TEXAS PUBLIC HEALTH ASSOCIATION
IN ASSOCIATION WITH
THE UNIVERSITY OF TEXAS
SCHOOL OF PUBLIC HEALTH

STUDENT PRACTICUM
Practicum Experiences Give Public Health Students an Opportunity to Apply their Academics
Practicum Experiences Give Public Health Students an Opportunity to Apply their Academics

A practicum provides public health students with an opportunity to gain public health practitioner experience while they complete their degrees. Students are linked to community sites where they apply what they have learned by tackling real-world problems identified by the hosting institution. They are mentored, supervised, and guided by practicing public health professionals who agree to be their preceptors. The Council on Education for Public Health (CEPH), the accrediting agent of U.S. Schools of Public Health, requires that a practicum be a key part of the curriculum of public health schools. Successful completion of a practicum is a requirement for the MPH and DrPH degrees at the University of Texas School of Public Health. Dr. Linda E. Lloyd heads the UT Office of Public Health Practice which operates the practicum program.

In this segment of our tribute to National Public Health Week, "Celebrating Public Health through our Students" we detail a select set of practicums, each tailored to the individual student. As a result, the problems that are the focus of study reflect the wide-ranging professional interests of public health students and the vast variety of needs of the community. The 2007 Spring and Summer practicum abstracts below have been chosen by the Journal as representative of the challenging work being done by public health students in addressing community problems. On behalf of the public health community, the Journal expresses its appreciation to the students and to their faculty sponsors as well as to hosting organizations and preceptors who make these learning experiences possible.

Focus Area: Cancer

Topic: Children with cancer
Title: This project was concerned with amassing a hospital-based population of controls for case control studies in children with cancer and to establish normative data for the mutagen sensitivity assay and COMET assay
By Joseph Nichols

Each year, approximately 12,000 to 13,000 children and adolescents are diagnosed with cancer in the U.S. The etiology of many of these cases remains undetermined. Meanwhile, children with cancer have very different survival rates, even within the diagnostic category. Common factors – e.g., age at diagnosis, type of cancer, metastases and surgical resectability – do not explain all the differences that are observed in patient survival. Other indicators are needed. The mutagen sensitivity assay and COMET assay may aid in cancer prognostication; however normal values for these assays have not been established in non-cancer populations.

Approach
This project was concerned with amassing a hospital-based population of controls for case control studies in children with cancer and to establish normative data for the above assays. Families on the inpatient floors of Texas Children's Hospital were asked to complete a 45 minute questionnaire assessing exposure history for a number of factors of interest. Each patient was also asked to provide a blood or saliva sample.

Findings
A total of 35 consents were obtained over the course of this project. Biological samples were obtained from 25 patients.

Essential Services of Public Health
Essential services included: 1) diagnosis and investigation and 2) research.

Topic: Endometrial cancer
Title: The Role of Endoplasmic Reticulum Stress Protein GRP78 in Endometrial Carcinoma
By Shannon N. Westin, Russell R. Broadus

Public Health Significance
Endometrial cancer is the most common gynecologic cancer in the United States and the fourth most common cancer in women. Most cases are early stage and curable, however, a subset is aggressive and resistant to surgery/chemotherapy. Identification of mechanisms of resistance has the potential to improve survival in this disease. GRP78 is a protein involved in the endoplasmic reticulum stress pathway. It is over-expressed in multiple solid tumors and associated with chemoresistance. We sought to describe the expression of GRP78 in endometrial carcinoma and determine the clinicopathologic characteristics associated with level of GRP78 expression.

Approach
We obtained normal and endometrial cancer specimens from the Gynecology Tissue Bank. RNA was extracted and analyzed by quantitative polymerase chain reaction. Demographic, clinical and pathologic data was collected from the medical record. Statistical analysis was performed using Mann-Whitney and Kruskall Wallis tests.

Findings
Expression of GRP78 was higher in normal endometrial specimens compared to cancer. Among cancer specimens, GRP78 expression fell with increasing grade and stage. The loss of GRP78 expression was associated with more aggressive disease. Further study of GRP78 in the endometrium is needed to understand the significance of this protein in endometrial cancer.

Essential Services of Public Health
This project addressed the core public health function of assessment.

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Focus Area: Disaster preparedness and emergency care

Topic: Emergency care
Title: Emergency Trauma Care and Response within the Houston-Galveston Service Area
By Mary Schuwerk

For my practicum, I worked with the Houston-Galveston Area Council to assess emergency trauma care and response within Harris County and 12 other surrounding counties over a three year time span (2004-2006). My project was to distribute a survey to hospitals and EMS providers, collect surveys, enter results, and report the preliminary results to the Emergency/ Trauma Care Policy Council. The report was to illustrate some of the current trends within our community’s emergency response system.

Public Health Significance
Emergency rooms within the Houston-Galveston area are seeing an increase in demand, and as a result, are becoming over-loaded and overcrowded. In order to help alleviate some of the strain on these hospitals, it is important to first evaluate the source(s) of the demand and the obstacles hospitals and EMS providers encounter in providing efficient and effective emergency healthcare services. Having a well-organized and efficient emergency response system within the community is a matter of life or death for its members, and it is vital steps be taken to address the present ER overcrowding within this area.

Approach
Members of the Data Committee and I met to revise and agree upon two surveys that were administered. One survey was sent to EMS providers and selected fire departments within the 13-county region. The other survey was mailed to hospitals within the same region. A month long period was given to participants for completing and submitting the survey, and three weeks were devoted to “follow-up” for the request of additional information as needed. Survey data was entered when received into an Excel spreadsheet. A preliminary report was given to the Emergency/Trauma Care Policy Council on July 27, 2007.

Findings
For the final product I reported to the Emergency Trauma Care Policy Council on some findings from each of the collected surveys. Participation in the project will continue after the completion of the practicum.

Thus far the data shows an increase in demand on the region’s emergency healthcare system in 2005 and declining some in 2006, but additional surveys could possibly alter this presently seen trend. Additional followup is needed and will continue to encourage more participation. Further data analysis will also be performed.

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Focus Area: Environmental

Topic: Air Quality
Title: “Analysis of Air Toxic and Meteorological Data for a Community Advocacy Organization”
By Steve Russell

Public Health Significance
A practicum was completed with Mothers for Clean Air ("MICA"), a nonprofit, membership organization concerned with air pollution in the Houston-Galveston area and its effects on children’s health. The specific project was to analyze air toxics data from a South Houston neighborhood and to determine if correlations existed between concentrations of the air toxics and meteorological data. The project had public health significance as it concerned the effects of air pollution on children’s health.

Approach
Hourly concentration data for fourteen air toxics and meteorological data collected by the Texas Commission on Environmental Quality ("TCEQ") in a South Houston neighborhood during seven 72 hour sampling periods were downloaded from the TCEQ website in text format and loaded in Excel. The data, which were in parts per billion, were converted to mass measurements (mg/m3). The TCEQ does not use daylight savings time ("DST") in its reporting and adjustments were made for sampling periods during which DST was in effect. SPSS data files were created from the Excel spreadsheets and the data were analyzed. Because the air toxic data did not appear to be normally distributed, the data was Log 10 transformed. Wind direction data, which were reported in degrees, were converted to eight “wind bins” (north, northeast, east, etc.). Transformed air toxics data that appeared to have approximately normal distributions for all wind bins were analyzed using one-way ANOVA with Bonferroni post hoc comparisons. Air toxics data that did not appear to have approximately normal distributions were analyzed using non-parametric methods. Statistical significance for all analyses was set at p < 0.05.

Findings
A report was prepared, summarizing the findings from the statistical analyses. Generally, concentrations of air toxics in the subject area were lower when the winds were out of the south or southeast and higher when winds were out of the northeast or east.

Essential Services of Public Health
The essential service of public health addressed by this project was protection from environmental hazards. The analytical findings from this project will be used by MICA as part of its continuing work on children’s health issues.

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Focus Area: Infectious disease, infection control and epidemiology

Topic: Foodborne surveillance of Salmonella
Title: Intern, Foodborne Surveillance Team, Houston Department of Health and Human Services (Bureau of Epidemiology)
By Emily Bettis

Public Health Significance
My practicum focus, investigation of Salmonellosis in the City of Houston, is an important public health concern for several reasons. First, Salmonella infections are classified as reportable by the CDC, so it is the responsibility of local health departments to gather information about the prevalence of Salmonellosis in their respective jurisdiction. Second, Salmonellosis has been estimated to have a cost (medical and loss of productivity) upwards of several billion dollars annually in the U.S. Third, these infections can cause mortality in the very young, the very old and the immunocompromised.
The scope of my practicum involved investigating Salmonella infections in the City of Houston, analyzing data collected in 2005 for Salmonellosis, and responding to foodborne outbreaks in Houston.

Approach
The approach taken in the investigation of current Salmonella cases in Houston is established protocol for the Bureau of Epidemiology. First, labs confirming Salmonella infection are received at the Bureau. Then it is up to investigators to contact the patients and do a thorough investigation of the case, in order to determine possible sources of infection, as well as epidemiological links and possible outbreaks. To analyze the 2005 Salmonellosis data, I was given the complete set of Houston cases and used a statistical software package to determine incidences, age and gender-specific rates, and other characteristics common to a descriptive epidemiological study.
I produced charts, graphs, and a written report and presented my findings to the health department. In my investigation of foodborne outbreaks, I accompanied the Bureau of Epidemiology outbreak investigation team to sites in order to investigate possible infection sources and to interview patients to gain insight regarding causes and possible solutions to the outbreak. These data are compiled by the investigative team and presented to the bureau.

Findings
Prior to my practicum experience, I was relatively unaware of the large impact that foodborne infections have on our public health system. During my practicum, there were several important outbreaks and discoveries (i.e. Salmonella-infected peanut butter recall) that shed some light on the public health burden caused by foodborne illnesses. I also learned a great deal about the function of the city health department. In my analysis of the Salmonellosis 2005 data, I found that the incidence and specific rates in Houston basically mirror those of the U.S. in general.

Essential Services of Public Health
Monitor health status to identify community health problems
Diagnose and investigate health problems and health hazards in the community.

Topic: Multidrug-resistant infection
Title: Infection Control and Healthcare Epidemiology Practicum
By Carolina Espinoza

A practicum in Infection Control and Healthcare Epidemiology addresses one of the most basic public health issues; controlling and preventing the spread of infectious diseases. Infections can affect everyone, they do not discriminate, and in many cases have adverse or even detrimental effects. While some infections have been commonly associated as being hospital acquired there has been a movement of certain infections into the community. For example, Methicillin-Resistant Staphylococcus Aureus (MRSA) infections were once thought to be only hospital acquired. However, the last 20-30 years have seen a shift in these infections and they are now being seen in the community. Community associated MRSA strains are also causing serious healthcare-associated infections in all ages. While patients in hospitals remain at highest risk for experiencing adverse effects from MRSA, a plan is needed to control its spread among all populations before it becomes a pandemic. The Center for Disease Control and Prevention (CDC) as well as the Society for Healthcare Epidemiology of America (SHEA) have recommended that hospitals implement a program of active surveillance cultures to identify colonized patients. They suggest that surveillance cultures are acquired at the time of hospital admission and that all medical staff use contact precautions (gowns, gloves, and masks) for care of colonized patients in order to prevent the spread of MRSA.

Through the collaboration of the UTHSC Medical School and Memorial Hermann Hospital, I am having the opportunity to work on a project was established to pilot the CDC and SHEA recommendation for active surveillance of MRSA in the adult Intensive Care Units from March 12, 2007 to June 12, 2007. The data collected will be used to determine the incidence of nosocomial MRSA cases in the adult Intensive Care Units from March 12 to June 12 of 2007. It will also be utilized to compare the incidence of nosocomial MRSA cases from March 12, 2007 thru June 12, 2007 to the baseline period of November 1, 2006 thru January 31, 2007. For the pilot project all patients admitted into the units will be placed on modified isolation (practice of wearing clear gowns and gloves). The pilot project procedures required that the bedside nurse swab any newly admitted patients. As an intern, I then collect the swabs and transport them to the laboratory for testing. The laboratory processes the samples using the 1DI-MRSA rapid real-time PCR assay. Patients reacting positive for MRSA are placed on standard hospital MRSA isolation protocol. I will

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create a database for the results and analyze the data at the end of the collection period. Due to the fact that the pilot is currently being conducted there is no final data to present at this time. However, the final product will be an incidence for MRSA in the Houston community based on Intensive Care Unit admissions to Memorial Hermann Hospital and will help address the lack of incidence data for MRSA in the Houston adult population. Overall, a practicum in infection control and healthcare epidemiology has allowed me to use my Epidemiology education to educate others about infections, manage existing infections, and prevent future infections that can impair the lives of individuals and communities.

Topic: Tuberculosis
Title: Correlation between production of Trehalose Dimycolate and virulence in Mycobacterium tuberculosis
By Ranjana Arora

Public Health Significance
Among infectious diseases tuberculosis is responsible for the greatest number of deaths. Each year, 54 million people are infected with the tubercle bacillus (Mycobacterium tuberculosis), 6.8 million develop clinical disease and 2.4 million people die of tuberculosis. Tuberculosis is responsible for 5% of all deaths worldwide, and 9.6% of adult deaths in the 15-59 age groups. Until the mid-1980s, tuberculosis in the United States had been declining. Then starting in 1986 there was a dramatic rise in the number of new cases attributed to a number of factors, including deterioration in the public health infrastructure, rising numbers of homeless individuals and most importantly, the growing AIDS epidemic.

In recent years explosive outbreaks of tuberculosis have devastated hospitals, prisons and schools, and new strains have emerged with increased transmissibility. The cost of multidrug resistant cases was found to be as high as $250,000 per case (D. Snider, TB Eradication, CDC. MMWR 39:369-371, 1990). The current cost of tuberculosis control in the US is estimated to be approximately $700 million to $1 billion per year (Brown RE et al, Arch Intern Med, 155:1595-1600, 1995). In spite of being one of the oldest infections known to mankind, the pathogenesis and virulence are not well understood. There is tremendous research potential in understanding as well as developing simple methods to assess these mechanisms.

Approach
Trehalose dimycolate (TDM), a glycolipid also known as cord factor, is present in the mycobacterial cell wall and is a known virulence factor. Correlation between amount of TDM produced in clinical isolates (assessed by running dilutions on Thin layer chromatography) and the severity of infections hasn’t been studied. During my practicum, I studied the morphology on culture of several mycobacterial strains and then extracted TDM (using petroleum ether- a lipid solvent) from these strains. I assessed if there was any correlation between the type of morphology and amount of TDM produced. This involved laboratory as well as epidemiological work. I started with growing the organisms, separating the TDM, quantization of TDM (collection and collation of data) and then carried out the data analysis to look for correlation.

Findings
I found that strains of mycobacteria that produce different amounts of TDM show different pellicle morphology. Knowing at an early stage that the strain in a patient or a community setting could be highly virulent just by looking at pellicle morphology would help us better plan the interventions.

Essential Services of Public Health
The essential service of public health that my project focused on is “assessment”. Better understanding and predictability of virulence of mycobacterium will help us focus the resources in a better way. The other essential service of public health influenced by the findings is “policy development”. Public health authorities as well as hospitals can plan the interventions based on the severity or predicted level of virulence for effective control of the disease.

Topic: Tuberculosis
Title: Upregulation of IFN-γ Production for Enhanced TB Detection in Vulnerable Populations
By Marsha Lynn Feske

Public Health Significance
It is estimated that 1/3 of the world’s population is infected with Mycobacterium tuberculosis (TB). TB is an airborne pathogen spread from human to human. There are 8 million new cases of TB every year, due in part to poor diagnostic outcomes resulting from the use of the century old skin test, or TST.

Two different tests have recently been developed, QuantiFERON-TB Gold (QFT-G), and T-SPOT TB. Both are more specific and more sensitive then the TST, capturing more truly infected and contagious hosts. They detect T-cell Interferon-γ (IFN-γ) production in response to antigens specific to M. tuberculosis. The problem lies in that although the FDA has approved the QFT-G, its approval is limited to use only in HIV negative adult populations. This limitation is a result of low IFN-γ secretion in other populations and excludes its diagnostic use in two populations most vulnerable to TB infection: children and HIV-infected individuals. In summary, the more accurate, and therefore more ethical ways of testing for TB, are not being used for our most vulnerable and most likely to be treated populations. A study completed in 2001 reported treatments cost on average $4,764 per person, while a more accurate test costs only a few hundred dollars and is less-invasive. Our goal is to improve TB detection in populations, by examining cells of TB infected people

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and using cytokine addition to improve antigen specific responses.

**Approach**

Outlined in the learning contract were the tasks of acquiring TB positive blood samples and performing lab work to test the hypothesis that IFN-γ secretion could be upregulated by the use of a survival cytokine. During my time in Dr. Lewis’ Immunology lab at Baylor I learned how to isolate and stimulate Peripheral Blood Mononuclear Cells from whole blood, how to measure IFN-γ secretion using a sandwich ELISA and the many public health benefits and applications of Flow Cytometry and bench work in general. I have experienced first hand the importance of being able to troubleshoot and find the missing pieces in the puzzle of research. Epidemiology and lab based research work most effectively hand in hand. Public health efforts have shown that HIV infected and pediatric populations are more vulnerable to active TB infections and research efforts are underway to eliminate this disparity.

**Findings**

After collaborating among UT, Baylor, and health department staff, TB positive bloods were located for testing of a lab based hypothesis. Evidence was generated supporting the hypothesis that IFN-γ secretion can be upregulated using a cytokine. However more data is needed to provide conclusive evidence whether or not the cytokines action was antigen specific.

**Essential Services of Public Health**

This project addressed several essential services of public health. As has been explained, research was central to my practicum. The hypothesis was based on previous laboratory findings and through mobilization I was able to acquire TST and TB positive bloods to test the hypothesis. By meeting with TB professionals in Houston and surrounding communities I was able to open doors to acquiring bloods needed and open opportunities for further collaborative efforts in the future.

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**Topic: HIV needs assessment**

**Title: Houston Area HIV/AIDS Needs Assessment Practicum**

By Rachel A. White

**Public Health Significance**

HIV/AIDS is a disease that affects thousands of people living in the Houston area. According to the 2006 Epidemiological Profile “at the end of 2004 a total of 17,168 people were living with HIV/AIDS in the Houston HSDA, more than half 58% of whom had an AIDS diagnosis. There were 800 newly reported HIV cases, and 942 new AIDS cases for the year.”

**Approach**

The Ryan White Planning Council wants to discover any difficulties persons living with HIV/AIDS in the Houston area have experienced in entering and maintaining care since their diagnosis with HIV. The goal of the organization was to reach 800 people living with HIV/AIDS in the Houston Area. We

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**Focus Area: International health systems and delivery**

**Topic: Health care delivery**

**Title: Analysis of Primary Health Care Delivery in Costa Rica**

By Sherrie Wise

The healthcare system of Costa Rica has been called possibly the best in Latin America. With approximately 90% health care coverage, Costa Rica boasts of its system’s high regard for solidarity, equality, and the human right to receive health

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care. This analysis attempts to look specifically at primary health care provision in Costa Rica. Methods for analysis include research of existing literature, personal observation of primary care facilities in urban and rural locales, as well as interviewing various members of the health-care and civilian communities.

Well-known to the majority of its inhabitants (Costa Ricans and foreign national immigrants alike) is the Caja Costarricense de Seguro Social (CCSS) (Seguro Social) which offers public health care to citizens as well as non-citizen residents. CCSS was originally founded in 1941 and underwent significant changes in the ’70’s and ’80’s which socialized health care and made coverage “universal”. Today, Seguro Social consists of three main levels of care (and a 4th consisting of specialized rehabilitation services); The primary level of care is provided by the “Equipos Básicos de Atención Integral en Salud (EBAIS)” and focuses on basic primary care, prevention, and promotion. Most EBAIS teams contain 1 general practitioner, one auxiliary nurse, one pharmacy technician, and one primary care technician. Vaccines, medical exams, asthma treatments, pap-smears, etc… are provided by the EBAIS teams, which are strategically located in clinics throughout the country.

One EBAIS team is allocated to “sectors” of approximately 4,000 – 5,000 inhabitants. In highly populous urban areas, two to four EBAIS can be located in the same clinic building, referred to as a “nucleo”. The clinics also house a pharmacy and dental office. Approximately 900 EBAIS teams service 87% of the healthcare needs of Costa Rica. The remaining 13% is divided among the second and third levels of care-hospitals, and specialists respectively.

The Primary care technicians (Técnico de Atención Primaria (ATAP)) are a critical component of the first level of care. These technicians provide ambulatory services and theoretically visit each home at least yearly. The ATAPS collect written record of each inhabitant, including name, affiliation status, vaccination record, blood-pressure, blood sugar measurement, pap-smear result history etc… and provide prevention and promotion information as well. The ATAPS also provide in-home child vaccinations weekly. When needed, referrals are given to the local EBAIS clinic.

Problems with the EBAIS arise from lacking technology. No appointments are taken by phone, thus patients must arrive early, usually at 5:30 AM, stand in line, and wait to be given an appointment time to return. Appointments are often given for the same day, though the inconvenience discourages use. Also, the pharmacy hours, which recently changed, are now restricted to half days. There is no computerized network among and between the EBAIS clinics, though one is said to be implemented soon. When speaking with patients, quality of care received mixed reviews. Some speculated that EBAIS physicians also working in private practice indirectly encourage use of private health-care by providing poor public service. The supposed cause: private care increases earnings. Another issue: and possibly the most critical, is the long wait time when referred to the third care level - the specialists. Said wait times have been known to exceed 6 months – 1 year, depending on the treatment required.

**Topic:** Hospital waste management  
**Title:** Creation of an Assessment Tool for the Comprehensive Evaluation of Hospital Medical Waste Management Programs in Developing Countries  
**By Scott Patlovich**

Inherent to the delivery of health care is the generation of potentially infectious waste materials. If these wastes are not handled and processed appropriately, they can represent an infection risk to health care workers, waste handlers, and the public. Certain types of potentially infectious wastes, such as contaminated sharps, also exhibit the ability to create a portal of entry for infection through punctures or cuts, representing an even greater public health concern. As a result, adherence to proper medical waste management practices, such as those set forward by the World Health Organization and/or national or local governments, is imperative. This practicum project will involve the creation of an assessment tool for the comprehensive evaluation of medical waste management practices in the health care setting in developing countries.

Based on experience from a recent evaluation of hospital medical waste management practices in the Republic of Trinidad & Tobago, the generated assessment tool will be applied to a site visit at a hospital in Mongolia. This tool will allow for the identification and comprehensive evaluation of types, volumes, and sources of potentially infectious waste, as well as the handling, transportation, storage, and disposal in hospitals. The discussion will then center on the currently employed means of waste disposal observed during the assessment, the possible inherent risks, and a list of possible interventions that might be considered to address any issues identified. Comparison of the Mongolian hospital visit findings to the WHO, national and local government regulations, as well as previous findings from the assessment in Trinidad & Tobago will be conducted.

Post-assessment improvements to the tool will be made if necessary, with the goal of producing a product which could be used for similar future assessments. All assessment findings will be reported back to the hospital at the time of evaluation and again in writing to provide a collegial, non-regulatory review of the findings and suggestions for improvement.

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Topic: Service learning
Title: Providing health services to rural Nigerian widows
By Adebola Adedeji
This project was a medical mission trip to three rural townships in Nigeria, Ibadan, Ile-Ife and Oke-Imesi. Two physicians and a nurse practitioner from San Antonio offered screening for basic diseases under the umbrella of a benevolence organization (Abundance Ministries) in an effort to evaluate the health needs of the populations. The organization serves widows in Nigeria through the provision of aid in the form of food items, money and essential medicines.

The participants in the medical trip were on average sixty year old African women of low to extremely low socioeconomic status. Their occupations ranged from petty trading to farm work and most were uneducated.

Specific Aims
The aim of the program is to provide medical services free to these widows on a yearly basis. On this trip, the physicians wanted to determine what health problems are peculiar to them and to the region in general, and to use this information in the design of future interventions. Also to provide health education, advice and medicines for the treatment of the most common health conditions encountered.

Method of Intervention
Mini clinics were set up in pre-arranged locations in the towns visited. All participating and supporting personnel were volunteers. A triage table was set up manned by nurses. At this table, blood pressure, random blood sugar and weight measurements were obtained and noted on a small sheet of paper. Women were then sent up to three tables/rooms with the paper in hand to consult with the doctor/ NP one at a time aided by a translator. Diagnosis and prescription were noted on the paper and patients moved on to the medication dispensing unit. This unit was manned by a pharmacist and two or three other technicians. Drugs were dispensed with instructions and the paper retained for record purposes. Eye/reading glasses were also given to those who complained of inability to read.

Results
The trip was a resounding success with a total of nine hundred and four (904) patients being seen. The predominant condition encountered was hypertension (41.7%). Generalized body aches and pains, arthritis, impaired glucose tolerance, skin conditions were also encountered. The oral health of the majority of the participants is poor and would require at a minimum some form of gross scaling before oral hygiene instructions would begin to make some sense.

Public Health Implications
Health education on these common conditions should be instituted and increased. Most of the women diagnosed with hypertension were unaware of their conditions and had not ever had their blood pressure checked. Monthly or biweekly programs to address this would greatly benefit the population.

Essential Services Addressed
Provision of medical care to patients, link individuals who have a need for community health services to appropriate community and private providers by referring to the health centers and informing them of their health conditions. As a follow up, the organization also provides biweekly medical clinics in which blood pressure is measured and medications are refilled.

Focus Area: Policy and cost benefit analysis

Topic: Childhood obesity
Title: Childhood obesity practicum
By Kaily Harrell
The prevalence of childhood obesity has been increasing at alarming rates for the past couple of decades. Obese children are at risk for developing many health complications. Furthermore, they are at an increased risk of becoming obese adults. It is estimated that approximately 22 million children under the age of 5 years old are overweight around the world. A majority of the interventions have created nutritional and physical education curriculum that are provided to school age children. With these programs being introduced into schools and communities, problems surrounding childhood obesity are becoming more public and political.

Through tracking and summarizing bills introduced during the 80th Texas Legislative session, the importance of policy changes affecting childhood obesity will be identified. It will be important to understand the motivations behind the introduction of many of these bills and who supports them. Tracking these bills will provide the opportunity to learn about both public and private organizations which are stakeholders in these issues. Learning about these bills will also provide an opportunity to understand the impact of past and current policies that have affected childhood obesity in Texas and other states. Ultimately, addressing the impact of obesity on Texas youth will help to identify the most effective source of action that should be taken by Texas policy makers to help prevent childhood obesity.

Topic: Cost analysis
Title: Diseases Caused by HPV: Costs of Treatment
By Sara Staggs

Public Health Significance
In early 2007, the governor of Texas issued an executive order mandating that 6th grade girls be vaccinated with Gardasil, the vaccine for the human papillomavirus (HPV), beginning in the Fall, 2008. For a variety of reasons, the order was rescinded, but the debate on whether the vaccine should be

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required remains. The cost of the vaccine is one of several concerns expressed by people who are against mandating the vaccine. This cost analysis is designed to explore the impact on money spent on HPV in the long run.

Approach
I used databases from the library to locate research about diseases caused by HPV. I entered the lifetime risks, incidence rates into a table to be applied to the cost of treatment for each one.

Findings
Though this estimate should still be considered rough, preliminary calculations show a direct cost in savings of $178,184,714 in 2006 dollars if every 6th grade female in Texas were vaccinated this year. More work still needs to be done in that costs of treatment of some of the diseases (cervical cancer, for example) should be updated. Furthermore, utilizing recurrence rates will allow for a more sophisticated analysis, as well as increase the amount of savings, since only one lifetime occurrence is currently accounted for.

Essential Services of Public Health
One of the most essential services of public health is preventative care, and within this category lies vaccination. My project works to help defend the need for this type of preventative care. By demonstrating that the HPV vaccine is cost effective, the project makes the case that it financially makes sense to inoculate girls against the HPV virus.

1 MacLaggin, Corrie. Perry’s HPV vaccine order draws backlash from GOP. Austin American-Statesman; February 6, 2007.

Disparities in Available Emergency Preparedness and Response Core Competency Training Courses for Public Health Officials
Jeff R. Bowman, Annamarie Bokelmann
Texas A&M University Health Science Center, School of Rural Public Health, College Station, Texas

Abstract
According to the U.S. National Response Plan, Texas public health policy must address the training of public health officials that may be expected to respond to a hazardous substance/WMD event. This training should be competency driven, performance based, and most importantly, developed for a public health audience. Training targeted to public health officials that focuses on core competencies essential for successful emergency response is crucial yet difficult to identify. This study will show that there is a void, both in Texas and nationally, in the emergency preparedness training marketplace with respect to public health professionals and public health protection. A study of training providers and courses available will be conducted to illustrate this deficiency. This will be accomplished through a limited internet search of training providers, public health organizations, and government agencies. Based on the findings, a model training program addressing the emergency preparedness core competencies will be discussed.

Biosketch: Jeffrey Robert Bowman
(jbowman@sph.tamhsc.edu)
Mr. Bowman has recently begun working towards his Masters of Science in Public Health (MSPH) with a concentration in Environmental and Occupational Health through the Texas A&M Health Science Center, School of Rural Public Health. Mr. Bowman is an Instructor and Program Coordinator for the Environmental Training Program for the Texas Engineering Extension Service (TEEX), a part of the Texas A&M University System. In his present position, he coordinates and manages a team of adjunct environmental instructors to provide environmental training courses for industrial, military, governmental and private entities.

In addition to the responsibilities of Program Coordinator, Mr. Bowman also develops and provides training in hazardous waste management, environmental regulations, transportation of hazardous materials and waste, hazard communication, and hazardous material emergency response. Mr. Bowman joined TEEX in July 1999 after holding several managerial positions in private industry. He has over 20 years experience in environmental management, emergency response, and environmental remediation & cleanup projects. He is a graduate of Humboldt State University in California with a Bachelors of Arts in Botany and also holds a Certificate in Hazardous Materials Management from the University of California at Irvine. Mr. Bowman has numerous certifications.

Student Research Highlighted at the Texas Public Health Policy Forum

We offer our congratulations to the students of Texas higher education institutions whose research was selected for presentation at the Texas Public Health Policy Forum, held January 17 – 18, 2008 in Austin, Texas. Abstracts and brief academic and professional biographies of the lead presenters are found below. The backgrounds of the students range from those just beginning their careers in public health or related areas to mid-career professionals who have sought to strengthen their knowledge in the disciplines supporting public health or policy.

The range and depth of the work presented are indicative of the broad challenges of the 21st Century faced by professionals whose vocation centers on public health. The work of these students and their academic advisors and coauthors also demonstrates the critical role played by Texas higher academic institutions in preparing public health practitioners and policy-focused professionals to meet these challenges.

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