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**SPH 5850 - SPH 5855**

**Public Health Practice Experience  
Poster Presentation Session**

**Abstracts**

**April 28, 2009**

**FOLLOW-UP CARE AT UNIVERSITY OF TEXAS MD ANDERSON CANCER  
CENTER-CHILDREN'S CANCER HOSPITAL--CHILDHOOD CANCER  
SURVIVORSHIP CLINIC**

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Academic Advisor: Kathryn Cardarelli, Ph.D.

Today in children and adolescents diagnosed with cancer, ~80% will survive 5 or more years. There are very serious treatment-related high morbidity- and mortality-associated chronic health problems that occur in cancer survivors in latent form. We had two pilot studies being worked on during my time at MD Anderson Cancer Center. The first was a retrospective cohort study, researching the adherence to follow-up at MDACC, of childhood cancer survivors diagnosed between 1996-2000. Medical records of 588 patients were reviewed and the demographic, clinical and socio-economic data were collected. Preliminary analysis found that adherence was associated in survivors who had health insurance ( $p<.000$ ), but not shown to be associated with ethnicity ( $p=.092$ ). The second study looked to assess the health needs of childhood cancer survivors 2-34yrs and their primary caregivers, diagnosed between 1992-2007. A series of surveys developed by a multidisciplinary research team were given to 500 patients and their primary caregivers.

**CLINICAL TRIALS AND THEIR EFFECTS IN THE  
PRIMARY CARE SETTING**

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The implementation of the clinical trials department at the Medical Clinic of North Texas (MCNT) has been extremely successful for the clinic, and very beneficial to its patients. MCNT has participated in several phase II to phase IV randomized control trials as well as a few observational studies over the last few years. Therapeutic areas of the trials range from cardiovascular intervention trials to women's health studies. Access to free physical exams, diagnostic studies (e.g. labs, EKG, spirometry) and therapeutic intervention have been advantageous for patients of the clinic, as well as those that reside in the catchment area. These trials are not only necessary for the FDA approval of new medications, but they allow practices to aid patients who cannot afford their needed healthcare. These studies may also produce results that change the mainstream of medical practice; such as the JUPITER study in which the clinic was involved in.

## **2009 INTEGRATED MEDICAL, PUBLIC HEALTH, PREPAREDNESS AND RESPONSE TRAINING SUMMIT**

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The 2009 Integrated Medical, Public Health, Preparedness and Response Training Summit, sponsored by the U.S. Department of Health and Human Services, brought together the U.S. Public Health Service, National Disaster Medical System, Medical Reserve Corps and the Emergency System for Advance Registration of Volunteer Health Professionals. The training summit was held in Dallas, Texas, April 4-8, 2009. The summit focused on skill development, knowledge enhancement and information sharing of Federal, State and local responders as well as leaders of the participating organizations. Courses offered were designed to improve participants' ability to protect public health and provide medical care services in times of disaster.

## **HUMAN PAPILLOMAVIRUS VACCINATIONS WITHIN UNT HSC HEALTH FAMILY MEDICINE CLINICS: A RETROSPECTIVE STUDY**

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The University of North Texas Health Science Center has four satellite clinics that offer primary preventative services. From the four clinics billing records were collected on females between the ages 8-26 years old from October 2007 to May 30, 2008 in order to determine who was obtaining the HPV vaccination and what predicts receiving the HPV vaccination series. The total number of 5,538 services was rendered to 1,365 patients within 2,550 visits. Sixteen percent of those who received the HPV vaccination were adults. Only five subjects completed the HPV vaccination series and all were minors when the initial dosage was administered. At the .05 level, predictors of receiving the HPV vaccinations were the types of visits, obtaining other immunizations, age of the patient, age group of the patient, number of services received and the location of the clinic that administered the vaccination.

**PILOTING THE HEALTH RESOURCES AND SERVICES ADMINISTRATION (HRSA)  
OFFICE OF PERFORMANCE REVIEW (OPR) STAFF TASKS AND  
ASSIMILATION (STA) TRAINING CURRICULUM**

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Office of Performance Review  
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The Health Resources and Services Administration (HRSA) Office of Performance Review (OPR) initiated a pilot study to determine the effectiveness of curriculum designed to orient new performance reviewers (NPRs). The curriculum was developed for NPRs to learn core competencies and professional skills needed to work as public health analyst. The pilot study was implemented in the Fall of 2008, and will conclude in the Spring of 2009. Twenty four individuals are participating in the pilot study. Data is collected through the submission of surveys after the completion of each learning module and feedback is provided during monthly calls. Preliminary findings indicate 60% of the participants completed 6 modules and the New Performance Reviewer's Handbook. Ninety percent of the participants agreed strongly that the learning modules were presented clearly, flowed logically, included adequate examples, and gave a solid foundation for understanding the OPR process to assess the performance of HRSA grantees.

**MRSA STUDY IN DALLAS COUNTY JAIL: CHALLENGES IN THE  
ADMINISTRATION OF PREVENTATIVE INTERVENTION TREATMENT**

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One of the phase ii aspects of an ongoing methicillin resistance staphylococcus aureus (mrsa) colonization and control study in the dallas county jail is the chlorhexidine gluconate (chg) randomized controlled double blind study. Tanks randomly chosen for the study were further randomized into three groups. Enrollees in one group receive chg impregnated disposable cloths (treatment group) for cleaning their bodies thrice weekly. The placebo group receives water impregnated cloths for same purposes while the third group is free of any intervention. Administering these cloths to enrolled inmates for their self-use and collecting them after use, were fraught with several unforeseen challenges. There were collaboration difficulties with the jail community and unpredictable behaviors by enrollees. These aberrant occurrences tasked the research team's ingenuity at improvising ways to overcome them to its limits. These challenges are reported in this commentary as possible contribution to future research on this special and vulnerable population.

**AN ASSESSMENT OF THE CODE PROGRAM: A COMMUNITY DIABETES  
EDUCATION PROGRAM FOR LOW-INCOME, UNINSURED PATIENTS  
IMPLEMENTED AT CENTRAL DALLAS MINISTRIES, INC.**

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The CoDE Program is a community intervention for low-income uninsured patients of Central Dallas Ministries, developed by Baylor University Medical Center's Office of Health Equity. It addresses the health disparities in the East Dallas Hispanic community related to diabetes care. The Hispanic population has been disproportionately affected by diabetes, attributed to the low-income and lack of health insurance seen among this population. Participation in the CoDE program has resulted in significant reduction of hemoglobin A1c over a 12-month period, reducing the risk of the long-term complications associated with uncontrolled diabetes. A SWOT analysis of the program and a preliminary review of 2007 data demonstrate the program's success, opportunities for growth, and the feasibility of reproducing the program. An extension of the program to other charity clinics within the Dallas area is anticipated in the summer of 2009, pending the receipt of a five-year grant by the Office of Health Equity.

**SHEET METAL WORKER STUDY – A RETROSPECTIVE ANALYSIS  
OF ASBESTOS EXPOSURE AND LUNG DISEASE IN A GROUP  
OF SHEET METAL WORKERS.**

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Asbestos is a naturally occurring silicate mineral which has been implicated in a number of diseases including asbestosis, lung cancer and mesothelioma. Sheet metal workers are a group of workers in the construction industry, specializing in installation and service of heating, ventilation and air conditioning systems. Our main aim was to compare various factors of asbestos exposure in sheet metal workers for any associations. We had access to 144 questionnaires which had information regarding worker age, No. of years worked, Amount of time in each department, clinical symptoms, cigarette smoking, pulmonary function tests and chest x-rays read by a B-reader. Amongst the 144 individuals, 9(6.3%) had parenchymal abnormalities and a total of 20 (13.9%) had pleural scarring on B-reader readings of chest x-ray. Based on the above results we found that the presence of parenchymal and pleural abnormalities was dependent on both the age of the worker and the duration of work. Older workers started working earlier which explains the increase in parenchymal and pleural abnormalities in them. The reduced asbestos exposure through strengthened Occupational Safety and Health Administration (OSHA) regulation may have had a positive public health impact.

## **ASTHMA TRIGGER MITIGATION STRATEGIES AND PATIENT COMPLIANCE**

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Asthma is among the top admitting diagnoses at Children's Medical Center Dallas, the Asthma Management Program provides education and self-management strategies for asthmatic patients and their families. An in home education and a Trigger Assessment Checklist are performed after patient enrollment (Visit 1) and three months into the program (Visit 2). At the first visit, education for bedroom and living area trigger improvements are made and EPA pillow encasements are provided. There were significant improvements made in environmental asthma triggers for Visit 1 and Visit 2 ( $p\text{-value} = 0.020$ ). There were significant improvements in compliance for the use of pillow encasements, other living areas being dust free, and other living areas having no evidence of deodorizers, powders, or burnt candles. The results support previous research prepared by Children's Medical Center Dallas that an Asthma Management Program aids in the reduction of home environmental triggers through education intervention.

## **EFFICIENCY ANALYSIS OF HIGH RATE CLARIFICATION SYSTEM FOR THE CITY OF FORT WORTH WATER DEPARTMENT**

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Academic Advisor: Sejong Bae, Ph.D.

High Rate Clarification system for the City of Fort Worth is a new addition to the treatment process of waste water in the Village Creek Wastewater Treatment Plant. The High Rate Clarifier, or HRC, is designed to process excessive amounts of water to the flow rate of 80 million gallons per day to add to the current output of 160 mgd for Village Creek treatment plant. The HRC follows a unique process of filtration of wastewater which uses chemical polymers plus sand to bind to solids and pull them to the bottom of the filtration channels. To test the efficiency of the HRC we tested the COD, chemical oxygen demand, of both influent (pre HRC) and effluent (post HRC) water. The target goal of the effluent stream was to find whether the HRC can purify water to have a COD measure of less than 100 mg/L of  $O_2$ . 75 samples were taken over 7 separate testing events. COD values were measured experimentally and recorded. The analysis of the COD procedures shows the overall ineffectiveness of the HRC to significantly clarify water. Analysis of data was performed using SAS program student edition.  $P\text{-value}$  attained for effluent water = 0.0068. The mean COD influent value = 295.12 mg/L; effluent COD mean = 147.74 mg/L.

**HEALTH BRIDGE PROGRAM: IMPROVING HEALTH OUTCOMES OF  
GIRLS AT GIRLS INC. OF TARRANT COUNTY**

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Academic Advisor: Jim Stimpson, Ph.D.

The Health Bridge program was developed to improve health care access and health outcomes in girls. Funding was provided for this program to be implemented at Girls Inc. sites across the United States. Assessments were conducted to evaluate what health resources are available. Health care providers in the area were contacted to determine if they wanted to participate in the program. An advisory board was also formed for professionals from the area to come together and determine what girls' health issues are of greatest concern. Focus groups were conducted with the girls' and parents to determine what their main concerns were about girls' health. It was found that the topics of greatest concern for the girls' at this particular facility were early pregnancy, health checkups and health education. The implementation of this program will be vital in providing the girls' with the health care resources as improving their health outcomes.

**“ANSWER FOR CANCER” - THE ROLE AND PROTECTIVE EFFECT OF  
GLUTATHIONE S-TRANSFERASE (GST) IN LUNG CANCER**

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Glutathione S-Transferase is a family of enzymes responsible for catalyzing various substitution and addition reactions in the body. Among this family a sub-type, GSTP1 has the highest expression in the lungs. Dr. Sanjay Awasthi's lab aims to study the expression of this GST sub-type in relation to risk of lung cancer. An intensive literature review was conducted which suggested that reduction of GST enzymatic activity puts individuals at a greater risk of lung cancer as it decreases the detoxification of mutagenic and carcinogenic compounds. In addition, it was found that GSTP1 polymorphism increases susceptibility of lung cancer among younger ( $\leq 50$  years) individuals. Statistical analysis revealed a higher risk association for younger men versus younger women. However, additional studies must be conducted to look at other GST polymorphisms and incidence of lung cancer in a population.

## **COMMUNITY AS THE CLIENT**

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Community Health is important to Texas Health area hospitals that have incorporated programs to aid in the advancement of the community towards preventative care. Health fairs were conducted where blood pressure, lipid (cholesterol) screenings, and glucose (blood sugar) screenings were completed. Nutrition and stroke education was also available at health fairs. Collaborations with other groups in Tarrant County were also seen through the Healthy Tarrant County Collaboration Steering Committee which UNTHSC is also a member. The faith community is also important to Texas Health area hospitals. The faith community nursing program is a unique specialty of the practice of professional nursing that focuses on the promotion of health within the context of the values, beliefs, and practices of the faith community, such as a church, synagogue, or mosque, and its mission and ministry to its members and the community it serves. The spiritual dimension is central to the practice of faith community nursing.

## **NON FATAL OCCUPATIONAL INJURY AND ILLNESS RATES IN THE HOUSEKEEPING STAFF OF A HEALTH CARE FACILITY.**

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Data from Employee injury and illness reports (117 incidences) of the EVS employees of a hospital from 2004-08 were analyzed using SPSS version 15.0. Total injuries for the EVS employees was found to be significantly higher (28.6 per 100 full time employees FTE) compared to all other employees (13.54 per 100 FTE) ( $p < 0.05$ ). The rate of injury due to slips/trips/falls among the EVS employees and all the employees of the hospital was 4.39 per 100 FTE and 2.37 per 100 FTE respectively ( $p > 0.05$ ). Estimated rate of injury due to material handling in the EVS employees and all the employees of the hospital was 5.45 per 100 FTE and 1.08 per 100 FTE respectively ( $p < 0.05$ ). Injuries due to striking object and strains were the most common cause and type of injuries, respectively. Of the 117 incidences reported, 38% were African Americans, 34% were Hispanics, 16% were Caucasians and 15% were Asians.



**CHARACTERISTICS OF AGGRESSION AS PREDICTORS OF INFLAMMATION:  
THE NORTH TEXAS HEALTHY HEART STUDY (NTHHS)**

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Primary Care Research Institute (PCRI)  
Site Supervisor: Kimberly Fulda, Dr.P.H.  
Academic Advisor: Shande Chen, Ph.D.

PCRI's purpose is to foster primary care and public health through innovative research. The site supervisor gave me an opportunity to work on one of their flagship studies conducted to assess the association between various psychosocial markers and cardiovascular physiological markers. I was able to hypothesize a research question and develop a frame work model with Dr. Fulda's and Dr. Cardarelli's guidance.

Studies suggest that there is a strong association between psychosocial factors and morbidity & mortality from cardiovascular disease (CVD). Chronic stress leading to inflammation is considered as one of the pathways for the development and progression of atherosclerosis which eventually causes CVD.

The study I hypothesized assessed the contributions physical, verbal, anger, hostility, and total aggression scores along with other psychosocial factors in elevating inflammatory biomarker levels: C-reactive protein (CRP), Fibrinogen and Interleukin - 6 (IL-6). This study could be important in emphasizing the greater role of psychosocial factors in elevating biomarker levels, increasingly suggested as having adverse effects on long term cardiovascular health.

**MONCRIEF CANCER RESOURCES: MANAGEMENT AND  
FUNCTIONING OF A NONPROFIT ORGANIZATION**

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Moncrief Cancer Resources  
Site Supervisor: Keith Argenbright, M.D.  
Academic Advisor: Kristine Lykens, Ph.D.

Moncrief Cancer Resources is an affiliate of UT Southwestern and the center is located in Fort Worth. Main concentration area of the center is to reduce the threat and impact of Cancer for the citizens of Tarrant County. The center does not focus on cancer treatment rather it takes care of the psycho-social and economic prospects of fighting Cancer. MCR is one of the only organizations of its kind in Tarrant County. Their experienced and well trained staff helps the citizens to prevent chances of cancer and early detection, an array of services is offered to the patients once the cancer is detected. At the same time MCR dedicates its resources to cutting edge and novel research for early detection of cancer, considerably increasing the life quality of cancer patients and decreasing the mortality from cancer.

**THE EFFECTS OF REGULATED FOOD INDUSTRY ON  
THE FIELD OF PUBLIC HEALTH**

Melody Thompson  
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Every year there are reports of food-borne illnesses and deaths due to *Salmonella*, *Escherichia coli* O157:H7, and *Listeria monocytogenes* contaminations. Analytical Food Laboratories (AFL), a privately owned laboratory in North Texas, provides analytical testing services to the food industry, in an effort to reduce or prevent future food-borne outbreaks and product recalls. My objectives at AFL were to gain experience validating the sanitation, pre-production and post-production methods used by food manufacturers to ensure they are producing safe products, as well as, validating and auditing AFL's methods to ensure proficiency of the technicians and processes in use by the laboratory. These tasks ensure that food manufacturers are following the regulations established by governmental agencies and reduce the likelihood that food-borne illnesses will become a threat to the health of the public.

**SILENTLY SUFFERING: ANALYSIS OF MOOD DISORDER PREVALENCE,  
TREATMENT DIFFICULTY PATIENT FORWARDNESS WITH  
REGARDS TO DEMOGRAPHIC FACTORS IN ADULTS  
AT A RURAL CLINIC IN SAN SABA, TEXAS**

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Site Supervisor: Craig Whiting, D.O.  
Academic Advisor: Jim Stimpson, Ph.D.

All mood disorders (MDO) combined represent the second most common mental health diseases in the United States. Of these, the most prevalent are major depressive disorder (MDD), bipolar disorder (BPD) and dysthymic disorder (DD). A chart review of clinic electronic medical records from August 2004 to March 2009 found 548 patients with a diagnosis of MDD, BPD or DD. For each patient, treatment difficulty (TDS) and patient forwardness scores (PFS) were calculated. For TDS, statistically significant inter-disorder differences exist except DD with MDO and DD with MDD. For PFS, the following significant differences ( $p < 0.05$ ) between demographic factors are present: whites were more forward than Hispanics with MDO and DD and singles were more forward than married patients with MDO. Furthermore, there were trends towards decreased forwardness with age. Prevalence and odds ratios for all disorders were similar to national averages.