking oral health care services

**Purpose:** To determine the impact of physical discomfort, oral health behavior and knowledge of oral health status on the utilization of oral health care services by the urban community attending our New Jersey Dental School clinic facility.

**Methods:** The study involved a review and analysis of dental records of 241 adult subjects (122 women and 119 men) with a mean age of  $39 \pm 17$  years attending New Jersey Dental School. The study was approved by the IRB. The records were selected by random sequence. Behavioral attributes analyzed included the esthetic needs, preventive cleaning of teeth at dental office and frequency of visits to dentists. One hundred one subjects completed questionnaire incorporating standard Locker and Slade tool to assess psychological discomfort.

**Results:** Acute dental conditions as the cause of first visit to dentist was still an important reason to seek oral health care (men 40%, women (21%). Behavioral attribute like esthetics and preventive dental care were more common motivating factors in women. Women also had prior repeat oral health care visits (92%) than men (48%). Psychological discomfort and worry was experienced by an appreciable number of patients (52%).

**Conclusion:** 1. With the exception of highly motivated and esthetically conscious subject's acute dental conditions was an important presentation for seeking oral health care in urban facility. 2. Psychological discomfort and worry experienced by an appreciable number of patients indicative of poor understanding of oral health requires oral health education. 3. These findings strongly support the need for oral health education and outreach projects for better utilization of oral health care services in urban and under privileged areas.

## **Treatment of Chronic Hepatitis C Virus Infection in African Americans: Need for Re-Assessment of Current Practice Guideline**

**Primary Author:** Arun Samanta, MD  
**School:** New Jersey Medical School

**Introduction:** Chronic hepatitis C viral infection in African American patients presents challenging issues in its epidemiology, severity of hepatic injury and fibrosis, incidence of hepatocellular carcinoma and response to current treatment. The disease is 2 to 3 times more prevalent in African Americans than Caucasians and more than 90% have the treatment refractory genotype 1 as compared to 70 % genotype I in Caucasians. There is also an increased incidence of hepatocellular carcinoma in African American patients with chronic hepatitis C. On the other hand studies suggest that degree of hepatic fibrosis and prevalence of cirrhosis in African Americans with hepatitis C infection may be less.

**Methods:** African Americans respond poorly to the current treatment with interferon plus ribavirin. Poor response to hepatitis C treatment in these patients is seen even when corrected for genotype and severity of the disease. Despite need to understand these complexities of hepatitis C in African Americans only about 5% of the patients enrolled in the pivotal therapeutic trials have been African Americans. Currently ongoing trials are addressing some of these issues. One of such trials by Muir and associates published last year where, 100 African American patients were compared with 100 Caucasians patients with similar distribution of genotype 1 infection and treated for 48 weeks with PEG interferon alfa 2b + ribavirin revealed only 19% sustained viral response as compared to 42 % in Caucasians.

**Results:** There is a suggestion that weight-based dosing of ribavirin up to 1400 mg a day might improve the treatment response in African American patients. Another innovative approach based on mathematical modeling has suggested duration of treatment beyond conventional 48 weeks in African American patients with genotype 1 infection using combination of interferon and ribavirin. As no new antiviral agent is on the horizon such a treatment approach deserves clinical trials.

**Conclusion:** Progress has been made in identifying newer ribavirin analogs and their safety and efficacy is under evaluation. However, agents like protease and polymerase inhibitors, immune modulators, stellate cell modifiers, antifibrotic agents and interferon response genes are still in early stages.

## House Calls for Seniors: Establishing Community-Based Geriatrics Services in Newark

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**Co-Authors:** Debbie-Salas Lopez, MD, Carmen McLaughlin, BS  
**School:** New Jersey Medical School

**Background:** The elderly population typically has low rates of preventive screening measures (CMS, HEDIS, 2001); these rates are even lower among low-income, minority elderly. Most seniors report difficulty in keeping appointments because of lack of transportation, unavailability of someone to accompany them to appointments, difficulty navigating the hospital, limited financial resources, and fear of institutionalization. The elderly population in Newark faces multiple barriers to accessing quality health care, including underlying co-morbidities, immobility, frailty, lack of family support, and social issues.

**Objective:** The *House Calls for Seniors* program is a community-based geriatrics service of the Division of Academic Medicine, Geriatrics, and Community Programs, working in partnership with community-based organizations in order to provide healthcare to senior citizens residing in Section 8 Senior Housing in the greater Newark Area.

**Methods:** The program utilizes an interdisciplinary home healthcare team, consisting of a Geriatrician, Geriatric Nurse Practitioner, and a Social Worker. The interdisciplinary team emphasizes health maintenance and chronic disease management of seniors, while maximizing their independence. The House Calls for Seniors program currently operates in two New Community Corporation (NCC) buildings in Newark, and “house calls” are being made in the Ironbound section of Newark, in collaboration with the Ironbound Community Corporation (ICC).

**Results:** Baseline data from patients of the House Calls for Seniors program indicate that less than 19% of patients had a mammogram in the last two years, 50% had not been screened for colorectal cancer, 30% had never received a pneumococcal vaccine. Current results (pending) show a significant increase in the rates for these preventive screening measures since the program was implemented in 2003.

**Conclusion:** By providing comprehensive services at their site of residence, the *House Calls for Seniors* program removes barriers to access, and patients feel safer in their familiar surroundings. The program is a return to what was once thought to be a lost practice, in which physicians traveled throughout the community with a black bag. The House Calls for Seniors program is not only timely, but also necessary as the elderly underserved population in the Greater Newark Area experience significant barriers in accessing healthcare. Such a collaborative initiative between community-based organizations and an academic health center could serve as a practice model with applications beyond the borders of the greater Newark area.

## **Perspectives on Cancer Screening Among Internal Medicine Residents and Latino Community Members: A Work in Progress**

**Primary Author:** Debbie Salas-Lopez, MD  
**Co-Authors:** Dawne Mouzon, MPH; Ana Natale-Pereira, MD; Vincent J Barba MD, John Kolassa, PhD<sup>1</sup>, Jonnie Marks, PhD, and Maria Soto-Greene, MD  
**School:** New Jersey Medical School  
<sup>1</sup> Rutgers University, Piscataway, NJ

**Background:** Latinos have lower rates of cancer screening, partially due to cultural beliefs that conflict with those of the medical profession (NCHS, 1998). While there is growing literature on cultural competency, few studies have systematically investigated effective strategies for training physicians (Brach and Fraser, 2000).

**Methods:** Focus groups were conducted in phase one of this study (total of 4 phases), to assess cultural values, beliefs, and knowledge regarding cancer and cancer screening. Thirty-one Latino community members and 9 NJMS internal medicine residents participated in the focus groups.

**Results:** Among Latino community members, general thoughts on cancer include: that early detection and screening are important; cancer is the same, just in different places, and risk factors include certain foods, alcohol, family history, microwaves and cell phones. Reported barriers to screening include: fear, cost or insurance problems, communication barriers with physicians, and distrust of physicians. Recommendations include: having more commercials targeted towards Latinos, treating the whole person, and conducting free physical exams to the Latino community annually. General thoughts on the topic among medical residents include: that insurance is not a problem in Newark because of Charity Care, and acculturated families are more likely to get screened. Perceived screening barriers include: fear that cancer means death, language barriers, screening requires too much time off from work, and the concept of machismo. Recommendations include: more health education materials in Spanish, more publicity on cancer issues, resident training in cultural issues, and implementing a more effective phone translation system.

**Conclusion:** While this project is a work in progress, the information gathered will serve as a framework to develop and implement a cultural competency cancer education program for medical residents that meets the community's needs and addresses attitudes and beliefs among the residents. We anticipate that cultural competency training will help improve patient and physician satisfaction, health care access and, moreover, patient outcomes.

## **Beliefs and Attitudes on Cancer Screening: Perspectives from Internal Medicine Residents and Members From The Latino Community**

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**School:** New Jersey Medical School  
<sup>1</sup>Rutgers University, Piscataway, NJ

**Context:** Latino patients are likely to refuse cancer-screening procedures due to differences in beliefs with the medical profession. Access, knowledge, behavior, and lack of culturally appropriate services are limiting factors in cancer screening.

**Objective:** To demonstrate that a cultural competency education program for internal medicine residents will: increase their Latino patients' cancer screening rates, improve satisfaction with the patient-physician encounter; improve residents' attitudes and knowledge of cancer beliefs and barriers among Latinos.

### **Design: Qualitative Study**

*Setting:* A Latino Community Based Organization in Newark, and the Internal Medicine residency program.

*Participants:* Twenty-six community members and 9 internal medicine residents.

*Intervention:* As formative research to develop the cancer education program, three focus groups were conducted: two with community members, and one with medical residents.

*Main Outcome Measures:* Assess how beliefs and attitudes towards cancer impact on screening behavior, and health care delivery.

**Results: Among community members** general thoughts include: cancer is more common in women; early detection and screening are important; cancer is the same just in different places; and risk factors include foods, alcohol, family history, microwaves and cell phones. Barriers to screening are: fear, lack of insurance, communication barriers with and distrust of physicians. Recommendations include: health information targeting Latinos, treating the whole person, and conducting free physicals to the Latino community annually. **Among medical residents** general thoughts include: insurance is not a problem because of Charity Care; and acculturated families more likely to get screened. Perceived barriers include: fear, language, time off from work, and machismo. Recommendations include: health literacy education in Spanish, publicity on cancer issues, and resident training in cultural competency.

**Conclusion:** It is anticipated that this cancer education program for cultural competency training of medical residents will improve patient and physician satisfaction, health care access and patient outcomes. This is a work in progress.

<sup>1</sup>Rutgers University, Piscataway, NJ

## **Addressing Language Barriers for Minority Patients with Limited English Proficiency**

**Primary Author:** Debbie Salas-Lopez, MD  
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**School:** New Jersey Medical School

Although interpreter programs exist in parts of the country, the majority of volunteer medical interpreters have not completed a formal training program. The patient-physician interaction is negatively impacted by inaccurate medical interpretation originating from erroneous paraphrasing, lack of linguistic equivalency and bias from the interpreter's own beliefs, views, or emotions. This study aims to assess the efficacy of a newly developed medical interpreter training program in improving the quality of knowledge and skills of interpreters. Thirty-one hospital employees were recruited to the medical interpreter training program. Pre and post examinations were administered to study participants, to assess variations in their level of cultural competency and knowledge of medical interpretation. Twelve interpreters were randomly chosen to complete an Objective Structured Clinical Examination (OSCE) before and after the training to determine clinical skills acquisition in medical interpretation. Significant improvements were seen in interpreter written examinations ( $p < .001$ ). Over 40% of the group had a minimum 10% improvement in scores from pre to post, with 20% of the interpreters having at least a 25% improvement. The twelve interpreters tested using the OSCE examination showed significant improvements. In conclusion, the curriculum was effective in enhancing the skills of the untrained medical interpreters.

## **Antecedents to Effective Treatment of Hypertension in Hispanic Populations**

**Primary Author:** Maria L. Soto-Greene, MD  
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<sup>1</sup>Robert Wood Johnson Medical School

Hypertension is a common medical disorder affecting >50 million people. It is a primary modifiable risk factor to cardiovascular disease and a leading cause of death in black and Hispanic groups. This article focuses on patient-specific and physician-specific barriers that contribute to under diagnosis, under treatment, access issues, and poor adherence to therapy. Two cross-cultural interviewing frameworks, ETHNIC and ADHERE, are discussed as approaches that complement the traditional clinical assessment and treatment of hypertension in Hispanics. (Clinical Cornerstone. 2004; 6[3]:30- 38) Copyright © 2004 Excerpta Medica.

## **A Model Interdisciplinary Training Program for Predoctoral Students**

**Primary Author:** Claudia A. Switala, M.Ed  
**Co-Authors:** Tiffany Lowe, D.O.  
**School:** School of Osteopathic Medicine

Physicians must work in concert with other health care professionals to address the complex needs of an increasingly diverse and aging population. Medical graduates should be knowledgeable about the roles and skills of other health care professionals, and this should be based on an understanding and respect for the professionals in these fields to have effective impact on the health care of their patients. Effective collaborative health care delivery also requires expertise in communication, cultural competency, interpersonal skills, negotiation, team building, joint decision-making, and problem solving. A model of interdisciplinary training on the predoctoral level will be described and the student outcomes will be presented. This was made possible through a HRSA Academic Administrative Units Grant.

## **An Evaluation of the Concordance of Selected Self-Reported Provider Recommendations for the Care of Patients With Diabetes With the Recommendations of the American Diabetes Associations Evidence Based Guidelines Using a National Survey**

**Primary Author:** Leslie-Faith Morrit Taub, DNSC, RN  
**School:** School of Nursing

**Purpose:** It is projected that the prevalence rate of diabetes will increase to 29 million people by 2050 if present trends continue. Modifiable risk factors for prevention and treatment of diabetes include diet, exercise, smoking cessation, alcohol cessation for those with excessive intake, influenza and pneumonia vaccinations, and foot and eye care. Understanding the predictors of provider advice will allow us to target populations that are less likely to receive this care.

**Methods:** The National Health Interview Survey, 2001 was used in a secondary data analysis in order to assess how closely providers were now approaching the recommendations of the eight processes-of-care advised by the American Diabetes Association (ADA). Descriptive statistics, Chi-square, and logistic regression analyses were conducted.

**Results:** Hispanics and African Americans were significantly less likely to be advised get pneumonia or influenza vaccines or to see or speak to an eye doctor. Those on no medication for their diabetes were significantly less likely to receive diet advice, pneumonia or influenza vaccines, and see or speak to a foot or eye doctor however they were significantly more likely to receive alcohol cessation counseling. Those on pills for their diabetes were significantly less likely to receive pneumonia or influenza vaccines or see or speak to with a foot doctor however they were more likely to receive exercise advise. Those ages 65 and over were significantly less likely to receive diet, exercise, and smoking cessation advice, however they were significantly more likely to receive influenza and pneumonia vaccines.

**Conclusion and Implications:** Medication regimen, age, and minority status are factors that are significantly related to the provision of the eight processes-of-care. Understanding how these factors relate to provider advice will allow us to target these subgroups who are not getting optimal diabetes care and providers who need to be made aware of this.

**Identification of Cancer Priorities in Essex County: Results from a Cancer Capacity & Needs Assessment (C/NA) Performed as part of a Statewide Initiative of the New Jersey Comprehensive Cancer Control Plan**

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A Cancer Capacity & Needs Assessment (C/NA) was conducted in Essex County from 4/03-6/04 to identify major cancer issues and available resources for cancer prevention, screening and treatment, and to develop recommendations to alleviate the county's cancer burden. County-level epidemiologic data and key demographic indicators from Census 2000, such as poverty, unemployment, and limited English proficiency, were examined to understand potential barriers to healthcare access.

Standardized methods revealed that Essex has the highest mortality rates for cervical, oral (in males), and prostate cancers among all counties in New Jersey for which data were reported. Furthermore, the incidence of prostate cancer in Essex County is also highest among all counties in New Jersey. The incidence and mortality rates for these cancers in Essex all exceed state rates by over 10%:

	Est. Prevalence	Incidence/100,000	Mortality/100,000
Cervical	1,120	15.7 *	5.0 *
Oral, male	379	17.6 *	5.6 *
Prostate	5,089	227.4	39.6 *

Racial cancer disparities: \*==>Blacks >2-fold higher than whites.

Historically, oral and prostate cancers had not been widely recognized as priorities for our county. Cervical cancer screening and treatment has been and will remain a priority.

The Essex County Cancer Coalition was formed as a partnership of diverse stakeholders to prioritize and implement recommendations. The Coalition plans to emphasize cervical, oral and prostate cancers. Proposed activities: create a provider network of cancer resources (identified from the C/NA) which offer free/reduced-cost cancer screenings and link it to residents in need; partner with faith-based and community organizations to provide on-site cancer education and screenings; and promote increased awareness. In Essex County, the C/NA is the empirical basis for prioritizing cancer control efforts.

<sup>1</sup> Hoboken Family Planning

## Colorectal Cancer Screening in Primary Care Settings: A Retrospective Review

**Primary Author:** Marielos Vega, BSN, RN  
**Co-Authors:** Jeanne Ferrante, MD; Mark S. Johnson, MD, MPH; Sue Rovi, PhD; Elisabeth Nelson, BS; Stanley H. Weiss, MD<sup>1</sup>; Ana Natale-Pereira, MD, MPH; Ping-Hsin Chen, PhD.  
**School:** New Jersey Medical School  
<sup>1</sup> School of Public Health

**Objective:** To assess the rates of CRC screening at two primary care practices in an urban setting. We hypothesize that the proportion of patients who are current with CRC screening will be lower in our study population than the national 2001 average (FOBT within 12 month – 23.5%, lower endoscopy within 5 years – 38.7%, lower endoscopy within 10 years – 43.4%).

**Methods:** Retrospective chart review was performed at the NJ Family Practice Center and the University Family Practice Center at St. James both located in Newark. 264 patients over the age of 50 were randomly selected from the billing system. Exclusion criteria included: patients under the age of 50, only one visit to the practice, and patients with a history of CRC. Charts were reviewed for demographic information, CRC screening, other screening, CRC risk factors, and chronic conditions. Primary outcome measured was the proportion of patients who were current with CRC screening. Patients were considered current with CRC screening if any of the following was documented on the chart: FOBT annually, flexible Sigmoidoscopy within 5 years, double contrast barium enema within 5-10 years, or colonoscopy within 10 years.

**Results:** Analytical sample included 218 charts. Mean age of patients was 58 (STD = 6.8), mean number of visits to the practice in the last 12 months was 4 (SD = 2.8), mean height was 66 inches (SD = 3.8), and mean weight was 191 lbs (SD = 48.6). Demographic characteristics: 64.2% female, 76.0% black, 8.2% white, 15.8% other, ethnicity – 12.3% Hispanic, 87.7% non-Hispanic, and 31.1% married, 44.0% single, 14.8% divorced, 10.0% widowed. Percentage of CRC screening was: FOBT – 14.2%, flexible Sigmoidoscopy - 0.5%, and colonoscopy 22.0%. CRC screening rates were lower than other screening test: cholesterol – 66.4%, mammography – 64.5%, Pap smear – 39.0%, and prostate specific antigen – 56.3%.

**Conclusion:** In this study, we found, as hypothesized, that the proportion of patients who are current with CRC screening in our study population was lower than the national average. This may be due to racial and societal differences, however further studies should be done to determine why this is the case. Intervention methods such as physician and patient education on the importance of CRC screening may be the key to increasing screening rates.

## Estimates of Colorectal Cancer Screening Among Hispanics in the US: Current National Data Likely Overestimates the True Rates

**Primary Author:** Marielos Vega, BSN, RN  
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**School:** New Jersey Medical School  
<sup>1</sup> School of Public Health

**Objective:** Colorectal cancer (CRC) is the 3<sup>rd</sup> most common cancer in Hispanic men and 2<sup>nd</sup> most common cancer in Hispanic women in the US, yet reported screening rates remain the lowest. The Spanish translations of major national surveys that collect screening data have undergone limited validation. The purpose of this study is to evaluate socio-cultural barriers to CRC screening among Hispanics and its possible impact on self-reported data in BRFSS & NHIS.

**Methods:** Seven focus groups with Hispanic men and women were conducted to assess understanding of key concepts and questions. Recruitment was done through the Archdiocese of Newark by a bilingual outreach worker. Inclusion criteria: Hispanic/ Latino ethnicity and 18 years of age and older. Pre-focus group survey inquired about demographics, perceptions, beliefs, behaviors and screening knowledge about CRC, colon and stomach cancer. Focus groups discussions further explored cognitive understanding of responses given in the survey.

**Results:** Analytic sample included 56 participants. Mean age was 43 (SD = 9.8) & mean length of stay in the US was 19 yrs (SD=14.4). Demographic characteristics were: 64.3% female, 35.7% male; 37.5% were from Ecuador, 17.9% from Puerto Rico, 17.9% from US, and 26.7% other Latin-American countries. 76.8% were Spanish dominant and 23.2% English. 76.8% were employed and 46.4% had no insurance. Although only 6 participants were 50+ years old, 14.3% reported screening for CRC, 19.6% for colon cancer, and 21.4% for stomach cancer. 60.7% had done a stool test. 8.9% had heard about sigmoidoscopy and 46.4% had heard about colonoscopy. Qualitative data revealed that stool testing had been done by most participants for parasite/ova testing in countries of origin, not for CRC. This led to frequent misconceptions concerning the purpose of stool collections, done largely for gastrointestinal problems rather than CRC screening, and a misperception as to how to answer standardized questions.

**Conclusion:** Self-reported questions asked by national surveillance surveys might not be culturally sensitive for inquiring about screening among Hispanics. Cognitive understanding of Hispanics of these questions may differ from intended objectives.

## **Workforce Cultural Competence Development in Behavioral Health**

**Primary Author:** William A. Vega, PhD  
**Co-Author:** Paulette Hines, PhD  
**School:** Robert Wood Johnson Medical School

This SAMHSA funded three year project is designed to decrease mental health care disparities by enhancing cultural competence skills among supervisors, clinicians, and support staff of University Behavioral Health Care, and to initiate an organizational change model with the goal of becoming a more cultural competent health care provider. The deliverables include a replicable training curriculum and an evaluation model with assessment instruments. The program had four facets, (1) clinicians, staff, and administrators received the standard 2.5 day cultural competence training focused on improving services to African Americans and Latinos, (2) administrators received an additional 2 days of training focused on cultural and linguistic standards of care and implications for implementation in behavioral healthcare organizations, (3) 4 case consultation sessions on different clinical topics were conducted at respective UBHC clinics as a follow up to didactic training, and (4) needs assessments were conducted at clinical units and group meetings were held among administrators to implement organizational changes including various aspects from physical environment, increasing linguistically competent staff and translation capability, and improved procedures for patient management by staff. Clinical units are provided specific patient indicators by ethnicity on a quarterly basis to track early drop out, rates of missed appointments, and patient satisfaction.

## **National Latino and Asian American and Services Survey**

**Co-Author:** William A. Vega, PhD  
**School:** Robert Wood Johnson Medical School, University Behavioral Health Center,  
New Brunswick

Overall goal: The NLAAS is a large, epidemiologic study being conducted in 48 states of the continental U.S. The goal is to estimate lifetime and last year prevalence of mental disorders for a nationally representative sample of Asians and Latinos.

NIMH (RM5233), 7/1/00 to 6/30/05

Principal Investigator: Margarita Alegria

Co-Principal Investigator – New Jersey site: William A. Vega

## **Cultural Competence in Mental Health Services**

**Primary Author:** William A. Vega, PhD  
**School:** Robert Wood Johnson Medical School

The overall goal of this project is to develop culturally competent practices curriculum for multicultural clinical care and develop a model for organizational care to incorporate this curriculum.

SAMHSA 1 T 26 SM4714-01, 10/ 1/02 to 9/30/05.

## **Culture Based Models of Youth Risk Reduction**

**Co-Author:** William A. Vega, PhD  
**School:** Robert Wood Johnson Medical School

**Overall goals:** Develop, implement and evaluate youth risk reduction for violence intervention among African American adolescents. Responsibilities: (1) Administrate and coordinate activities in order to ensure proper development of intervention. (2) Oversee focus group activities and write research reports and articles.  
Principal Investigator: Paulette Hines  
AADAMH R HD40047-01, 7/1/00 to 6/30/04  
NICHD

## **Ethnicity and the Diagnosis of Affective Illness**

**Primary Author:** William A. Vega, PhD  
**Co-Author:** Michael Gara  
**School:** Robert Wood Johnson Medical School

**Overall goals:** To determine how patient characteristics including ethnicity influence the accuracy of diagnosis among patients with serious mental illnesses marked by mood and/or psychotic symptoms. The study is designed to develop new information about the scope and reasons for diagnostic inaccuracies among Hispanic, African American, and European American psychiatric patients in usual care. RO1 MH068801-01A2, 4-1-05 to 3-30-09

## **Mexican Family Culture & Substance Use Risk & Resilience**

**Co-Author:** William A. Vega, PhD  
**School:** Robert Wood Johnson Medical School

**Overall Goals:** To identify the cultural, psychosocial stress, and family process factors in Mexican origin families that are associated with initiation and progression into gateway and illicit drug use in children and early adolescence. The study will carefully examine differences by nativity in family socialization patterns and acculturation effects on drug use, as well as family structure effects.  
RO1 DA017902-01, 4-1-05 to 3-30-10  
Principal Investigator: Rand Conger, University of California, Davis

## Estimation and Utilization of County-Level Cancer Prevalence Estimates

Primary Author: Stanley H. Weiss, MD, FACP<sup>1,2</sup>  
Co-Authors: Judith B. Klotz, DrPH<sup>2</sup>, Daniel M. Rosenblum, PhD<sup>1</sup>  
School: <sup>1</sup>New Jersey Medical School  
<sup>2</sup>School of Public Health

**Introduction:** To estimate the burden of certain cancers in the population of each of New Jersey's 21 counties, in support of implementation of the New Jersey Comprehensive Cancer Control Plan (NJ CCCP), a simple method for estimating hitherto unavailable county-specific total prevalence counts was developed depending only on county crude incidence rates, national crude incidence rates, and national prevalence estimates.

Prevalence of a given disease is defined as the number of individuals in a specified population who have the disease at a given point in time. Usually, prevalence data are either collected via population surveys or estimated from a combination of incidence, survival and mortality data. ACS and NCI recently agreed that it is preferable to count all cancer survivors as prevalent cases, regardless of the elapsed time since diagnosis, since the sequelae of many cancer treatments and the psychosocial effects of cancer diagnoses and survival often lead to lifelong healthcare services for patients and their families. This implies calculating total prevalence, rather than limited (e.g. 5-yr) duration prevalence.

**Method:** For all cancers and the seven cancer sites on which the NJ CCCP focuses, we made simplifying assumptions about variations in survival rates, racial or ethnic distributions, and migration. The county prevalence estimates for each cancer in each gender (where applicable) were generated as follows: (2000 SEER prevalence count / 2000 SEER incidence count) x (1996- 2000 county incidence count / 5).

**Results:** The prevalence to incidence ratios ranged from 1.4 (lung cancer in males) to 17.0 (cervical cancer) - see [www.umdj.edu/evalcweb](http://www.umdj.edu/evalcweb). The county prevalence estimates were used by cancer control planners in developing recommendations for priority issues and actions. The NCI first plans to publish selected state-specific prevalence rates in 2006; it will then be of interest to compare our estimates to SEER estimates.

**Conclusion:** Despite the inability to account for several factors that contribute to the prevalence proportions in any population, the estimation method we developed is useful for generating and communicating the approximate number of people residing in a relatively small geographic area who are likely to be affected by past diagnosis of cancer.

## **Community Perceptions about Health-Related Research: A Focus Group Needs Assessment**

**Primary Author:** Lynn Waishwell, PhD, CHES  
**School:** School of Public Health

The University of Medicine and Dentistry of New Jersey (UMDNJ)-School of Public Health, in partnership with the Environmental and Occupational Health Sciences Institute (EOHSI) has a five year project to increase public understanding of the biomedical and health-related sciences and the impact of research on human health, the HOPE Partnership (Health Observances and Public Education). As an initial phase of this initiative, Dr. Waishwell trained personnel from eight university partners to conduct focus groups (N=48) with public audiences, teachers, and middle school students to determine the most effective outreach methods to achieve this goal and to assess underlying perceptions and beliefs about research on three specific health topics: cancer, asthma and allergies, and lead poisoning. This presentation will discuss the experience of using focus groups on a large national scale and present preliminary results. *The HOPE Partnership is supported by a Science Education Partnership Award (SEPA) from the National Center for Research Resources, National Institutes of Health (Grant No. R25 RR018490).*

## **Actinobacillus Actinomycetemcomitans and Localized Aggressive Periodontitis in Newark Schoolchildren**

**Primary Author:** H. Wolen  
**Co-Authors:** D. Furgang, K. Markowitz, K. Fairlie, J. Ferrandiz, D. Fine  
**School:** New Jersey Dental School

**Objective:** Localized Aggressive Periodontitis (LAP) is fifteen times more prevalent in African-Americans and five times more prevalent in Hispanics than Caucasians. *Actinobacillus actinomycetemcomitans* (Aa) is frequently associated with LAP, but, no study has demonstrated that association over time. The incidence, prevalence, and rate of periodontal breakdown in individuals harboring Aa will be examined in a 5-year longitudinal study.

**Methods:** This study will screen 1,200 students, age 11-17 from the Newark City School system for periodontal disease and presence of Aa. The study will follow 480 pairs of children, who have no clinical signs of periodontal disease with or without Aa. Buccal mucosa samples are plated on AAGM agar, and incubated in a 10% CO<sub>2</sub> atmosphere for Aa detection. A full-mouth, periodontal probing is performed. Pockets  $\geq$  5mm are sampled subgingivally. Prevalence, incidence and possible correlations of early LAP and/or presence of Aa versus subjects' ethnicity, age or sex will be analyzed.

**Results:** Out of the 534 children screened, 73 have Aa (13.7%). 50.7% were male with 49.3% being female. 35 of the students were Hispanics (12.2% of all Hispanics). 32 were African-American (16%), 3 were Pacific-Islander/Asian (18.8%), 1 is Caucasian (5.9%), and 2 were characterized as "other" (12.5%). 180 subjects were found to have pockets between 5-6 mm. 89 were Hispanics, 77 were African-American, 6 were Pacific-Islander/Asian, 2 were Caucasian, and 6 were "other". There was a positive correlation ( $r^2 = 0.71$ ,  $p \leq 0.05$ ) between subjects having Aa in their oral cavity and the presence of periodontal pockets  $\geq$  5mm. The longitudinal periodontal breakdown portion of the study is ongoing and will be correlated with x-ray evidence

**Conclusion:** As is associated with the potential onset of LAP. Longitudinal studies will determine the population at risk for LAP. Funded by the Delta Dental Foundation.

## Rapid HIV Testing in New Jersey: A State-Wide Primary Care Initiative

**Primary Author:** Denise M. Young, MD  
**Co-Authors:** Sindy Paul, MD, Abdel Ibrahim, PhD, Kitaw Demissie, MD, PhD  
**School:** New Jersey Medical School and School of Public Health

**Context:** The CDC has a new initiative to integrate rapid HIV testing (RT) into routine clinical care. This study evaluates the impact of RT on primary care clinical settings in New Jersey.

**Objectives:** 1) To determine if RT increases the detection of HIV infected persons. 2) To examine if RT impacts racial disparities in testing behavior. 3) To investigate if identified patients follow through with initial treatment in a timely manner.

**Setting:** Publicly funded counseling and testing sites at a variety of clinical settings in New Jersey. *Design:* Laboratory data (CD<sub>4</sub>/V<sub>L</sub>), and prescription dates for HAART therapy from the HARS (HIV/AIDS Reporting System), ADDP (AIDS Drug Distribution Program) and counseling and testing databases are used for quantitative analysis. A medical record review will also be conducted of randomly selected subjects. *Participants:* All patients who have RT at publicly funded counseling and testing sites in New Jersey. *Intervention:* HIV counseling is provided and OraQuick HIV RT is conducted. Patients who are confirmed by Western Blot testing are referred for treatment, prevention, and social services. *Outcome Measures:* 1) infection rate; 2) the number (proportion) of patients who engage treatment services in a timely manner; 3) proportion of patients who get standard of care in HIV treatment.

**Results:** It is anticipated that RT will identify a larger proportion of newly diagnosed patients who will access treatment services earlier. It is expected that RT will lessen racial disparities that currently exist.

**Conclusion:** Many in the US are unaware of their HIV diagnosis. Of those who present for non-rapid testing, only 65% return for results. RT provides the opportunity to engage patients into appropriate services quickly. This will serve to decrease the morbidity and mortality associated with HIV disease.

## Health Care Access and Reproductive Outcomes In Native Americans Living In Poverty in Bolivia

**Primary Author:** Stacy Zamudio, PhD  
**School:** New Jersey Medical School

**Introduction:** Bolivia is the second poorest country, with the highest infant mortality rates, and the second highest maternal mortality and stillbirth rates in the western hemisphere (1-4). Of Bolivia's 70+ indigenous peoples, the Aymara and Quechua, residents of the high altitude plateaus, are the most numerous and the most politically active, but among the most impoverished of Bolivia. Several studies have suggested that women of Andean ancestry are "better-adapted" to the high altitude environment due to their long history of residence and because they have heavier birth weight infants than the admixed indigenous and Hispanic (Mestizo) populations. However, social class and ethnicity are highly correlated: women who call themselves European/Castellano are upper class, Mestiza women are middle class, while women of Aymara/Quechua ethnicity are virtually all of lower socioeconomic status. We tested the hypothesis that the incidence of complications and decrements in birth weight from low to high altitude in Bolivia are more closely related to social class.

**Methods:** Both chart review and prospective studies of pregnant women are ongoing in Bolivia. Chart reviews encompass primarily Mestizo women while prospective studies encompass the more difficult to access Aymara/Quechua (A/Q) and European/Castellano (E/C) women at low altitude (300 m) and high altitude (3200-4000 m). While substantial physiological data have been collected, this study focuses on differences in birth weight and pregnancy complications from low to high altitude.

**Results:** A/Q mothers were more frequently engaged in manual labor (n = 340, 73%) than Mestiza (n=2382 45%) or E/C (n = 24%). A/Q mothers had less secondary school or greater education (38%) than Mestiza (78%), who in turn had less education than E/C (n=128, 100%). E/C women obtained prenatal care earlier (13 wks vs. 17 wks vs. 20 wks) than Mestiza or A/Q. In contrast to several publications suggesting A/Q are protected protection altitude-associated intrauterine growth, we found that the altitude-associated decrement in birth weight was greatest among A/Q women, consistent with their more limited access to resources (-406 grams), followed by the E/C women (-304) and then the Mestiza (-277 grams). Complications could only be validly analyzed for Mestizas but they showed a ~2-fold greater incidence of hypertension in pregnancy at high altitude, a greater incidence of neonatal respiratory distress (1% at 300 m vs. 5% at 3600 m) and an increase in the incidence of stillbirths (6/1000 vs. 11/1000).

**Conclusion:** In these preliminary analyses, socioeconomic status appears to interact with altitude to produce greater decrements in fetal growth.

Support: National Science Foundation BCS0309142, NIH RO1 HD042737

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## **INDEX BY UMDNJ SCHOOL**

### **NEW JERSEY MEDICAL SCHOOL**

	<b><u>PAGE</u></b>
Addressing Language Barriers for Minority Patients with Limited English Proficiency	52
Needless Deaths: Cervical Cancer in Newark, Essex County NJ and the Nation	13
Diabetic Complications in African-Americans with Type I Diabetes: The New Jersey 725	43
Perspectives on Cancer Screening Among Internal Medicine Residents and Latino Community Members: A Work in Progress	50
Beliefs and Attitudes on Cancer Screening: Perspectives from Internal Medicine Residents and Members from the Latino Community	51
Identification of Cancer Priorities in Essex County: Results from a Cancer Capacity & Needs Assessment (C/NA) Performed As Part of a Statewide Initiative of the New Jersey Comprehensive Cancer Control Plan	54
Factors that Influence Colorectal Cancer Screening Practice in the Latino Community	37
House Calls for Seniors: Establishing Community-based Geriatrics Services in Newark	49
Estimates of Colorectal Cancer Screening among Hispanics in the US: Current National Data Likely Overestimates the True Rates	56
Dispelling the Myth that Thrombophilia is Less Common in Ethnic Minorities	20
Literacy and Health: Preliminary Results of a Health Literacy Intervention by OB/GYN Associates at University Hospital, Newark and the Newark Literacy Campaign	1
Winter and Summer Blood Lead and Serum 25 Hydroxy-vitamin D Concentration in Newark, NJ Children	3
Disparities in the Incidence and Causes of Stillbirth	5
Ethnic Disparities in the Development of Insulin Resistance, Leading to Gestational Diabetes	21
Racial Differences in the Use of Colonoscopy, Sigmoidoscopy and Barium Enema in Medicare Beneficiaries	45
Antecedents to Effective Treatment of Hypertension in Hispanic Populations	52
Colorectal Cancer Screening in Hispanics: Effect of Sociodemographics and Access to Care	46
The Brotherhood Health Initiative	24

	<b><u>PAGE</u></b>
Development of Culturally and Linguistically Appropriate Tuberculosis (TB) Patient Education Materials	32
Cardiac Rehabilitation: Barriers to Participation	33
Socioeconomic Disparities in the Evaluation and Treatment of Musculoskeletal Oncology Patients	36
NJMS National Tuberculosis Center Research Highlights	41
The Use of Epidemiologic Data in Developing Capacity and Needs Assessments in Comprehensive Cancer Control Efforts	42
Repeat and Follow-up Tests (RAFTs) After Colonoscopy	45
Treatment of Chronic Hepatitis C Virus Infection in African Americans: Need for Re-assessment of Current Practice Guideline	48
Colorectal Cancer Screening in Primary Care Settings: A Retrospective Review	55
Estimation and Utilization of County-Level Cancer Prevalence Estimates	59
Rapid HIV Testing in New Jersey: A State-wide Primary Care Initiative	61
Health Care Access and Reproductive Outcomes in Native Americans Living in Poverty in Bolivia	62

### **SCHOOL OF PUBLIC HEALTH**

	<b><u>PAGE</u></b>
Clinical Trials and Cancer Treatment Decision-Making: A Pilot Study to Examine Awareness, Access and Utilization by Diverse New Jersey Populations	6
Spiritual-Based Intervention for African American Women with Breast Cancer	7
Understanding Diabetes Self Management in Culturally Diverse Urban Populations	8
Resources and Strategies for Community-Based Cancer Prevention and Control in A Diverse Urban Population	9
Oral Cancer Age-Adjusted Incidence and Mortality Rates among Adults in New Jersey from 1996-2002	10
Asthma in Pregnancy-Its Relationship with Race, Insurance, Maternal Education and Prenatal Care Utilization.	12
Mixed Parental Race: High Risk for Adverse Perinatal Outcomes?	14
Racial Differences in the Treatment of Colorectal Cancer: A Comparison of Surgical and Radiation Therapy between Whites and Blacks	14

	<b><u>PAGE</u></b>
Trends in Childhood Asthma: Ambulatory Care, Hospitalization, and Anti-Asthma Medication	15
Trends in Preterm Birth and Neonatal Mortality among Blacks and Whites in the United States from 1989 to 1997	16
Late-Life Depressions Among Black and White Homecare Patients	19
Community Perceptions About Health-Related Research: A Focus Group Needs Assessment	60

### **NEW JERSEY DENTAL SCHOOL**

Quantitative Light-Induced Fluorescence (QLF) Assessment of Acid Induced Enamel Lesions	2
Reliability and Validity of the Child Oral Health Impact Profile (COHIP)	4
Genetic Issues in Oral Health Disparities Research	16
An Epidemiological Study of Caries in Newark NJ School Children	29
Oral Health Status and Utilization Among Children in Head Start	39
Oral Health Promotion among Older Persons and Their Caregivers	40
Need for Oral Health Education and Outreach Projects for Better Utilization of Oral Health Care Services in Urban and Under Privileged Communities	47
Actinobacillus Actinomycetemcomitans and Localized Aggressive Periodontitis in Newark Schoolchildren	60

### **ROBERT WOOD JOHNSON MEDICAL SCHOOL**

Racial Differences in the Epidemiology of Sepsis in New Jersey	17
Overcoming Language Barriers in Health Care: A Skill-Building Workshop for Clinical-Level Students and Residents	22
Addressing Cancer Disparities in a Family Practice Setting	23
Physician Views about Clinical Trials for Cancer Research: Examining Barriers to Clinical Trial Accrual	23
Common Dihydrofolate Reductase (DHFR) 19bp Deletion Allele – A Novel Risk Factor for Preterm Delivery (PTD)	25
Assessing the Impact of Clinical Cultural Competency Training in Two Academic Family Practice Centers	27

	<b><u>PAGE</u></b>
Assessing the Impact of Cultural Competency Training Using Participatory Quality Improvement Methods: Project Synopsis	28
Workforce Cultural Competence Development in Behavioral Health	57
National Latino and Asian American and Services Survey	57
Cultural Competence in Mental Health Services	57
Culture Based Models of Youth Risk Reduction	58
Ethnicity and the Diagnosis of Affective Illness	58
Mexican Family Culture & Substance Abuse Risk & Resilience	58

### **SCHOOL OF HEALTH RELATED PROFESSIONS**

Transition of African American Women on Public Assistance to Economic Self-Sufficiency: A Qualitative Study of Cultural Resiliency as Related to Positive Psychology	18
--	----

### **SCHOOL OF NURSING**

Community Health Mapping	9
Sleep Issues Related to Psychological Stress	11
The Experiences of Korean Men's Smoking and Quitting	26
Diversity Issues in the Homecare Setting	29
End of Life Issues in a Palliative Care Framework for a Critically Ill Adult African American with Cystic Fibrosis: A Case Study	30
Enhancing Cultural Competencies of Advanced Practice Nurses: Health Care Challenges in the Twenty-First Century	30
Organizational Culture and African American Nurse Faculty Productivity: A Comparative Study	31
African American Nurse Faculty Satisfaction and Scholarly Productivity at Predominantly White and Historically Black Colleges and Universities	31
Sources of Stress and Coping Strategies in Three Latino Groups	33

Attitudes Towards Psychological and Mental Illness of Elder Immigrants from the Former Soviet Union (FSU)	34
Experiences with Acculturation: A Comparative Study of Foreign Educated Nurses (FEN's) and their Managers, Educators and Preceptors	35
An Evaluation of the Concordance of Selected Self-Reported Provider Recommendations for the Care of Patients with Diabetes with the Recommendations of the American Diabetes Associations Evidence Based Guidelines Using a National Survey	53

**SCHOOL OF OSTEOPATHIC MEDICINE**

Supplementing Guided Self Study with Simulation Exercises in Medical Education – A Demonstration Module: Tobacco Use & Dependence	2
Project Interact: A Model for Cultural and Interdisciplinary Training of Predoctoral Students	12
Mechanisms for Learning: Residency Curricula in Mental Health, Cultural Competency and Palliative Care	19
Patient and Spouse Preferences for Dialysis Continuation: Does Race Matter?	38
The New Jersey Community Health Worker Institute (NJCHWI)	44
Community Health Worker National Workforce Study (CHW-NWS)	44
A Model Interdisciplinary Training Program for Predoctoral Students	53

## **Oxidative stress and the maternal diet in the etiology of preeclampsia**

Primary Author: Theresa O. Scholl  
Co-Authors: Maria Leskiw, Xinhua Chen, Melissa Sims, T. Peter Stein  
School: School of Osteopathic Medicine

**Introduction:** Many pathophysiologic factors (e.g. inflammation, elevated homocysteine, reduced calcium excretion and intake) including oxidative stress have been implicated in the etiology of preeclampsia. During uncomplicated pregnancy there is an increased production of pro-oxidants that is balanced by the synthesis of antioxidants. A current theory holds that in preeclampsia there is an imbalance resulting in oxidative stress. Whether or not this occurs, is present before clinical recognition and is related to diet is uncertain. We assayed urinary excretion of the isoprostane 8-iso-PGF<sub>2</sub>, an indicator of oxidative damage to lipids, and a global measure of antioxidant status (total antioxidant power) at entry to prenatal care. We also examined their relationship to diet during pregnancy.

**Methods:** A cohort of 307 gravidae from Camden, New Jersey was studied from entry to care ( $15.0 \pm 0.49$  weeks gestation). Measures of maternal diet were obtained by 24-hour recall.

**Results:** African-American gravidae were over-represented in the highest tertile of the isoprostane 8-iso-PGF<sub>2</sub>, ( $p=0.11$ ). Total antioxidant power also was associated with maternal ethnicity ( $p=0.098$ ); gravidae who were African-American or Hispanic ( $p=0.046$ ) were less likely to be in the highest tertile of total antioxidant power. Isoprostane concentration at entry was significantly higher among gravidae who eventually developed preeclampsia ( $3.71 \pm 1.07$  ng /mg creatinine) compared to those who did not ( $2.95 \pm 1.04$  ng/mg creatinine). After control for potential confounding variables, each of the two higher isoprostane tertiles showed about a 5-fold increase in risk of developing preeclampsia (Adjusted Odds Ratio (AOR) = 4.68, 95% Confidence Interval (CI) 1.27-17.35, tertile 3) the trend was also statistically significant. At entry, total antioxidant power showed significantly lower concentrations in gravidae who eventually developed preeclampsia ( $751.6 \pm 1.13$  mol/L) in comparison to those who did not ( $794.3 \pm 1.19$  mol/L). Consequently, gravidae in the highest tertile of total antioxidant power had a greater than 3-fold reduction in risk of preeclampsia (AOR = 0.32, 95% CI 0.11-0.92); the trend was also statistically significant. Over the course of pregnancy, there were significant trends for greater isoprostane excretion to be associated with increased consumption of energy adjusted fat, polyunsaturated fat and fatty acids (n-3, n-6, linoleic and linolenic fatty acids); total antioxidant power was unrelated to diet.

**Conclusion:** Increased urinary excretion of isoprostane and decreased antioxidant production, an imbalance consistent with oxidative stress, precedes clinical recognition of preeclampsia. The maternal diet is an underlying factor that provides an environment for free radical generation.

## **Maternal Glucose: Influence on the ethnic difference in birth weight and pregnancy outcome**

Primary Author: Theresa O. Scholl  
Co-Authors: Xinhua Chen, Christine Gaughan, Woollcott K. Smith  
School: School of Osteopathic Medicine

Introduction: Membership in a minority group increases risk of poor pregnancy outcome; the mechanism(s) whereby this occurs is unknown. One possibility could be via physiologic variation in maternal glucose, the major substrate for fetal growth, which is metabolized from the maternal diet and endogenous gluconeogenic sources.

Methods: We examined if post-load glucose concentration at week 28 (i) was associated with maternal ethnicity (ii) altered the ethnic difference in birth weight adjusted for gestation duration (to index fetal growth) and pregnancy outcome (large for gestation and small for gestation births) among 2,072 Camden gravidas without diabetes.

Results: After control for potential confounding variables, maternal glucose was significantly lower for African Americans than Hispanics (mainly Puerto Rican) or whites. Maternal glucose was associated with infant birth weight within each ethnic group to a similar extent (1.5-2.0 g birth weight/mg/dl maternal glucose). A comparison of regression coefficients from models with and without glucose indicated small but statistically significant effects of glucose on the ethnic difference in birth weight and risk of large for gestation birth between African-Americans and whites.

Conclusion: The concentration of maternal glucose did not differ between Hispanics and whites and consequently glucose did not influence this ethnic difference in birth weight and pregnancy outcome.

## **Ethnic Differences in C-peptide/insulin/glucose Dynamics in Young Pregnant Women**

Primary Author: Theresa O. Scholl  
Co-Authors: Xinhua Chen  
School: School of Osteopathic Medicine

Introduction: There are ethnic differences in insulin secretion and resistance in healthy non-diabetic adults, children and adolescents. It is not known if these ethnic differences are also detectable during normal pregnancy. The objective of this study is to examine whether ethnic differences in glucose homeostasis (C-peptide/insulin/glucose dynamics) are present in non-diabetic pregnant women.

Methods: Fasting serum C-peptide, insulin and plasma glucose were measured in the 2nd and the 3rd trimesters in 773 pregnant women (343 African-Americans, 312 Hispanics

and 118 Whites), along with a 50-g oral glucose challenge test (GCT) in the 3rd trimester.

Results: Significantly reduced C-peptide levels and C-peptide to insulin ratio (C/I ratio) and elevated fasting insulin to glucose ratio (I/G ratio) were observed in African-American women comparing to Whites and/or Hispanics. Similar results were found following a 50-g glucose load. In addition, African-Americans had greater insulin and lower glucose levels at GCT.

Conclusion: There were ethnic differences in insulin production and resistance in both fasting and glucose stimulation conditions in normal young non-diabetic pregnant women.

### **The Dietary Glycemic Index during Pregnancy: Influence on Infant Birth Weight, Fetal Growth and Biomarkers of Carbohydrate Metabolism**

Primary Author: Theresa O. Scholl  
Co-Authors: Xinhua Chen, Chor San Khoo, Carine Lenders  
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Introduction: During pregnancy lower concentrations of maternal glucose before and during a glucose load have been associated with reduced infant birth weight and an increased risk of small for gestation births. A lower incremental area under the glucose response curve defines a low glycemic diet. Thus during pregnancy the maternal diet, as measured by the glycemic index, may influence fetal growth and infant birth weight.

Methods: A total of 1,082 gravidas were followed prospectively during pregnancy. The dietary glycemic index was computed from three 24-hour recalls in the course of pregnancy. Samples for plasma glucose and for glycosylated hemoglobin were obtained at 24-28 weeks' gestation.

Results: The glycemic index was positively significantly related to maternal glycosylated hemoglobin and plasma glucose. There was an overall ethnic difference in the dietary GI. Comparing African-Americans to data from Hispanics and whites showed that a high dietary GI diet was more prevalent and a low dietary GI less frequent among African Americans compared to other gravidas ( $p=0.01$ ). There were as well significant linear trends for dietary fat intake to decrease and for intake of carbohydrate, sucrose, fiber and folate to increase as the glycemic index declined. Gravidas with a low dietary glycemic index had reduced infant birth weight, and approximately a 2-fold increased risk of a small for gestation birth.

Conclusion: Consistent with data on maternal plasma glucose, the type of carbohydrate in the diet of urban, low-income women influences fetal growth and infant birth weight.

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