Public Health Practice Experience

Poster Presentation Session

Abstracts

April 26, 2011

Title of Project: RECOGNITION OF LIFE THREATENING CONDITIONS IN CHIROPRACTIC PRACTICE: A RANDOMIZED SURVEY
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Site Supervisor and Location: Harrison T. Ndetan, M.Sc., MPH, Dr.PH; Parker Research Institute, 2500 Walnut Hill Lane, Dallas, TX 75229

Introduction: There has been an ongoing debate in the healthcare community and within the chiropractic profession itself as to the role of the chiropractic physician in healthcare. Regardless of the variety of existing opinions on the role of chiropractic within the healthcare field the most basic responsibility remains unchallenged. The chiropractic physician has the moral and legal obligation to be able to identify and refer life threatening conditions (LTC) which if left unrecognized and/or untreated may result in serious, even deadly consequences to the patient. The purpose of this study is to determine whether chiropractic training provides the chiropractic physician with the knowledge to recognize conditions which require urgent care.

Methods/Discussion: A total of 2000 surveys were sent to randomly selected Doctors of Chiropractic practicing in the United States. Survey responses were analyzed using poisson regression analysis (PASW Statistics 18.0) for the collected count data.

Results: The number of completed survey received was 588. The majority of respondents 470 (81.6%) reported having been the first to identify at least one LTC during their practice. The conditions reported most (years-per-case) were : carcinoma (7.8), abdominal aneurism (11.8), deep vein thrombosis (15), stroke (33.3), and myocardial infarction (27.0) .

Conclusion: Considering the total number and wide variety of diagnoses reported there is evidence to support that chiropractic training provides an adequate educational base to the chiropractor to be able to recognize undiagnosed LTC when they present in their office. However limitations due to recall bias and low response rate must be considered.

Title of Project: THE PREVALENCE OF OVERWEIGHT AND OBESITY AMONG MINORITY CHILDREN AND ADOLESCENTS AGED 10-17 YEARS IN THE UNITED STATES.
Student Name: Binky Bawa
Academic Advisor and Department: Dr. Harvey Brenner, PhD., Social and Behavioral Sciences.
Site Supervisor and Location: Dr. Nusrath M. Habiba, MD, Department of Pediatrics, Patient Care Center-1, UNTHSC, Fort worth, Texas.

INTRODUCTION: The main purpose of this practicum is to identify obesity trends in the age group of 10-17 years for the nation and the state of Texas. Previous studies have shown that overweight and obesity is highly prevalent in the Hispanic population followed by the African Americans. In order to decrease the prevalence of overweight and obesity in the minority population, the Department of Pediatrics, Patient Care Center (PCC) at Fort Worth is looking at the national and state trends to support a childhood obesity prevention program at the Pediatrics Clinic.

METHODS: This study is primarily based upon literature review and the observation of current obesity trends at the Pediatrics Clinic. Unfortunately, we do not have the matching clinic data to compare to the national and state data. Age, race and gender specific data for overweight and obesity for children and adolescents aged 10-17 years was collected. The data was compared for both the years in order to identify the national and the state obesity trends.

RESULTS: On comparing 2003 and 2007 National and state level data, it was observed that although, the prevalence of being overweight decreased overtime, it incresed for obesity. Also, the rate of being overweight and obese is higher among males. Further Hispanics top the list followed by African Americans. The current trend observed for overweight and obesity by Dr. Habiba at the PCC is similar to that of state and nation.

CONCLUSION: Based on the above findings, the Pediatrics Department at PCC is looking forward to implementing a multilevel childhood obesity prevention program. The grant writing is in progress. Once the grant is approved the program is projected to begin by August 2011.

Title of Project: <u>HEALTH PROMOTION THROUGH RESOURCE LISTS AND</u> <u>ARTICLES</u>
Student Name: Alicia Benson
Academic Advisor and Department: Dr. Sue Lurie, SABS
Site Supervisor and Location: Mr. Stephen Jacob, UNTHSC

Introduction: With health reform becoming a reality in the United States, many health consumers will become more active and interested in the care that they are receiving. Some of these consumers may turn to the Internet for their health information. This project aimed to compile health information from the Internet into useful resource lists and articles on health topics to be published in upcoming books.

Methods: Research about common health conditions and problems was done on the Internet. Resource lists were compiled from links and information available on mostly government-run websites. Short articles that give basic health information in a concise and accurate manner were written based on information published online. The sites most frequently used were HealthFinder.gov and MedlinePlus.

Results: This project resulted in the compilation of resources and health information in easy to read lists and articles that will be published in upcoming books. Many topics were covered, from asthma and Alzheimer's disease to healthy living, health literacy, and obesity.

Conclusion: The dissemination of information through these books, articles, and resource lists may help people to be more informed about their health, take control of their treatments, and make better decisions as health care consumers. This kind of health promotion may prove useful in improving the health of the users of the given information.

Title of Project: COMMUNITY LIVING PROGRAM DATA MANAGEMENT AND IMPACT PROGRAM EVALUATION
Student Name: Radhika Bhatia
Academic Advisor and Department: Dr.Hsueh-Fen Chen
Site Supervisor and Location: Dr.Elizabeth Trevino and University of North Texas Health science center.

Introduction: The community Living Program of Tarrant County (CLP) implemented is an evidence based program implemented by United Way of Tarrant County which aims to delay nursing home placement in the elderly population (Age 65+). The program provides services for care recipients and care givers such as nutritional meal assistance, respite care, and disease management. The goal of this project was to design a comprehensive database that would be utilized by CLP administration for the management of the data they collect at all stages of the program and to conduct impact analysis.

Methods: Site visits to care recipients homes and meetings with CLP leadership were held to learn about the program components, data gathering process, challenges, and desired impact analysis. A comprehensive excel database was designed that links care recipient and caregiver data that is collected throughout participation in program. Selection of variables for descriptive and relational analysis was conducted. Descriptive variables, cognitive impairment, nutritional risk and quality of life scores were included in the analysis.

Results: 108 elderly in Tarrant County have been recipients of CLP services since its inception. Descriptive analysis revealed that the majority of patients enrolled in CLP were Male (51.3%), above 80 years of age (41.7%). Sixty five percent of the participants were married. Majority of the care recipients (52.7%) enrolled in CLP have a dementia diagnosis followed strongly by Alzheimer's (42.6%). Analysis also showed that Females and Males were at equal risk of diabetes. Most care recipients (44%) assessed were categorized as having moderate nutritional health risk.

Conclusion: The comprehensive database designed provides an opportunity for CLP leadership and staff to have readily available data to conduct impact analysis and make a case for the program in the community.It helps for continued and effective planning and evaluation.

<u>**Title of Project: RELATIONSHIP OF ACETAMINOPHEN AND ALCOHOL**</u>
<u>**CONSUMPTION TO RENAL DYSFUNCTION**</u>
Student Name: Celena Blackwood
Academic Advisor and Department: Dr. Felini, Epidemiology
Site Supervisor and Location: Dr. Ndetan, Harrison Parker College Research Institute

Introduction: Using 1999-2000 NHANES data it was found that one-fifith of the US adults used nonprescription or prescription non-narcotic analgesic on a frequent basis. One researcher estimates 40% of Americans believe that OTC drugs are too weak to cause any real harm. The National Health Interview Survey 2009, found that 52% of adults 18 years of age and over were current regular drinkers. With the high prevalence of acetaminophen and alcohol use and the possible biological effects of each, we sought to explore how kidney function may be impacted using avaliable NHANES data.

Methods: Exploration of the relationship began with an extensive literature review. Pubmed, TOXNET, and MEDLINE on OvidSP databases were searched for acetaminophen use/renal dysfunction, alcohol use/renal dysfunction, acetaminophen/alcohol interaction, mild alcohol usage studies, and articles utilizing NHANES data. Currently resulting in the review and summation of approximately 30 articles. NHANES' website, datasets, and codebooks were reviewed in order to identify possible variables, idiosyncrasies within individual datasets, and changes in methods and sampling that must be considered before merging of data.

Discussion: When the study reaches the data analysis phase it will begin with the NHANES 2003-2004, which contains questions directly corresponding to reapondents analgesic use. Variables that will be extracted from the dataset for analysis include respondent demographic information, analgesic use, alcohol use, height and weight, and laboratory values pertaining to kidney function such as serum creatinine and blood urea nitrogen.

Conclusions: Current research has conflicting findings on the effect acetaminophen has on kidney function. There is little research on the effect alcohol may have on kidney function and research pertaining to the concurrent use of the two is minimal. The prevalence of the behaviors suggest that concurrent use is occurring among individuals and is a relationship to be explored.

Title of Project: <u>CULTURALLY RELEVANT SPIRITUAL AND HEALTH BASED INTERVENTIONS FOR RURAL POPULATIONS OF PARAGUAY</u>
Student Name: Courtney Bowden
Academic Advisor and Department: Dr. Sue Lurie, Social and Behavioral Sciences
Site Supervisor and Location: Dr. Jeffrey Mckissick, Paraguay, South America

Introduction: Serving in Mission (SIM) is a faith-based organization that promotes spiritual health, living, and well-being. It has more than 1,600 active missionaries serving in more than 50 countries. In Paraguay, South America, almost 40 percent of the people reside in rural areas of the country that have little or no access to health care. Evidence-based research points to individual health encompassing a spiritual and social well-being, which can directly promote the physical health of an individual.

Discussion: SIM's comprehensive prevention programs take both spiritual and health perspectives, with interventions targeting families and youth. Discipleship and mentoring, occuring in both individual and group settings, are intertwined with daily living and interaction in the community. A theory-based foundation for SIM's community outreach initiatives result from actions of dual preaching and healing. Daily, these two action plans are commonly used together at the mobile health clinic to perform medical outreach and spiritual growth in the community.   Health program plans are coordinated with government and local health coordinators to create long-term sustainability of interventions.

Results: Major social and behavioral problems of rural communities include access to health care, access to education, and other diseases rooted in behavioral and cultural patterns. "Health problems are beginning to trend chronic diseases rather than infectious diseases," and the numbers of health care providers and educators are increasing (Barreiros, 2011).

Conclusion: SIM is a key determinant in increasing family health alongside the nation's efforts to increase the health of its citizens. Current initiatives include culturally relevant interventions that target high risk diseases and social behaviors in rural communities of Paraguay. Future organizational efforts should include a systematic approach to identifying appropriate community-specific interventions and program outcome evaluations.

Title of Project: EVALUATION OF THE ROLE OF AN INTRAOPERATIVE MOLECULAR ASSAY IN EARLY STAGE BREAST CANCER
Student Name: Bishan Chakravarty
Academic Advisor and Department: Martha Felini,Epidemiology
Site Supervisor and Location: Sukamal Saha,McLaren Regional Medical Center,MI

Background: Intraoperative assessment (IOA) of sentinel lymph nodes(SLN) in early stage breast cancer (BrCa) are done by frozen section or touch imprint. Current studies show these methods have high false negative rates. We aimed to study the results of using a reverse transcriptase polymerase chain reaction(RT-PCR) assay in IOA compared to touch imprints and also final histology reports.

Methods: RT-PCR was used to examine alternate slices of SLN +ve BrCa pts for cytokeratin 19 (CK19) and mammoglobin . The remaining SLNs were processed and evaluated by H& E and CK immunostain.

Results: The total number of patients studied was 78 (median age -61 yrs) of which 9 were DCIS (11.5%), 57 were T1 (73.1%), 11 T2 (14.1%), and 1 (1.3%) was T3 stage. Nodal metastasis in the whole cohort was 25% with 4 pts having positive micrometastasis (0.2-2 mm). In the included 69 patients (excluding DCIS), sensitivity of RT-PCR was 81.3% compared to 50% for touch prep. RT-PCR carried a negative predictive value of 94.5% (52/55 pts) compared to 86.8% (53/61) with touch preps. RT-PCR identified one pt with false-positive result leading to a specificity of 92.8% compared to 100% for touch prep. The accuracy was 94.2% for RT-PCR and 88.4% for touch preps. In the 78 pts, there was a total of 171 SLNs, of which 10.5% (18/171) were positive by histology and IHC. Of these 171 SLNs, 130 were examined by touch prep and 124 by RT-PCR. Fourteen out of one hundred and twenty four (11.3%) examined by RT-PCR were positive, whereas 7/130 SLNs (5.3%) by touch imprint were positive.

Conclusions: The findings showed that RT-PCR assay is more sensitive and accurate than current intraoperative touch preparation. The incidence of lymph node metastasis was found to be significantly higher when examined by RT-PCR assay.

Title of Project: COMMUNITY HEALTH ASSESSMENT AT PARKLAND'S OFFICE OF POPULATION MEDICINE
Student Name: Jasmine Cluck
Academic Advisor and Department: Kathryn Cardarelli
Site Supervisor and Location: Brad Walsh MPH, Office of Population Medicine, Parkland Health and Hospital System, Dallas, TX

Introduction: Parkland's mandate is to provide medical care to all citizens of Dallas County. As part of this mandate, Parkland provides charity care and administers several programs that benefit the community. During this practicum, the Office of Population Medicine gathered and analyzed data for a community needs assessment.

Methods: Practicum activities included data organization, statistical analysis, and creating easily understood graphics of the gathered information. I worked mainly on two projects: 1) the Service Area Dashboard and 2) the Disparities Dashboard. The dashboard employs metrics based on a model developed by the University of Wisconsin Population Health Institute. Parkland gathered and presented data to be consistent with this and other widely-used needs assessment models. The dashboards assess factors pertaining to health outcomes and health factors. The compiled data contains demographic information, mortality and morbidity rates, birth outcomes, health risk behaviors, access to care, and prevention quality indicators of the population within the thirteen service areas of the Dallas County Hospital District.

Results: Each Service Area's most recent health outcomes and health factors were compared to Healthy People 2020 goals, the other Service Areas, and to prior years' data. Significance testing was used when comparing present data to recent historical data. Stoplights indicate Service Area performance compared to the selected benchmark. The results show the health of each service area and disparities between the service areas.

Conclusion: Parkland provides important medical services to the communities they serve, along with education and community outreach programs. Parkland's mission: "dedicated to the health and well-being of individuals and communities entrusted to our care" is furthered by the activities of the Office of Population Medicine. The health information that they collect will be used to set future priorities for community health issues.

Title of Project: USING PUBLICLY AVAILABLE DATA AND INDIRECT
STANDARDIZATION TO PROFILE IN-HOSPITAL MORTALITY IN TEXAS
Student Name: Julie Frick
Academic Advisor and Department: Dr. Martha Felini, Department of Epidemiology
Site Supervisor and Location: David Nicewander, MS, Baylor Health Care System Institute
for Healthcare Research and Improvement

Introduction/Background: The Texas Department of Health and Human Services Public Use Data File (PUDF) includes all inpatient hospital discharges for hospitals receiving government funding in Texas. This data can be utilized to calculate mortality related statistics at the hospital and county level. This allows researchers to compare death rates between differing counties, rural-urban areas, and across the state of Texas.

Methods: The study population includes patients who were discharged from an acute care hospital in 2008 with a valid DRG (n=2,797,673). Expected mortality was determined by using the whole population, stratified by APR-DRG and risk of mortality. These were then compared to the observed APR-DRG-specific rates at each hospital by calculating the Standardized Mortality Ratio (SMR, Observed deaths/expected). County rates were determined by taking an average SMR of all hospitals within that area. Mortality was examined for all-causes and among heart failure (DRG=194) and sepsis (DRG=720) – two leading causes of in-hospital mortality. Each county was assigned rural-urban status using USDA Rural-Urban Continuum codes.

Results: The county SMRs indicate that 40% of counties have better than expected in-hospital, all-cause mortality. Sepsis and heart-failure related SMRs are even better with 45% of counties with a lower number of deaths than would be expected. However, this seemingly better mortality among heart failure deaths may be due to counties with no deaths rather than a reflection of lower rates. Rural counties tend to have higher SMRs across all causes.

Conclusions: Individual counties or hospitals could use this data to examine their performance against other facilities and counties to aim improvement programs. The PUDF is a rich source of data and that can be used for outcome comparisons. This can increase our knowledge of health related outcomes as they appear in a hospital setting to improve hospital quality.

<u>**Title of Project: TARRANT COUNTY FETAL INFANT MORTALITY REVIEW**</u>
Student Name: Daniel Good
Academic Advisor and Department: Lori Fischbach, PhD, MPH, Department of Epidemiology
Site Supervisor and Location: Micky Moerbe, MPH, Tarrant County Public Health

Introduction: Tarrant County has seen an increasing infant mortality rate since 2000 - a rate which has also been well above the national average. In 2007, the Tarrant County Fetal Infant Mortality Review was created to help identify trends in infant mortality, and develop ways to help reduce the rate of infant mortality.

Methods/Discussion: The Tarrant County Fetal Infant Mortality Review is modeled after the National Fetal Infant Mortality Review, and uses an anonymous random sampling method. Once cases are selected, information is collected from various sources including hospital records, physician records, parent interview, and other pertinent documents. I worked largely on the data entry, data cleaning, data analysis, and data reporting of the de-identified data that was collected as part of the Fetal Infant Mortality Review for cases from 2008-2009.

Results: The Tarrant County Fetal Infant Mortality Review data yielded insight in the prevalence and distribution of several risk factors for infant mortality, as they exist within the study population. I had the opportunity to work with the data from data entry all the way through to analysis and reporting. I learned the difficult, but rewarding process of handling real-world data, which included data entry, data cleaning, analysis planning, and report writing.

Conclusion: The results of the ongoing Fetal Infant Mortality Review continue to provide Tarrant County Public Health up-to-date information about infant mortality within its population. This information is valuable and provides insight into ways to improve the health of mothers, infants, and families within Tarrant County.

Title of Project: TAKE HOME MEDICATION PROGRAM: CHANGING THE PROCESS
Student Name: Crystal Hubbell, RN BSN
Academic Advisor and Department: Hsueh-Fen Chen, PhD, Department of Health Management and Policy
Site Supervisor and Location: Claudia Wilder, RN MSN, NEA-BC, CNO Baylor University Medical Center, Dallas

Introduction: Baylor University Medical Center provides continuing care to their patients after discharge with the goal of improving patient outcomes and reducing hospital readmissions. One way Baylor accomplishes this is through the "Take Home Medication Program", in which an initial supply of medications are provided to un/underinsured patients, an expense Baylor consumes. This service is provided only to un/underinsured patients per organizational policy to control costs and to reach this target population. Currently, this program is ineffective as medications are dispensed through Baylor's inpatient pharmacy, which does not have the processes in place to deliver medications safely and timely to patients prior to discharge. This program has led to decreased patient satisfaction and medication compliance, and therefore is in need of a procedural change to redesign the program.

Methods: This procedural change has been designed based on evaluation of current procedures, research of best practices, and collaborative input from all multidisciplinary teams involved. The multidisciplinary team devised a procedure to be implemented in April to improve the take home medication program. The medications will be dispensed through Baylor's outpatient pharmacy and/or the nearby Walgreens, which have the proper processes in place to deliver medications safely and timely to patients prior to discharge.

Expected Results: Moving the point of medication dispensing from the inpatient to the outpatient pharmacies will result in improvements in: convenience, as patients will have increased access to their prescriptions; safety, as the outpatient pharmacies will have the resources to educate patients regarding medication administration; and patient satisfaction, as patients will receive their medications in a safe and convenient manner.

Discussion/**Conclusion**: This procedural change is expected to meet the program's goals to improve the process of dispensing medications and improve medication compliance among the un/underinsured.

Title of Project: DSHS BLUE RIBBON INTERNSHIP: IMMTRAC AND SENATE BILL 346 IMPLEMENTATION
Student Name: Kristin McElroy
Academic Advisor and Department: Raquel Qualls-Hampton, PhD. Epidemiology
Site Supervisor and Location: Thomas Colvin and Andrea Legnon, Texas Department of State Health Services

Background: Immunization rates for adolescents and adults in the United States are lower than public health professionals recommend. General childhood immunization rates are around 90 percent, yet adolescent and adult rates are typically less than 70 percent. Some vaccine preventable diseases that have been virtually eliminated in infants and children are still contracted by adolescents and adults. One recommendation to increase adolescent and adult immunization rates is to allow the inclusion of clients of any age in state immunization registries.

Introduction: ImmTrac, Texas's Immunization Registry is a free, confidential, secure electronic system that stores and consolidates immunization information. ImmTrac began in September of 1997 as a registry for Texans under the age of 18, and on May 5, 2009 the 81st legislature passed Texas Senate Bill 346, the Lifetime Registry. This bill allows Texans of any age to participate in ImmTrac. The benefits of ImmTrac stretch beyond the individual and could lead to less health hazards for the entire state through higher immunization rates.

Implementation Plan: Current ImmTrac education efforts are focused on young adult populations in Texas. Implementation of Senate Bill 346 involves focusing on outreach and recruitment in three tiers; vocational schools, colleges and universities, and the military. The ImmTrac central office is developing an implementation plan for university recruitment. This plan includes contacting college health clinics to discuss registering the clinic as a provider so they can input as well as view their students' records. The plan also includes contacting student organizations on campus about hosting an ImmTrac drive. Organization members would set up a booth to educate their peers and collect adult consent forms.

Discussion: Beyond the creation of an implantation plan for Senate Bill 436, this internship has also included the collection of some basic statistics concerning immunizations, ImmTrac registration, and college attendance.

Title of Project: AN EXPLORATION OF ELDER ABUSE IN TANZANIA
Student Name: Roxanne Muiruri
Academic Advisor and Department: Sue Lurie, PhD, Social and Behavioral Sciences
Site Supervisor and Location: Mike Wilson, Peercorps Trust Fund, Tanzania

Introduction: Peercorps Trust Fund Tanzania, a non-profit organization that carries out research in Injury prevention, Health Education and HIV/AIDS among women and children in Tanzania wanted to gain an understanding of the occurrences(what,where,when,why) of Elder abuse in Tanzania. The objectives of the study were to document the following: the forms that elder abuse takes, community perceptions and attitudes towards elder abuse, why elder abuse occurs, how an intervention can be realized and the community resources that existed to support such an intervention.

Methods: An exploratory mixed-method series of interviews on the state of elder abuse were conducted between June and August 2010 in a rural and an urban area in Tanzania to inform the development of culturally appropriate health related interventions. A total of 33 participants were interviewed for the study. Data was analyzed using the statistical program Atals.ti and an overview of the occurrence of elder abuse was provided through a discussion of themes, views and perceptions explored in narrative form.

Results: This study uncovered the following issues: diverse meaning of the terms abuse, acts of abuse, poverty as the main risk factor associated with elder abuse and limited community resources to support a health intervention.

Conclusions: The client was provided with a logic model and intervention proposal to be used for the application of grants and develop funding for the program.

Title of Project: HIV AND METS IN JAPAN VS. UNITED STATES
Student Name: Kelly Nelson
Academic Advisor and Department: Dr. Cardarelli / Epidemiology Department
Site Supervisor and Location: Dr. Fukuda / Juntendo University

Background: Metabolic syndrome (MetS) and HIV/AIDS are two diseases with high social stigma and increasing incidence. Both the United States and Japan are highly developed countries with steadily increasing rates of these diseases. Despite the U.S. having 10 - 60x the prevalence of each disease compared to Japan, the Asian country is leading the world in health care and life expectancy. This investigation covers how cultural and healthcare differences affect prevalence, incidence and prevention of preventable diseases.

Method: By observing participating doctors at Juntendo University Hospital in Tokyo, Japan a comparison was made between the United States and Japan. Each doctor specialized in either lifestyle or infectious disease, focusing on MetS or HIV/AIDS. Findings made were based on prevalence, identification of high risk groups, public awareness and effect of healthcare systems.

Discussion: Japan has a lower prevalence rate of both diseases compared to the United States, additionally high risk groups vary between the two nations. For MetS, Japanese men are at greater risk, while in the U.S. it is Hispanic women. HIV/AIDS have similar risk groups between the two countries, MSMS; however, awareness for heterosexuals, due to social stigma, is vastly different.

Conclusion: Increase in awareness of HIV/AIDS for heterosexual Japanese can help curb the increase in incidence. Additionally, an increase in the awareness of prevention for the U.S. can prevent mortality from MetS.

Title of Project: POTENTIAL ROLE OF COMPLEMENTARY AND ALTERNATIVE HEALTH CARE PROVIDERS IN CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION
Student Name: Florence Okenkpu
Academic Advisor and Department: Raquel Qualls-Hampton, PhD., Epidemiology
Site Supervisor and Location: Harrison Ndetan, MSc., MPH., DrPH., Parker Research Institute

Introduction: Available healthcare resources have not adequately met increasing demands for disease prevention and health promotion in the United States. Complementary and alternative medicine practitioners (CAM) could be an untapped resource in meeting this need. The objective of this study is to make a preliminary assessment of the potential role of the most frequently used U.S. complementary and alternative medicine providers in chronic disease prevention and health promotion.

Methods: This was a secondary data analysis of the 2007 National Health Interview Survey (NHIS) dataset, the most recent NHIS to include CAM use. Data from the Adult Core Sample, Person and Adult Complementary and Alternative Medicine files were included. The NHIS complete survey design structure (strata, cluster and survey weights) was applied in generating national population estimates for CAM usage. Data management and analyses were done using SAS 9.2.

Results: Chiropractic or osteopathic manipulation (8.4%) and massage (8.1%) were the most commonly used practices; acupuncture was used by 1.4% and naturopathy by 0.3% of respondents. The most commonly reported annual number of visits was 2-5. Substantial proportions of respondents reported using these CAM practices for wellness and disease prevention, and informed their medical physician of use. Fifty-four percent were overweight or obese, 22.0% physically inactive, and 17.4% smokers; 18.0% reported hypertension, 19.6% high cholesterol, and 9.1% prediabetes or diabetes.

Conclusion: Chronic conditions among respondents present CAM providers the opportunity to amplify promotion and prevention messages, contributing to more effective health behavior change, particularly when coordinated with patients' primary care provider.

Title of Project: <u>RETROSPECTIVE REVIEW OF LASER PERIODONTAL THERAPY IN A PRIVATE DENTAL PRACTICE</u>
Student Name: Anilkumar Patel
Academic Advisor and Department: Swati Biswas, PhD., Department of Biostatistics
Site Supervisor and Location: Steven Britain, DDS, MS., 4900 Overton Ridge, Suite 213, Fort Worth, TX 76132

Introduction: LANAP (Laser Assisted New Attachment Procedure) is a minimally invasive surgical procedure used to treat inflammatory periodontal disease. This treatment improves hemostasis (stoppage of bleeding) intraoperatively and is well accepted by patients compared to Scaling and Root planning (SRP) treatment. Several studies, mainly case reports, have been published to demonstrate typical range of results obtained with LANAP. However, formal assessments (from statistical point of view) are needed which could assure reproducibility of the results and compare its effectiveness to SRP. To this end, a retrospective review has been carried out to evaluate effectiveness of LANAP compared to SRP at a private dental office.

Method: This study primarily compared mean post-treatment PDs (probing depths) between the treatment groups. According to the inclusion criteria, 67 and 63 patient records were selected for LANAP and SRP group, respectively. Within each group, patients were divided into two sub groups: (A) 4-6 mm PD and (B) >= 7mm PD, according to pre-treatment PDs. Discriptive statistics were obtained for the pre- and post-treatment PDs. ANCOVA (Analysis of covariance) was performed to assess the statistically significant difference between the means of post-treatment PDs of both groups, at each sub group level.

Results: Mean post-treatment PDs are 3.29 mm and 4.54 mm respectively for LANAP sub groups A & B. Similarly, they are 3.47 mm and 5.07 mm respectively for SRP sub groups A & B. When using mean pre-treatment PDs and treatment groups as independent variables, and mean post-treatment PDs as a dependent variable, significat p-values, i.e. 0.001 and 0.04, have been obtained respectively for sub group A & B analysis between both groups. The results of this study conclude that LANAP is significantly better than SRP.

Conclusion: Randomized controlled studies should be carried out in future to futher check effectiveness of LANAP compared to SRP.

Title of Project: WOMAC INDEX TO ASSESS THE SEVERITY OF OSTEOARTHRITIS OF KNEE AND HIP JOINTS
Student Name: Gauravkumar Patel
Academic Advisor and Department: Shande Chen, PhD; Biostatistics
Site Supervisor and Location: Vandana Agarwal, ClinRx Research, LLC

Introduction: According to an estimation, 40 million Americans are affected by osteoarthritis and 70 to 90 percent of Americans older than 75 years have at least one joint involved in osteoarthritis. The diagnosis of osteoarthritis is largely made by obtaining a detailed history and conducting a complete physical examination. Ancillary diagnostic tests may occasionally be necessary when the diagnosis remains uncertain. The usual presenting symptom is pain and stiffness involving one or more joints. The aim of the study is to assess use of Western Ontario and McMaster Universities (WOMAC) Osteoarthritis Index for grading of severity of osteoarthritis of knee or hip joint.

Method: This study is based on disease related questionnaires and x-ray results of affected joint. Total 57 subjects with prior diagnosis of osteoarthritis were asked WOMAC questions which include pain, stiffness and physical activity questionnaires. Based on the total score obtained from WOMAC, subjects were categorized in mild, moderate and severe osteoarthritis. X-ray of AP and lateral views within last six months for affected joint are used to determine Kellgren Lawrence Grade for comparison of severity of disease with questionnaires. X-rays were repeated if required. Data were collected by phone and personal interviews. Data quality was checked with logic checks, range and frequency analysis. Data is managed and analyzed using SAS9.2.
To compare severity level of the disease obtained by two different methods, Fisher's Exact test was performed as expected cell count for >20% cells were <5.

Results: Analysis shows that severity level of osteoarthritis of knee and hip joints based on X-ray report is related to that obtained from WOMAC questionnaires (p-value <0.01).

Conclusion and Discussion: WOMAC osteoarthritis Index can be used for evaluation of severity of osteoarthritis of hip and knee joints instead of performing two x-rays for KL grading.

Title of Project: BODY IRON LEVELS AND THE ASSOCIATION WITH TYPE 2 DIABETES IN AFRICAN AMERICANS
Student Name: Madhu Kalyan Pendurthi MBBS
Academic Advisor and Department: Raquel Qualls-Hampton, PhD. MS, Epidemiology
Site Supervisor and Location: James G Wilson, MD and Michael Griswold, PhD.,
University of Mississippi Medical Center, Jackson, MS

Introduction: Diabetes is a leading cause of morbidity and mortality in the United States. In 2009 the national prevalence of diabetes was 8.3%, in the state of Mississippi the prevalence was 11.6%. Compared to the general population African Americans are disproportionately affected, 1.8 times more likely to develop diabetes as compared to Non-Hispanic Whites. Multiple studies found an association between type 2 diabetes and elevated serum ferritin and have suggested that iron overload may contribute to insulin resistance. However these studies predominantly were conducted in Caucasian populations. The Jackson Heart Study, a long-term observational study that involves 5300 African Americans offers an ideal opportunity to assess the association between iron overload and diabetes.

Methods: Cross-sectional analysis of the data collected as part of visit 1 of the Jackson Heart Study was used to assess the association. Serum ferritin was used as marker for body iron levels. Log transformation of ferritin was done to normalize the distribution. Unadjusted and adjusted odds were estimated using standard contingency table analysis and multinomial logistic regression modeling. Adjustment was done for gender, age, body-mass index, smoking and alcohol status. Outcomes of diabetes and impaired glucose tolerance were assessed in contrast to normal participants as the reference.

Results: There were 4737 people eligible for the study and the prevalence of diabetes was 14.1%. Participants with increased ferritin were at a 45% increased odds of diabetes (adjusted odds ratio of 1.45 (95% CI: 1.35, 1.56) $p<0.0001$) associated with a doubling of ferritin. Additionally, participants with increased ferritin had a 30% increased odds of impaired glucose tolerance (adjusted odds ratio of 1.3 (95% CI: 1.2, 1.41) $p<0.0001$) associated with a doubling of ferritin.

Conclusion: Body iron levels play a significant role in increasing the odds of diabetes and impaired glucose tolerance in African Americans.

Title of Project: LEADERSHIP ACTIVITIES WITH THE ASSOCIATE DEAN OF NURSING AT UTA COLLEGE OF NURSING
Student Name: Tammie S. Peterson
Academic Advisor and Department: Fernando Wilson, PhD, Department of Health Policy and Management
Site Supervisor and Location: Mary Schira, PhD, RN, ACNP-BC, Arlington, Texas

Introduction: The University of Texas at Arlington and the College of Nursing prides itself on research, innovative teaching and community service. This practicum involved application of knowledge, leadership skills through education and research; applying performance improvement concepts to organizational issues; strategic planning and understanding leadership in an academic setting.

Methods/Discussion: The internship involved attending faculty and curriculum meetings, recruitment activities, classes to observe teaching styles, Masters level nursing orientation, observing faculty in leadership and research roles, reviewing faculty appointment and promotion criteria, and understanding staffing and budgets. A community project involved preparing for an accreditation. A power point presentation assisted students in understanding accreditation standards and providing answers to questions during surveyor interview. A review of the Masters level nursing student handbook was provided as well as participation in creating a Doctor of Nursing Practice student handbook.

Results: Goals of the practicum involved growing my leadership style, exploring the academic educator role, increasing visionary growth, improving my strategic planning efforts, managing change processes more effectively, continuing lifelong learning and making a contribution to public health through working on an accreditation process. UTA is a learner centric model which focuses on instruction and learning processes to create a challenging environment, and encourages lifelong learning. My education was greatly enhanced from interacting with faculty of higher education who provide a positive atmosphere for faculty and students

Conclusion: I expanded my knowledge greatly and made contributions to the university, the healthcare environment, and public health communities.

Title of Project: DSHS ROUTINE TESTING PRIMARY CARE PROVIDER SURVEY
Student Name: Danielle Sass
Academic Advisor and Department: Lori Fischbach, PhD., Epidemiology
Site Supervisor and Location: Brian Rosemond, BBA, BSN, RN, Texas Department of State Health Services

Introduction: In 2006, the Centers for Disease Control and Prevention (CDC) revised recommendations for HIV testing in health care settings. CDC now recommends that all patients between the ages of 13 and 64 seen in health care settings, including emergency departments and primary care settings, be tested for HIV unless they decline. Texas law aligns with the CDC recommendations for routine HIV testing.
The Texas Department of State Health Services (DSHS) is distributing a survey to primary care physicians to examine how HIV and STD testing is practiced in clinics and find out what support is needed for clinics that do not test for HIV and STDs.

Methods/Discussion: In order to design the survey on routine HIV and STD testing, extensive research on the program, HIV in Texas, and provider interventions was completed. The scope of the survey was determined and input from Texas Academy of Family Physicians (TAFP), Texas Association of Community Health Centers (TACHC), and other DSHS employees were combined in development of the survey instrument.

Results: Previous research leads to these results in regards to changing physician behavior. When adding or adjusting standard of care physicians are worried about: time, patient acceptance, training, legal requirements, competing priorities, and reimbursement. In regards to the topic of HIV, the subject is sensitive for physicians and patients. A perceived barrier of negatively affecting the relationship arises, specifically when discussing sexual history.

Conclusion: Physicians are resistant to change. In order to make a public health impact in clinical settings: extensive research needs to be completed, educational materials need to provided, guidance from clinicians needs to be recruited, interventions and surveys need to be concise and written in clinic language.

Title of Project: 2008 COMMUNITY NEEDS ASSESSMENT REPORT
Student Name: Najam-us Sehar
Academic Advisor and Department: Dr. Raquel Qualls Hampton, Epidemiology Department
Site Supervisor and Location: Dr. Kathryn Cardarelli, Director Center for Community Health, UNTHSC, Fort Worth

Introduction: The primary purpose of this practicum is to develop the "2008 Community Needs Assessment Summary Report" for the city of Fort Worth. This city-wide health needs assessment was initiated by Fort Worth Public Health Department two years ago to assess the interests, desires and needs of the city of Fort Worth. Unfortunately, the city public health department was closed as a result of budget cuts and the project was not completed. The Center of Community Health has been commissioned to complete the project and publish a report of findings.

Methods: An eighty-item instrument was used to measure needs; 3,287 face-to-face interviews with a stratified random sample of residents were conducted by community health workers and other public health professionals. Items were analyzed descriptively and stratified based on 2008 National Police Districts (NPD) and Council Districts using the SAS software.

Results: Over four-fifths of the respondents considered their health status as good. Survey identified eight most common self-reported diseases ranked as Allergies, Hypertension, Asthma, Diabetes, Heart Disease, Mental Illness, Cancer and Arthritis. The four most common health problems within the household according to survey were Obesity, Depression, Anxiety and Developmental Disability. Many other results related to chronic illness risk factors and neighborhoods are tabulated in the report.

Conclusions: Results of this report will be used to determine the priorities of the local public health policies that will direct programming by health and social service organizations throughout Fort Worth and inform the community's leaders in the effective allocation of resources. The dissemination of the results will spawn programs and partnerships in response to the needs of this community.

Title of Project: <u>TRENDS IN TUBERCULOSIS, DENTON COUNTY, TEXAS, 2000-09</u>
Student Name: Carrie Solberg
Academic Advisor and Department: Martha Felini, PhD, Epidemiology
Site Supervisor and Location: Bing Burton, PhD, Denton County Health Department

Introduction: The number of cases and rates of Tuberculosis (TB) in the United States continue to decline. In Denton County, Texas the rate of TB remains at or below state and national rates, but increases were noted during the last decade. County level TB surveillance data was analyzed to determine whether these increases occurred disproportionately in select population groups and for the presence of known risk factors in confirmed cases.

Methods: All 133 Denton County residents reported as a confirmed case of active TB disease during the years 2000-09 were included. Data was obtained through review of case records. Population estimates were provided by the US Census Bureau. For comparison, subjects were divided into two groups by case year, 2000-04 and 2005-09. Trends in number, rate, and/or proportion were examined according to case year, US vs. foreign birth, race/ethnicity, gender, and known TB risk factors. Data analysis was performed using SAS.

Results: The rate of TB disease in foreign born persons was 10-20 times higher than the US born. Asians had the greatest rate increase from 3.9 per 100,000 in 2003 to 23.9 in 2009, but Hispanics comprised the largest proportion of cases. The proportion of female cases increased significantly, particularly among Asian and Hispanic women. The percent of cases with diabetes and those reporting tobacco use, and low income more than doubled while those with HIV co-infection declined. Cases that were contacts to other Denton County cases increased slightly from 5% to 8%.

Conclusion: The growing diversity among Denton County's population most likely accounts for the changes seen during the last decade. The small study population and reliance on self reported data limits these findings.   Increased education and continued screening of high risk racial minority groups may aid in early diagnosis or use of preventive therapy.

Title of Project: THE ART AND SCIENCE OF EVALUATION – LESSONS LEARNED FROM THE CVD AND STROKE PROGRAM
Student Name: Erika L. Wood
Academic Advisor and Department: Raquel Qualls-Hampton, Ph.D., M.S. (Department of Epidemiology)
Site Supervisor and Location: Jane Osmond, M.P.H., R.R.T, Lauri Kalanges, M.D., M.P.H, Rosamaria Murillo, Ph.D., L.M.S.W. (Department of State Health Services, CVD and Stroke Program)

INTRODUCTION: Established by the Legislature, the Texas Council on Cardiovascular Disease and Stroke published the Texas Plan to Reduce Cardiovascular Disease and Stroke in 2003, which outlines a roadmap for reducing the burden of CVD and stroke in Texas.

In 2009, the Council funded two programs, Heart Stroke Healthy City and Stroke Public Education in six cities across Texas. The objective of the internship was to determine the programs' effectiveness in building community capacity to address CVD and stroke.

METHODS: The nature of this evaluation was retrospective. The first step was creating logic models and evaluation questions based on the original objectives of the programs. Next, an evaluation plan including details on data collection, data analysis and dissemination of results was made. Following the formation of the evaluation plan, a conference call was conducted to engage the champions of the program within the Council as well as community stakeholders. The evaluation plan was edited as necessary and implementation began. Document review, survey distribution and interviewing of key stakeholders were the three components of data collection, which are still being implemented. Upon completion of data collection, data will be analyzed and results will be published in a summary report to be distributed to Council members and key community stakeholders.

RESULTS: The results of the evaluation are pending completion of data collection, but preliminary review of the programs' documentation indicate all communities succeeded in reaching some of their target populations and the programs fostered collaboration among the stakeholders involved in the program.

CONCLUSION: A key part of evaluating a program is to define success from the outset. It is likely that unexpected yet positive outcomes of the program will be revealed – adding complexity and richness to the final results. Incorporating these unique outcomes of a program while maintaining the integrity of the process, is the art of evaluation.