Current Research in Health Disparities
Medical Student Research Colloquium 2011

❄️ Agenda ❄️

8:00 a.m. – 8:30 a.m.  Continental Breakfast/Registration

8:30 a.m. - 9:00 a.m.  Welcome Remarks

Daphne Calmes, MD
Associate Dean, Medical Student Affairs, CDU

Opening Remarks

Richard S. Baker, MD
Provost and Dean, College of Medicine, CDU

Shahrzad Bazargan-Hejazi, PhD
Chair, Medical Student Research Thesis Program, CDU

9:00 a.m. – 10:30 a.m.  Medical Student Presentations
Psychiatry (Richard Feng & Mark Lin)
Emergency Medicine (Sabin Dang)
Pediatric Surgery (Andrew Scott)
Health Policy (Edward Lee & Jose L. Ocampo)

10:30 a.m. -10:45 a.m.  Break

10:45 a.m. -12:00 p.m.  Medical Student Presentations
Internal Medicine (Leticia Campbell & Shanika Boyce)

12:00 p.m. –1:00 p.m.  Lunch

1:00 p.m. – 2:30 p.m.  Medical Student Presentations
Obstetrics/Gynecology (Patricia Mayorquin & Nneka Orjiakor)
Orthopedic (Stacy Zambrano & Michelle Sugi)
Geriatrics (Ngozi Chukwu)
Substance Abuse (Ricardo Salas)

2:30 p.m. -2:45 p.m.  Break

2:45 p.m. – 4:00 p.m.  Medical Student Presentation
Anesthesiology (Chrystina Jeter)
Radiology (Natanel Jourabchi)
Oncology (Marla Matal & Jonee Taylor)
Medical Education (Kenneth Nwosu)
Video (Maria Berenice Nava)

4:00 p.m. –4:15 p.m.  Evaluation/Closing Remarks
Moderator:

David W. Hindman, PhD
Assistant Professor, Department of Family Medicine at Charles R. Drew University and Director of Behavioral Health Services at Hubert H. Humphrey, Los Angeles County-Department of Health Services. He is an officer of the California Psychological Association, Division of Educational and Training. He’s been involved in residency and training program since 2004.

Panel of Judges:

Lillian Gelberg, MD, MSPH. Family physician, health services researcher, and professor in UCLA’s Department of Family Medicine and School of Public Health. She is an elected member of the Institute of Medicine of the National Academy of Science, co-director of the UCLA Wireless Health Institute, and associate director of the UCLA Primary Care Research Fellowship. Her current research focuses on clinical trials to promote healthy lifestyle change in low income populations using leading behavior change methodologies supported by wireless technology. Over the past two decades, Dr. Gelberg has conducted community-based health services research to improve the health of our nation’s most vulnerable populations, and has developed the art and science of collecting data under the most difficult field conditions, including the shelters, meal programs, parks, streets, and busy community health centers of Los Angeles County.

Tony Kuo, MD, MSHS, Assistant Clinical Professor, Department of Family Medicine, David Geffen School of Medicine at UCLA. Dr. Kuo currently serves as the Director of the Office of Senior Health in the Division of Chronic Disease and Injury Prevention in the Los Angeles County Department of Public Health.
Ali Modarres, PhD. Professor and Chair for Department of Geography and Urban Analysis, California State University, Los Angeles. He is the editor of Cities: The International Journal of Urban Policy and planning and serves on a number of research and policy advisory boards. Dr. Modarres earned his PhD in Geography from the University of Arizona and holds Master’s and Bachelor’s degrees in Landscape Architecture from the same institution. He specializes in urban geography and his primary research and publication interests are socio-spatial urban dynamics and the political economy of urban design. He has published in the areas of immigration, race and ethnicity in American cities, social geography, transportation planning, environmental equity, and urban development and public policy. Some of his recent articles have appeared in the Journal of Urban Affairs, Cities, International Journal of Urban and Regional Research, and Anthropology of the Middle East.

Lyndee Knox, PhD., Assistant Professor of Family Medicine at the University of Southern California. She is Co-Director of the Southern California Center of Academic Excellence for Youth Violence Prevention funded by the Centers for Disease Control and Prevention, and is founding director of LA Net, a primary care practice based research network focused on the study of causes and solutions to minority health disparities in the region. Dr. Knox also serves as Director of the Research and Evaluation Division in the Department of Family Medicine. She has served as an advisor to the Centers for Disease Control and Prevention, the Health Resources and Services Administration, the American Academy of Pediatrics, and the American Medical Association on health disparities related topics.

Morning and Afternoon Sessions
Panel of Judges:

**Dixie Lynn Aragaki, M.D,** Assistant Professor, Department of Medicine, Division of Physical Medicine and Rehabilitation, David Geffen School of Medicine at UCLA. She is an Assistant Program Director of the VA Greater Los Angeles/UCLA PM&R Residency Program and a proud alumna of UCLA (Medical School Class of 2000). Her research interests include biomechanics and gait with a current interdisciplinary project investigating the effectiveness of a multimodal weight management program for antipsychotic medication-induced obesity.

**Ronald Andersen, Ph.D,** Wasserman Professor Emeritus in the Department of Health Services and Sociology in UCLA. He teaches courses in health services organization, research methods, evaluations, and leadership. Dr. Andersen developed the Behavioral Model of Health Services Use. This model has been used extensively nationally and internationally as a framework for utilization and cost studies including special studies of minorities, low income, children, women, the elderly, oral health, and the homeless.

**Sally Krasne, PhD.,** a psychologist and biophysicist who has served on the UCLA School of Medicine faculty since she joined the Department of Physiology in 1975. More recently, Dr. Krasne has been involved in the development of the medical school curriculum and co-chairs the first block of medical school. She is currently involved in research on how curricular components, such as assessment, feed into student learning and in trying to dissect predictors of achievement in the curriculum and beyond the undergraduate medical education.

☞ Afternoon Session ☞
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Moderator:

David W. Hindman, PhD  
Assistant Professor, Department of Family Medicine at Charles R. Drew University and Director of Behavioral Health Services at Hubert H. Humphrey, Los Angeles County-Department of Health Services. He is an officer of the California Psychological Association, Division of Educational and Training. He’s been involved in residency and training program since 2004.

Panel of Judges:

Rose C. Maly, MD, MSPH, Associate Professor of Family Medicine, David Geffen School of Medicine at UCLA. Dr. Maly is a family physician and geriatrician. Her research interest is in health and health care disparities and focuses on patient-physician communication, quality of care, and quality of life among low income women with breast cancer.

Gerardo Moreno, MD, MSHS recent alumnus of the Robert Wood Johnson Foundation Clinical Scholars Program and a current clinical instructor, Department of Family Medicine, David Geffen School of Medicine, University of California, Los Angeles, California. Dr. Moreno’s current research interests include language access, physician workforce policy, and community interventions for chronic conditions.
Christian de Virgilio, MD, Vice Chair, Education, Director, General Surgery Residency Program Harbor-UCLA Medical Center Co-Chair, College of Applied Anatomy Professor of Surgery UCLA School of Medicine. Dr. de Virgilio won the National American Medical Student Association, Golden Apple Award, the UCLA School of Medicine Award for Excellence in Education, and Faculty Teacher of the Year in the Department of Surgery at Harbor-UCLA Medical Center. He published over 75 scientific articles in peer reviewed journals.

Sebastian Uijtdehaage, PhD, Associate Professor of Medicine at the David Geffen School of Medicine at UCLA. Dr. Uijtdehaage received PhD in Psychophysiology at The Pennsylvania State University in 1991. He continued his research as a Post-doctoral Fellow and Research Psychologists at the UCLA Neuropsychiatric Institute studying the cardiovascular effects of stress and the electrophysiological underpinnings of depression and dementia. In 2000 he became Assistant Professor in the David Geffen School of Medicine. Since 2005, he is Director of Research and Evaluation of Center for Educational Development and Research. He is involved as program evaluator in several pipeline programs designed to increase the number of physicians committed to serve the underserved, including the Summer Medical Dental Educational Program and the UCLA PRIME program. He supports and overseas educational research conducted across the Medical School. His research interests include selection of medical students, diversity in the physician workforce, cultural competence in health care, and gay and lesbian health education.
Psychiatry

Richard Feng, MSIV

Does Living in Gentrifying Areas of Los Angeles County Contribute to Health Related Quality of Life for Low Income People of Color?
OBJECTIVE: Many social and individual determinants of health have been shown to predict for health related quality of life (HRQOL). A few studies on gentrification have suggested a negative effect on HRQOL. Our purpose was to test whether living in a gentrifying area is an independent predictor for HRQOL for low income people of color.

METHODS: Retrospective, descriptive and multivariate predictive secondary data analysis Los Angeles County Health Survey data from 2002 to 2007. Identified set of zip codes having undergone gentrification based on real estate data from 1998-2007. Health outcomes focused on individuals that identified as Black, Hispanic/Latino and reported household income less than 200% of Federal Poverty Level.

RESULTS: Based on literature, core group of zip codes (N=15) identified as undergoing gentrification. One way analysis of variance did not show statistically significant difference between HRQOL of individuals living and not living in identified zip codes. Living in gentrifying zip code not statistically associated with HRQOL. Results of regression show statistically significant association between difficulty accessing health care, activity limiting disability, less than high school level education, being married, history of smoking, and diagnosis of depression, diabetes, heart disease, or hypertension on worse general HRQOL. Statistically significant association found between, having insurance, employment and alcohol consumption on improved HRQOL.

CONCLUSION: Living in a zip code identified as having undergone gentrification does not independently predict variations in HRQOL. However, multiple variables are found to have a statistically significant and consistent association with HRQOL specifically for low income people of color.
OBJECTIVE: Affective disorders are often co-morbid in patients with diabetes mellitus; a phenomenon that studies suggest synergistically portends higher mortality when compared to patients with either condition alone. However, few studies have assessed the effect of the ethnicity on mortality in these populations. Thus, the purpose of this study is to examine the independent effects of ethnicity and major depression on mortality in patients with diabetes mellitus.

METHODS: This is a retrospective cohort study using data from the Third National Health and Nutrition Examination Survey (NHANES-III) which was administered between January 1, 1988 and December 31, 1994. Our study includes all respondent >17 years old diagnosed with Diabetes Mellitus who also completed the Diagnostic Interview Schedule (DIS) portion of the survey, a tool used to identify adult patients with major depression. Mortality data collected from the NHANES-Linked Mortality File which links the NHANES to the National Death Index. Descriptive statistics for all variables were calculated. The Cox hazard analysis was utilized to examine the relationship between depression and diabetes which was then related to cardiovascular disease/diabetes associated mortality and all-cause mortality. Multifactorial analysis was utilized to identify unique effects of positive findings.

RESULTS: There were no statistically significant interaction effects between co-morbid depression and diabetes on cardiovascular disease/diabetes-related mortality. There was a statistically significant interaction effect on all-cause mortality in African-Americans with co-morbid major depression and diabetes when compared with Caucasians. However, this relationship lost significance when controlling for other factors that also positively related to all-cause mortality (e.g. cardiovascular disease, age, smoking status, kidney disease).

CONCLUSION: Implications and limitations of this study are discussed.
Charles Drew University of Medicine and Science (SBH); David Geffen School of Medicine at UCLA (RID)

OBJECTIVE: Currently, Emergency departments (EDs) all over the country are experiencing significant overcrowding as patient visits continue to increase. This overcrowding has been associated with alarming negative effects on quality of care. We have created a software platform, called NEDOCS Online, which allows for the easy monitoring of ED overcrowding. The aim of this study is to validate the use of NEDOCS online in exploring ED overcrowding. To do this, we examine the impact of the 2009 threat of an H1N1 pandemic on overcrowding at a county ED utilizing data generated by our software.

METHODS: All data from NEDOCS online was obtained from January 1, 2008 to December 31, 2009. A t-test was performed to evaluate whether scores were significantly different during period of increased H1N1 public awareness (defined as 4/19/09-9/30/09) vs. control periods. Public awareness and duration of H1N1 scare was quantified using Google Trends data for “H1N1” and “swine flu.”

RESULTS: Comparison of the period of peak H1N1 awareness vs. a control period exactly 1 year prior demonstrated an increase in overcrowding (125 vs. 138, p<0.01). Analysis of the month prior to H1N1 period (3/09) to the first month H1N1 awareness (4/09) also demonstrated a statically significant difference (mean 126 vs. 135, p<0.05). Comparing the same corresponding periods 1 year earlier (3/08 vs. 4/08) revealed a statistically significant difference in the opposite direction (mean 144 vs. 114, p<0.01). Lastly, comparison of all values from 2008 vs. 2009 demonstrated no statistical difference (mean 137 vs. 139, p=0.19).

CONCLUSION: Anecdotally, EM physicians at our county ED expressed that during the H1N1 scare period they experienced increased overcrowding, mostly due to relatively healthy patients who were concerned about potential exposure. Utilizing NEDOCS Online data we were able to validate this observation. We hope that EDs can use this tool to objectively identify other factors which lead to increase ED patient volume.

Andrew Scott, MSIV

The Comparative Analysis of Necrotizing Enterocolitis

Mentors: LI Kelley-Quon, MD; C Tseng, PhD; KL Calkins, MD; M Shaheen, MD; SB Shew, MD
David Geffen School of Medicine at UCLA (LIK, CT, SBS, MS); Charles Drew University of Medicine and Science (MS)

OBJECTIVE: Necrotizing enterocolitis (NEC) is one of the most common gastrointestinal emergencies and leading causes of death for neonates. The aim of this study was to determine if and why disparities in NEC mortality exist in Los Angeles County compared to the rest of the California by examining socioeconomic, geographic, and neonatal/maternal co-morbid factors.

METHODS: Infants <1y/o with NEC were extracted from the California PDD/VS Database from 1999-2007. A subset of this cohort was defined by the 8 Los Angeles County Service Planning Areas (LASPA). Mortality was the primary outcome measure. LASPA, insurance status, census-income, gender, race/ethnicity, birth-weight, hospital/NICU type, neonatal and maternal co-morbidities were analyzed with bivariate and multivariate logistic regression (significance: p<0.05).

RESULTS: The NEC cohort comprised of 5,886 infants, wherein LASPA comprised 1,968. Males along with lower birth-weight, gestational age, maternal age and #-prenatal visits were associated with higher mortality (p<0.05). Higher mortality was seen with comorbidities of PDA (23%vs.14%, p<0.05), cyanotic/hypoperfusion heart disease (55%vs.17%, p<0.05), RDS (21%vs.13%,p<0.05), pulmonary hemorrhage/pulmonary interstitial emphysema (36%vs.15%,p<0.05), IVH (20-55%vs15%, p<0.05), sepsis (21%vs.13, p<0.05), acidosis (35%vs.17%,p<0.05), and asphyxia (40%vs.18%, p<0.05). Infants undergoing abdominal surgery (34%vs.10%,p<0.05), PDA ligation (25%vs.17%,p<0.05), congenital heart repair (29%vs.18%,p<0.05), and ECMO (60%vs.18%) had a higher rate of NEC and mortality. Higher acuity NICUs (level III) compared to lower acuity (level II) demonstrated a higher mortality rate (23vs10%, p<0.05). LASPA facilities had a trend toward lower mortality rates compared to rest of CA (17vs.19%, p=0.07). Stepwise logistic regression suggested the independent risk factors for mortality were lower birth-weight, lower maternal age, IVH, acidosis, cyanotic/hypoperfusion heart disease, abdominal NEC surgery and ECMO (p<0.05).

CONCLUSION: Although NEC infants treated at LASPA facilities have a trend toward lower mortality compared to the rest of CA, the risk of NEC mortality is more strongly characterized by the presence of neonatal and maternal co-morbidities.
BACKGROUND: Asian-American Pacific Islanders (AAPI) are among the fastest growing minority groups in the United States. Korean-Americans, the fifth largest subgroup within the AAPI community, have been found to have higher rates of risky health behaviors, lower socioeconomic status, and higher uninsured rates than other ethnic minority groups.

AIMS: To improve understanding of the medical needs, health behaviors, and access to preventive care in the Korean-American community.

METHODS: Retrospective chart analysis of 142 patients who presented to a student-run free clinic from August 2008 to August 2010.

RESULTS: The patient population consisted of 98% were Korean-Americans, 56% were female. The mean age of the patients was 51. Nearly 51% were unemployed and 92% were uninsured. Of the patients above age 50 (n=111), 13.5% were receiving recommended screening mammograms. Of men above age 50 (n=28), only 14.3% had received a PSA screening. Analysis with chi-square test showed that family history of cancer (p=0.028, OR=4 (1.15-13.9) and gender (P=0.051, OR= 4.5) were the best predictors of regular screening colonoscopies. When patients above age 50 were separated by gender, previous PSA screening among males (P=0.015) and regular alcohol consumption among females (P=0.006, OR = 14.8) were statistically significant predictors for regular colonoscopies. Health insurance, length of U.S. residence, highest level of education attained, and employment status were not statistically significant predictors of accessing recommended colonoscopies or mammograms.

CONCLUSION: Cancer screening rates particularly for colorectal cancer are markedly low in UKCHC's largely Korean-American patient population. Health policy changes are necessary to improve health education and access to preventive care among minority communities.

Jose L. Ocampo, MSIV

The closure of King-Drew Medical Center: The effects on time sensitive health outcomes pre vs. post closure
Co-Presenter: M Sugi, MSIV
Charles Drew University of Medicine and Science (PR, MB); David Geffen School of Medicine at UCLA (PR)

INTRODUCTION: King Drew Medical Center (KDMC) underwent significant downsizing starting in 2004, followed by the closure of emergency department in 2006 and the closure of the inpatient facility in August of 2007. Neighboring medical institutions are now overburdened with patients and greater emergency room waiting times.

OBJECTIVE: To assess the impact of the closure of the KDMC by measuring pre- and post-closure mortality rates in the KDMC catchment area due to: acute myocardial infarction, acute pulmonary disease, stroke, motor vehicle accidents, and unintentional trauma.

METHODS: Los Angeles County hospital discharge data was used to determine the top five zip codes that utilized KDMC for inpatient services (>50%). This area was deemed the KDMC catchment area. In the catchment area, we analyzed Office of Statewide Health Planning and Development (OSHPD) zip-code specific mortality data to determine the rate of mortality of time-sensitive conditions for the years 2001-2006 (pre-closure) and compared it with time-sensitive mortality rates for the same conditions and zip codes for years 2007-2009 (post-closure).

RESULTS: The catchment area mortality rate demonstrated no significant decrease compared to that of Los Angeles County for the pre-closure versus post-closure periods. For all time-sensitive medical conditions, there was an increase in mortality amongst all age groups, except for those greater than 65 years of age, in the catchment area compared to Los Angeles County. There were no statistically significant differences in demographic data for each catchment zip code in the pre- vs. post-closure periods.

CONCLUSION: Since closure of the King Drew Medical Center, there has been no significant change in mortality due to time-sensitive conditions compared to Los Angeles County in the pre- and post-closure periods. Residents of the KDMC catchment area experience higher rates of mortality due to time-sensitive conditions at all ages up to 65 years of age compared to Los Angeles County. We infer that decreased access to health services, particularly preventative and emergency services, exacerbated by the closure of KDMC, explains this trend.
OBJECTIVE: 2%-5% of all pregnancies in the United States are affected by Gestational Diabetes Mellitus, and in some ethnic groups the prevalence reaches as high as 14%. Diabetes in pregnancy is responsible for a number of GDM exposed mothers to increased risk of preeclampsia, UTI, undesired cesarean delivery, further about 50% of woman are to develop Type 2 diabetes in the future. Pre-gestational diabetes has been associated with increased maternal morbidity such as diabetic ketoacidosis, proliferative retinopathy. The aims of this project are to determine changes in the prevalence of gestation diabetes mellitus (DN) & pre-gestational DM in pregnancy, to define characteristics of temporal trends in Diabetes in pregnancy prevalence in California from 2011 to 2007, and associated co-morbidities?

METHODS: This is study retrospective cohort design. The primary source of data is the California Hospital Patient Discharge Data Database between 2001-2007. The specific cohort of patients used for study will included all cases with pregnancy diagnosis in California from 2001-2007 (N=3,565,627). Diabetes in pregnancy, obstetrical and medical diagnoses cases will be identified by ICD-9-CM (International Classification of Disease, Ninth Edition, Clinical Modification codes for diabetes in pregnancy. Risk factors will be assessed using bivariate analysis initially. Variables found to be significant on bivariate analysis will be entered into a logistic regression model.

RESULTS: On average the prevalence of Gestational Diabetes is approximately 6.2% in CA. Further analysis will show that rates have increase over time, and that there is increase co-morbidities associated with Diabetes in pregnancy and disopportunatly effects minority populations.

DISCUSSION: By knowing the prevalence of diabetes in pregnancy in our state and which groups are most affected it is possible to note possible disparities and develop targeted interventions.
Charles Drew University of Medicine and Science (PR); David Geffen School of Medicine at UCLA (PR, LR)

**OBJECTIVE:** Asthma is a common chronic illness that affects approximately 16.4 million adults and 7 million children in the US. Los Angeles County covers a large land area and has a diverse population living in a wide range of environments. We examined patterns, trends, and relationships associated with Asthma related Emergency Department (ED) visits in Los Angeles County, CA using discharge data from the California Office of Statewide Healthcare Planning and Development (OSHPD) for the years 2005-2009, to obtain greater understanding of the societal factors influencing clinical presentation for Asthma. This information can be used to design more effective interventions for underserved populations.

**METHODS:** Retrospective data analysis of Asthma encounters, with linkage to census and other social and environmental data.

**RESULTS:** The mean rate of asthma ER visits in low income areas, in Los Angeles county, is almost double that of higher income areas. Trends from 2005-2009 showed that children (0-17yrs) and blacks have significantly higher rates of ED visits per 10,000 people compared to other age groups (18 and up) and other ethnic groups. The community factors that significantly affected age-specific ED rates included having Medicare and Medical insurance and exposure to industrial pollution for the 0-17yr age group. Low socioeconomic status became significant among the 18-64yr old age group; tobacco expenditure was significant among the 35-64yr old age group and an inverse relationship between asthma specialists and ED visits became significant among the 65and up population.

**CONCLUSION:** The data illustrates that the rate of ER visits is higher in lower income communities, and children 0-17yrs and the black population have disproportionately higher rates of Asthma ER visits compared to other ethnic groups. The community factors analyzed affect each age group differently and can help explain the asthma disparities.
Charles Drew University of Medicine and Science (NH); Harbor-UCLA Medical Center (AN); David Geffen School of Medicine at UCLA (NH)

BACKGROUND: The American College of Obstetricians and Gynecologists recommend estrogen-containing contraceptives (COCs) be used with caution in women age >35 years and with a BMI>30. This is based on the recognition that both age and obesity increase the risk of thromboembolism. The progestin-only pill (POP) contains no estrogen and considered safe in women with these risk factors. Nevertheless many practitioners today restrict POP use because they believe women will discontinue use due to bleeding irregularities.

OBJECTIVE: To examine the discontinuation of older (age>35), obese (BMI>30) women on POPs and determine whether bleeding irregularities contribute to the discontinuation in this group. In order to control for the impact age and obesity on discontinuation, discontinuations rates of older (age>35) not obese (BMI <30) on COCs as well as younger (age<35) and obese (BMI>30) on COCs were examined.

METHODS: Medical record abstraction was performed on 636 female patients in these 3 groups who received prescriptions for POPs or COCs from Harbor-UCLA Women’s Health Care Clinic. Charts of patients were reviewed from January 2007-June 2009 allowing for minimum 12-month follow-up. Data abstracted from the charts include age, BMI, parity preferred language and any bleeding complaints.

RESULTS: There was no significant difference in overall discontinuation rates between the 3 groups of women; older obese women on POPs (N=206) had a rate of 36.2%, older non-obese women on COCs (N=99) had a rate of 39.1% and younger obese women on COCs (N=117) had a rate of 41.5% (p-value 0.66). Of the women who discontinued OPOs, just 2 out 64 (5.0%) reported doing so because of irregular bleeding. Of the other reasons for discontinuing POP use, running out and switching methods (including barrier, IUD, DMPA0 were the most common. Similar percentages of older non-obese women (3.7%) and younger obese women on COCs (6.1%) discontinued secondary to irregular bleeding.

CONCLUSION: Overall discontinuation rates and those secondary to irregular bleeding differ little by birth control pill, obesity or age. The use of POPs in older obese women provides a very acceptable method of contraceptive and should be more actively promoted.
OBJECTIVE: This study investigated how the knowledge of certain health consequences (taking into account demographics, level of education and cultural beliefs), influenced women’s attitudes towards female genital mutilation (FGM).

METHODS: A cross-sectional study of 636 ever-married teenaged women (ages 15-19) living in Egypt; using data from the household survey by the Egyptian Demographic and Health Survey 2008. Chi-square analysis and logistic regression were applied.

RESULTS: Over 97% of all women, both circumcised and uncircumcised were Muslim. Majority (73%) of the sampled women are educated or currently receiving an education, in spite of over 59% of women being poor and 77% living in rural areas. Almost 55% of circumcised women believed circumcision was required by religion versus 4% of those uncircumcised (p <0.05). 55% of circumcised women believed husbands prefer their wives circumcised versus 7% of those uncircumcised (p <0.05). Additionally, 36% circumcised women believed circumcision prevented adultery in contrast to 7% of those uncircumcised (p < 0.05). Over half (57.5%) of circumcised women will have their daughters undergo this ritual despite acknowledging its association with increased mortality (up to 43% believed FGM could lead to a girl’s death). However, there was no statistically significant association between FGM and difficulty with childbirth.

CONCLUSION: The popularity of FGM among the younger generation of Egyptian women is dissipating. Public education and information dissemination of important health concerns and consequences surrounding female circumcision can be a powerful aim towards changing current notions. These measures should be undertaken in schools and religious institutions, so that cultural and religious misconceptions can be dispelled at an early age.
OBJECTIVE: This cross sectional study utilized dual-emission x-ray absorptiometry (DXA) data from the National Health and Nutrition Examination Survey (NHANES) 1999-2004, to explore if metabolic syndrome decreases bone mineral density (BMD) in American adults.

METHODS: We identified adult subjects with metabolic syndrome as defined by the National Cholesterol Education Program Adult Treatment Panel III (NCEP-ATP III) enrolled in NHANES 1999-2004. Cross-sectional analysis of all reported bone mineral densities for subjects with and without metabolic syndrome were studied. Multivariate linear regression analysis for covariates including race/ethnicity, were studied.

RESULTS: 8527 men and non-pregnant women who participated met requirements for the study. Age-adjusted pelvis and lumbar spine DXA means stratified by numbers of features of metabolic syndrome revealed a positive association between increasing features of metabolic syndrome and BMD. Metabolic syndrome was found to be associated with increased BMD among Whites, Blacks and Hispanics; Hispanics; however had the lowest BMD means at both pelvis and spine among these three groups.

CONCLUSION: Bone mineral density increases with more features of metabolic syndrome.

Michelle Sugi, MSIV

Fracture Site Augmentation with Calcium Phosphate Cement Prevents Screw Penetration Following ORIF of Proximal Humerus

Mentors: S Bazargan-Hejazi, PhD; KA Egol, MD; C Ong, MD; R Davidovitch, MD; JD Zuckerman, MD
Charles Drew University of Medicine and Science (SBH); New York Hospital for Joint Disease (KAE, CO, RD, JDZ)

OBJECTIVE: The purpose of our study was to examine our incidence of fracture settling and screw penetration following open reduction internal fixation (ORIF) of 2-4 part proximal humerus fractures and determine if the use of a calcium phosphate cement potentially reduced this unwanted complication.

METHODS: Our study is an IRB-approved retrospective study of prospective data collected over a 6-year period. Inclusion criteria included age 18 years or older, and an acute traumatic fracture of the proximal humerus that was treated with ORIF using a locked plate. Fractures resulting from a primary or metastatic tumor, nonunions, and malunions were excluded. Metaphyseal defects were treated with one of three types of augmentation strategies-no augmentation, cancellous chips, or calcium-phosphate cement. Trained researchers recorded radiographs measurements of neck-shaft angle, length of implant, and humeral head height at each follow-up.

RESULTS: Overall, 92 (81%) patients met the inclusion criteria and form the basis of this study. Twenty-nine patients (32%) were augmented with cancellous chips, 27 (29%) were augmented with calcium phosphate cement, and 36 (39%) were repaired with no augmentation. There were no statistical differences among the groups with respect to patient age, gender and fracture type. At the 3, 6, and 12-month follow-up visits there was less humeral head settling with calcium phosphate cement compared to repair with no augmentation or with cancellous chips. Findings of joint penetration were significant amongst patient treated with plate and screws alone versus those augmented with calcium phosphate (p=0.02), and for those augmented with cancellous chips versus calcium phosphate (p<0.01).

CONCLUSION: Augmentation with a calcium phosphate cement in the treatment of proximal humerus fractures with locked plates decreased fracture settling and significantly decreased the incidence of intra-articular screw penetration.

Geriatrics

Ngozi Chukwu, MSIV
Health Literacy and Polypharmacy: Side Effects of Side Effects
Mentor: M Bazargan, PhD
Charles Drew University of Medicine and Science (MB)
OBJECTIVE: Health literacy, defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Healthy People 2010) was reported by the American Medical Association (1999) to be "a stronger predictor of a person's health than age, income, employment status, education level, and race." Low health literacy rates are high among the elderly, particularly those in underserved communities, who are often on numerous medications without adequate knowledge of the benefits or risks of those medications. Combined with increased number of medications and complicated medication regimens, this can lead to poor medication adherence, improper medication usage, and even adverse health outcomes. This study was conducted to assess the average number of medications taken, as well as patient knowledge of medication side effects in elderly African American residing in South Los Angeles.

METHODS: One hundred and fifty subjects were recruited through churches in South Los Angeles based on eligibility criteria, including: 1) African Americans aged 65 years or older; 2) currently taking 2 or more medications regularly; 3) taking seven or more doses of medication per day; or 4) have been diagnosed with two or more medical conditions. Subjects were then scheduled for face-to-face interviews using a questionnaire. Participants were asked to bring their prescriptions and OTC medications for review. Knowledge, attitudes, and behaviors toward various aspects of health care were assessed. Each participant was surveyed again at six months during a follow-up visit.

RESULTS: Preliminary results suggest that the majority of those surveyed demonstrated poor knowledge of the major side effects from their medications and that most participants were taking greater than 6 medications. Data from the six-month follow-up visits suggest an improvement in knowledge about medications and a decrease in medications taken.

CONCLUSION: These results suggest a potential benefit of increasing health literacy in the elderly and decreasing potential polypharmacy issues through periodic reviews of medication and improving patient knowledge of medications.

Substance Abuse

Ricardo Salas, MSIV

Predictors of Harmful Drinking Among Latino Day Laborers

Mentor: F Galvan, PhD.
OBJECTIVE: Like many recently arrived immigrants to the United States, Latino immigrant day laborers are routinely exposed to many challenges and may cope with their experiences by consuming alcohol and illegal substances. The purpose of this study is to identify the extent of harmful drinking and predictors associated with harmful drinking among a sample of Latino immigrant day laborers in Los Angeles, California.

METHODS: Secondary analysis of quantitative data was conducted using a total of 450 Latino day laborers who were recruited between July to September 2005 from six different day labor sites in Los Angeles, California. Alcohol consumption was assessed using the Alcohol Use Disorders Identification Test (AUDIT), a 10-item alcohol-screening questionnaire that was designed to assess alcohol use disorders or problem drinking. Bivariate logistic regression was used to determine the association between variables and the likelihood of harmful drinking. These variables included age, years in the United States, years worked as a day laborer in the United States, income, illicit drug use and number of sexual partners. Those variables found to be significant were then reintroduced in a multivariate model.

RESULTS: Forty-four percent of the sample met criteria for harmful drinking. Those who were found to meet criteria were also more likely to be between the ages of 24 to 40, have lived in the United States for more than 5 years but less than 10, worked as a day labor for over 5 years and earned $8,000 or more a year. Of those who met criteria for harmful drinking, 32% screened positive for drug dependence.

CONCLUSION: Healthcare providers should consider tailoring alcohol and drug intervention programs for individuals with characteristics found to be linked to harmful drinking among Latino day laborers. These programs also need to focus on addressing the psychosocial stressors faced by day laborers that may contribute to their use of alcohol and help day laborers to find better ways of coping with such stressors.
Charles Drew University (SBH); LAC-USC Medical Center (ANR, JAC, FAW)

OBJECTIVES: This project seeks to determine if the current pain management practices of LAC-USC physicians are within the scope of existing recommended practices. This was completed by evaluating physician practices of basic pain management principles and examining within what time period pain team recommendations are implemented after consultation.

METHODS: This is a retrospective review of 200 charts of patients hospitalized at Los Angeles County – USC hospital between January 1, 2009 and June 20, 2010 who had documented complaints of acute pain, regardless of medical diagnosis, and for whom the Pain Resource Team was consulted. The following data was reviewed: age, gender, race/ethnicity, diagnosis, pre-consultation dose escalation attempts/alternate medication trials/side effect treatment, number of recommendations made by Pain Resource Team, and number of recommendations implemented within 24 hours of initial consultation.

RESULTS: Complete data was available for 54 patients. 48% of the study population was male and 52% was female. 28% were Caucasian, 24% African-American, 43% Latino, and 3% Asian. Prior to consultation, pain medication dose escalation was attempted in only 13% of patients. Alternate pain medication was attempted in 7% of patients and there were no reported attempts to treat side effects prior to requesting the consultation. Within twenty-four hours of initial consultation, the primary teams implemented the majority of pain recommendations. With one or two pain recommendations, there was full implementation in 78% and 57% of patients, respectively. Full compliance decreased as the number of recommendations increased.

CONCLUSION: Many physicians in the LAC-USC hospital do not appropriately follow guidelines regarding acute pain management prior to requesting a pain consult, possibly resulting in a delay in symptom resolution. Clinicians generally implemented most recommendations within the first twenty-four hours as long as there were fewer than three such recommendations made. Inadequate pain management in both inpatient and outpatient settings is a major cause of over-utilization of healthcare resources. A strategic approach to acute pain management can possibly result in greater patient comfort, reduced length of stay, decreased hospital readmission secondary to pain, and reduced cost.

Radiology

Natanel Jourabchi, MSIV

Bio-equivalency of ECG-synchronized and non-synchronize irreversible electroporation ablation in a porcine animal model

Mentors: EW Lee, MD, PhD; S Dry, MD; M Bazargan, PhD; CT Loh, MD; ST Kee, MD; D Wong, BS; C Tran, BS
OBJECTIVE: To compare and evaluate the efficacy of tissue ablation in ECG synchronized and non-synchronized irreversible Electroporation (IRE) ablation using radiological and immunohistological analysis.

METHODS: Five Yorkshire swine underwent ablation of liver with IRE, using a voltage generator, which was used to fix the pulse to pulse interval. 2,000-3,000 V were applied per ablation, with high rate, non-synchronized irreversible electroporation (nsIRE) pulses delivered at 240 Pulses per minute (PPM) (n=12), ECG-synchronized irreversible electroporation (esIRE) pulses at medium rate delivered at 50 PPM (n=15) or low rate at 20 PPM (n=6). We evaluated and compared the volume of the ablation zones, IRE-induced cell death and vascular effects between esIRE and nsIRE ablations using radiological and immunohistological staining and analysis.

RESULTS: In ultra sound evaluation, the size of esIRE treated areas compared to nsIRE treated areas was not significantly different in all three dimensions (p=0.93, 240 ppm vs. 50 ppm and p=0.89, 240 ppm vs. 20 ppm). The ablation size was also well-correlated in gross pathological analysis with no significant difference between esIRE and nsIRE (p=0.55, 240 ppm vs. 50 ppm and p=0.56, 240 ppm vs. 20 ppm). Gross examinations, H&E staining and other immunostainings including (ki-67) have demonstrated complete cell death, well-demarcated margin of ablation in both esIRE and nsIRE. Markedly increased influx of immune cells was observed in both esIRE and nsIRE. Complete preservation of scaffoldings of large blood vessels and bile ducts are again observed.

CONCLUSION: 1. No histological or radiological differences are observed between esIRE and nsIRE ablated areas. 2. esIRE ablation maintains its ability to create complete, focused, cell death without damaging adjacent healthy tissue or critical structures (e.g. vessels and bile ducts). 3. Complete tumor cell death by ECG-synchronized IRE ablation should also be attempted in future studies.

Mentors: M Shaheen, MD, PhD; M Lee, PhD


Marla Matal, MSIV

Oncology
OBJECTIVE: This secondary data analysis aimed to examine: 1) The incidence and type of second cancer among patients with colon cancer. 2) The demographic variations of second cancer among patients with colon cancer. 3) The predictors of second cancer among patients with colon cancer. 4) The survival and predictors of survival for patients with second cancer among the population of patients with colon cancer.

METHODS: The National Cancer Institute’s Surveillance, Epidemiology, and End Results Program (SEER) 9 database from 1970-2007 was used. The risk of second cancers by standardized incidence ratios (SIRs) were calculated using SEER*Stat statistical software (v 6.6.2). Stata (Statistics/Data Analysis v 11) software was used for logistic regression and Kaplan-Meier survival analysis.

RESULTS: In the SEER 9 population, 52.3% were females; 94.1% were 50 to 85+ years old; 8.2% were Black, 94.1% were Caucasian, and 5% were in the other (combined American Indian/Alaska Native and Asian/Pacific Islander) category. Males in the category of Other for race who were 50-85+ years of age with a latency of less than 10 years had a more elevated SIR than Black and Caucasians (p<0.05). Univariate and multivariate analysis showed that age, race, and gender were all statistically significant predictors of second cancer (p<0.05). Kaplan-Meier survival curves demonstrated that Black males in the age group 50-85+ years were less likely to survive after developing more than one primary tumor.

CONCLUSION: The majority of this study population consisted of Caucasians probably contributing to the statistically significant SIRs for males and females for different latencies in the racial group "Other". This study will hopefully provide a foundation that future studies can build upon and elucidate racial differences in developing second primary cancers after a primary colon cancer, latency after diagnosis of colon cancer, and severity of second malignancies.

Jonee Taylor, MSIV

The role of mammography screening, age, and race/ethnicity in breast cancer stage at diagnosis in underserved population.
Charles Drew University of Medicine and Science (HM, MS, KW); David Geffen School of Medicine at UCLA (MS)

BACKGROUND: Breast cancer is the most common malignancy among women in the United States and ranks second to lung cancer in mortality. Lower socioeconomic status is associated with advanced stage of presentation and higher mortality. We hypothesize that stage of breast cancer presentation (SBCP) is earlier after mammography implementation.

OBJECTIVES: In a population of medically underserved women in South Los Angeles from 1985 to 2010 we expect to: (1) determine SBCP by socio-demographic variables; (2) compare SBCP pre- and post- mammography; and (3) determine the association between mammography use, socio-demographic variables and SBCP.

METHODS: Records of 775 women 18 and older seen at the former King/Drew Medical Center (KDMC) between 1985 and 2010, diagnosed with breast cancer underwent secondary analysis. Data analyzed related to socio-demographics, insurance status, mammography use, and SBCP per the TNM classification. Year of diagnosis was divided into pre- (1985-1991) and post- (1992-2010) mammography implementation at KDMC. Using descriptive statistics, bivariate and multivariate analyses, data were analyzed in SPSS18 with significance set at P<0.05.

RESULTS: Of the study population, 64% were between 41 and 60 years old, 91% were minority (52% Black and 39% Hispanic), 48% single, and 63% insured. Pre-mammography, 53% of the women were diagnosed. Most women (40%) presented at Stage II; the least presented at Stage 0 (8%). Only 13% of women received mammography at KDMC. While 62% of women pre-mammography presented at stage III and IV, only 22% of women post-mammography presented at stage III and IV (p<0.05). There were no statistically significant differences in the SBCP by age, race/ethnicity, marital, or insurance status (p>0.05). In a multivariate model adjusting for age, race/ethnicity, and marital status, women diagnosed post-mammography were less likely to present at Stage III and IV relative to women diagnosed pre-mammography (Adjusted OR=0.14, 95% CI=0.06-0.33).

CONCLUSION: Mammography screening is associated with earlier stage of presentation.

MEDICAL EDUCATION

Kenneth Nwosu, MSIV

EQ and DISC Personality Style in a Cohort of Board Certified Physicians, GME Administrators, Residents and Medical Students

Mentors: D Ogunvemi, MD; V Isiaka, MSII
Cedars Sinai Medical Center (DO); Charles Drew University of Medicine (VI)

OBJECTIVE: To assess the prevalence and differences in DISC (Dominant, Interpersonal, Steady, and Conscientious) personality style and Emotional Intelligence (EQ) amongst a cohort of board certified physicians, residents, GME (General Medical Education) administrators, and medical students in academic medicine

METHODS: From 2010 to 2011; 24 board certified physicians, 24 residents, 3 GME administrators, and 44 medical students participated in one or two of two surveys. The DISC survey defined four personality styles: Dominant, Interpersonal, Steady and Conscientious. The EQ survey determined competency in the four components of EQ: Self-Awareness, Self-Management, Social Awareness, and Relationship Management. P value of <0.05 was taken as significant.

RESULTS: This study cohort consisted of 40 (42.1%) males and 55 (57.9%) females. Of the cohort, 21 (22.1%) were Asian, 7 (7.4%) were Black, 6 (6.3%) were Hispanic and 61 (64.2%) were White. Nearly half of the cohort were faculty [24(25.3%)] and residents; [24 (25.3%)], 44 (46.3%) were medical students, and 3 (3.2%) were GME administrators. Of significance, White participants were more likely to have a Dominant personality style than other races with mean IDISC Dominant scores of 3.67 vs. 2.75 respectively (p=0.037). Males had a higher mean Self-awareness score than females (77.51 vs. 72.42, p=0.019), and a higher mean Personal competence score (76.44 vs. 72.33, p=0.039). Other MD's had a higher interpersonal score (5.64 vs. 4.22, p=0.041) than OBGYN's. Faculty (staff physicians and GME administrators) had a higher interpersonal score (5.58 vs. 4.43, p=0.030), higher self-management score (78.85 vs. 71.15, p=0.001), and higher personal competence score (77.54 vs. 72.71, p=0.026) when compared to trainee's (residents and medical students).

CONCLUSION: There are differences in DISC personality styles and emotional intelligence components between faculty, residents, and medical students with possible suggestions of ethnic and gender differences.

Maria Berenice Nava, MSIV

Oral pulse dexamethasone for adult idiopathic focal segmental glomerulosclerosis

Mentor: S Bazargan-Hejazi, PhD
Current Research in Health Disparities
Medical Student Research Colloquium 2011

Charles Drew University of Medicine and Science (SBH)

BACKGROUND: FSGS is a relatively common glomerular disease; approximately 73,000 patients reached ESRD in 1996. Of these, FSGS is responsible for approximately 3% of ESRD among all patients in the USA. Efforts to define a safe and effective treatment for FSGS have met with limited success. The cornerstone of conventional treatment is oral prednisone.

OBJECTIVES: Focal segmental glomerulosclerosis (FSGS) and collapsing glomerulopathy are, taken together, the most common cause of primary nephrotic syndrome in adults. Conventional treatment for idiopathic FSGS typically begins with glucocorticoid therapy, often daily prednisone or less commonly alternate day prednisone. In adults with idiopathic focal (FSGS) or collapsing glomerulopathy, daily prednisone may induce complete remissions (CR) and partial remissions (PR), but relapses are frequent and adverse events are common.

METHODS: In this report, we present the results two trials using pulse oral dexamethasone administered over 32 weeks (study 1) and 48 weeks (study 2) as initial immunosuppressive therapy for adult patients with idiopathic FSGS. These trials were open-label, uncontrolled studies designed to develop preliminary evidence of efficacy and safety that would justify future controlled studies of this approach. We carried out two open-label trials to explore the efficacy and tolerability of pulse oral dexamethasone as an alternative to daily prednisone.

RESULTS: In the first trial, we enrolled 14 patients and administered 4 dexamethasone doses (25 mg/m²) administered daily for four days, repeated every 28 days over 32 weeks. We found a combined end of study PR and LR rate of 36%. In the second trial, we enrolled 8 patients in a two-arm trial, testing a more intensive regimen administered on two different frequency schedules. In this 48-week study, subjects received 4 doses of 50 mg/m² every 4 weeks for 12 weeks, followed by four doses of 25 mg/m² every 4 weeks for 36 weeks; subjects were randomized to 2 doses every 2 weeks or 4 doses every 4 weeks. We found a combined end of study CR and PR rate of 29%.

CONCLUSION: In an analysis combining both arms, there was a combined CR and PR rate of 33%. Therapy was generally well tolerated. We conclude that high dose oral dexamethasone is well tolerated by adults with FSGS, but has only moderate efficacy.

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