Public Health Practice

Stories from the Field
The University of Texas School of Public Health
Student Practicum Experiences
Summer 2013 – Epidemiology
The practicum experience is an integral part of the MPH and DrPH curricula. Public health students are provided with the opportunity to apply their classroom knowledge to real world settings through which they make a meaningful contribution to a public health organization.

Under the guidance of a community preceptor and faculty sponsor, students from all divisions gain a deeper understanding of public health practice, interact with professionals in the field, and expand their repertoire of professional skills.

This eleventh-edition e-magazine showcases student practicum experiences throughout the Summer 2013 semester. (Prior semesters may be accessed through the e-book, a collection of student abstracts and e-magazines describing their experiences.)
### Practicum Topics

Serving Size: 1 Practicum per Student  
Servings per e-Magazine: 20

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Public Health Significance

According to the CDC, children in Texas aged 2 years to less than 5 years are 16.8% overweight (85th to less than 95th percentile BMI-for-age) and 15.3% are obese (equal or greater than 95th percentile BMI-for-age).

In an effort to fight childhood obesity, the primary intervention of the project Texas CORD project will implement CATCH, a program that promotes children physical activity, among selected HISD schools and HS centers in Houston.

The preliminary information obtained from the surveys will help evaluate the effectiveness of the CATCH program among the intervention centers and schools compared to the control schools and centers in Houston, providing crucial information to the ultimate goal of the Texas CORD project.

Texas Childhood Research Demonstration Project: Survey Distribution

By: Lani Alcazar

The Texas CORD is a CDC funded project, which aims to evaluate an integrated obesity prevention programs in Austin and Houston. CORD aims establish a connection between families, schools, pediatricians and local youth organizations to support a healthy lifestyle among children.

The Michael and Susa Dell Center will assist in the primary intervention of the project, which will implement obesity prevention programs in schools. My duty was to distribute and collect surveys from selected Head Start centers and Houston Independent School District elementary schools to obtain preliminary information for the intervention.

Our goal was to obtain an 80% percent response rate from the survey distribution in HS center and HISD schools. As a result we obtained a 95% response rate from the Head Start Centers and a 91% response rate from the HISD schools in the intervention group combining second and fifth grade.

Lessons Learned

• Before distributing childhood health assessment surveys across HISD schools, establish contact with the school nurse or physical education teacher, make sure he/she understands who needs to complete the survey and how. Only turn in the surveys to the PE teacher or school nurse.

Duties during your practicum

• Distribution and collection of surveys to HS centers and HISD schools in Houston.
• Follow up with teachers, organize the collected surveys and distributed gift cards among participants.

Top: Practicum Partner Meghan Braby and me. Bottom: Practicum partner Emily LaBerge and me.
Cardiac Manifestations of Chagas’ Disease

An Investigation into Cardiac Disease Among Chagas’ Positive Blood Donors in Houston, Texas

By: Zoe Apted

My practicum was completed in the Department of Tropical Medicine at Baylor College of Medicine. I worked on a research study investigating the cardiac manifestations of Chagas’ disease in blood donors that tested positive for the Trypanosoma cruzi parasite infection.

Our main goals of the study were to confirm the Chagas’ infection by using two diagnostic tests not previously used on this population; to complete an echocardiogram on all participants; and to evaluate exposure and risk factors to further understand the modes of disease transmission.

My main duties during the project included data collection, researching and identifying assay tests, and confirming the infection in donor blood samples.

One of my final products was the completion of a database to store and analyze the data collected over the course of the project.

Public Health Significance

The Public Health Essential Service(s) (PHES) that most closely related to my practicum experience included diagnosing and investigating health problems and health hazards within the community, linking people to needed personal health services, and researching for new insights and innovations within the field.

The Department of Tropical Medicine at Baylor is committed to solving the most pressing tropical disease issues for people around the globe. My research project was specifically invested in identifying the sources of Chagas’ infection within the community while also providing research participants with medical resources, such as an echocardiogram, that may have been otherwise financially inaccessible. The project is committed to better understanding the risks and outcomes of Chagas’ disease in order to improve future prevention and treatment options.

Special events/duties/highlights during your practicum

- Working with leading experts in the field who were dedicated to the goals of the research project
- Seeing the specific aims of the project come together through the data collection process

Lessons Learned

- Take initiative and reach out to people whose research interests you; if they can’t take you on for a practicum, they may connect you with someone who can.
- Don’t be afraid to ask for what you need; my advisor gave me invaluable guidance throughout my entire practicum experience.

Life cycle of Trypanosoma cruzi parasite infection
http://www.cdc.gov/parasites/chagas/biology.html

Triatominine Insect (source of T. cruzi Infection)
Despite the huge national investment in oral health, there is little understanding of the returns in terms of quality. There are a plethora of proposed dental quality measures, many of which are redundant, loosely defined and not empirically grounded; and successful quality improvement efforts are often siloed within individual institutions. The increasing adoption of Electronic Health records give us the tools to efficiently collect quality measures, assess the relationship between these measures and longitudinal outcomes, and pool data across sites.

The final product of my practicum is a research proposal to test the extent to which dental sealant eMeasure, as specified by Dental Quality Alliance, produces credible (valid) results about the quality of care when implemented at practice and population level.

The aim of this project is to measure quality of care using services like sealant placement in children that has proven to contribute to improving oral health and determining whether these services are being provided to positively impact oral health.

**Public Health Significance**

“Evaluate effectiveness, accessibility, and quality of personal and population-based health services.” –Public Health Essential Service #9

“Research for new insights and innovative solutions to health problems.” –Public Health Essential Service #10

Several reports have been published on dental public health quality measures, leveraging surveillance studies, like NHANES, solidly establishing that there are disparities in the quality of dental care.

- Approximately 25% of children aged 3–5 and 6–9 years living in poverty had untreated dental caries. Dental sealants were more common among non-Hispanic white adolescents (56%) compared with non-Hispanic black adolescents (32%) aged 13–15.

The UT School of Dentistry, Houston is committed to remove disparities, improve access to dental care, and take leaps in quality improvement initiatives in collaboration with various dental schools in the United States and internationally.

**Highlights**

First study testing the accuracy of a dental quality measure proposed by Dental Quality Alliance using axiUm and BigMouth Dental Data Repository.

**Advice for Future Practicum Students**

Make the most of the practicum opportunity to learn the practical application of your academic skills. Do not hesitate to discuss new ideas with your research team. Be open to discussions and advice from your community preceptor.
Familial Adenomatous Polyposis (FAP)

Characteristics of FAP in African Americans

By: Kara M. Calhoun

FAP is an inherited condition resulting from genetic mutations in the APC gene. These mutations cause polyp formation in the colon and/or rectum, and untreated polyps ultimately become tumors. Most patients have >100 polyps by the age of 35, and the mean age of colon cancer in these patients is 39. However, most genotype-phenotype research to date has focused on Caucasian populations.

We created a FAP database using genotype and phenotype data from medical records of African American patients diagnosed with FAP.

My duties primarily included chart review, database creation, and entry.

The final product at my site was an abstract. More importantly, the database will serve as a research resource for many years to come.

Public Health Significance

By learning more about the characteristics of FAP in African Americans, we can better understand the disease in this patient population and fulfill the following Public Health Services:

- **Inform, educate, and empower** African Americans about FAP and treatment options
- **Link people to needed personal health services** related to FAP diagnosis and surveillance
- **Research** new insights and innovative solutions to treat and prevent FAP and its related symptoms

Furthermore, this project provides novel data concerning a genetic condition in a population previously not well studied.
Respiratory Protection Program

Practicum Highlights

- Finalizing a respiratory protection program
- Creating and implementing respiratory protection training
- Conducting fit test

Advice for Future Practicum Students

- Ask questions if you are not clear about something.
- Do not be nervous if you are not an expert on the subject. Remember this is a learning experience.

Finalizing A Respiratory Protection Program and Implementing Respiratory Protection Training and Fit Testing

By: Karla Cantu

The focus of my practicum at the Texas Department of State Health Services Region 6/5 South (DSHS HSR 6/5S) was to finalize a written respiratory protection program, create and implement respiratory protection training, and conduct fit testing. A respiratory protection program is needed to comply with Occupational Safety and Health Administration (OSHA) standards and to provide a guideline for general respirator use. Using the finalized written respiratory protection program, I created and implemented a respiratory protection training program as required by OSHA to educate DSHS HSR 6/5S employees about respirators and proper respirator use. I also conducted fit testing on DSHS 6/5S employees to ensure that the appropriate respirator was selected for future use.

Public Health Significance

Finalizing a respiratory protection program, creating and implementing respiratory protection training, and fit testing are examples of enforcing public health laws and regulations to protect health and ensure safety. As required by the OSHA Respiratory Protection Standards outlined by 29 CFR 1910.134, the respiratory protection program I helped finalize is designed to help protect the health and safety of DSHS HSR 6/5S employees against respiratory hazards. One of the most common respiratory hazards DSHS HSR 6/5S employees are exposed to is the infectious airborne agent Mycobacterium tuberculosis that causes tuberculosis (TB). During contact investigations, diagnostic evaluation, and medical treatment of TB patients or contacts, DSHS HSR 6/5S employees will follow the guidelines from the written respiratory protection program and training as well as use the respirator cleared during fit testing to ensure their health and safety is protected.
Analyzing HIV Risk in Houston, TX

Practicum Highlights

- Able to give HIV (Rapid) testing and counseling
- Improved my Spanish interviewing skills
- I better understand the seroprevalence of HIV in the Houston Community
- I now have a better understanding of the programs available in Houston.
- Research is actually a lot of fun!

Advice for Future Practicum Students

- Ask around! Especially ask your professors what you are interested in and what you want to accomplish in your practicum!
- Start looking early!!!
- Ask other students what they did for their practicum and what it involved. That way you have better idea of what will be expected of you.
- Remember to have fun! Remain cool, centered and focused.

National HIV Behavior Surveillance Program Practicum

By: Kimberly Cook

The National HIV Behavior Surveillance Program (NHBS) is a program created by the CDC and was founded in 2003. This is a national program and its surveys three high risk population for HIV (men who have sex with men (MSM), injection drug users (IDU), and heterosexuals (HET). This cycle was focused on the HET population. I worked with Project Teal (a subset of the program). The purpose of this program is to analyze the HIV risk in the community through interviews in order to create better intervention and treatment programs.

My responsibilities involved interviewing participants and providing them HIV tests and counseling. The most interesting part of my job was listening to different life stories and seeing the diversity within the Houston community. The most rewarding aspect was knowing that I empowered others to protect themselves from HIV.

This internship has further motivated me to pursue a career in Public Health.

Public Health Significance

The NHBS works to monitor the HIV status within the United States. The data gathered from monitoring will then be used to evaluate the effectiveness of HIV prevention programs. Any changes in HIV rates found will then motivate the scientific community to investigate and conduct further research.

Project Teal works to inform, educate and empower the participants in order to further prevent the spread of HIV. In addition, we aid those who are found to be HIV positive by linking them to community health services and other health provisions. I think this is an extremely important aspect of any community organization because by linking together and working together we show the community we display competence in our work field. Without this aspect, it would be very difficult for the community to mobilize and solve problems together.
Postpartum HPV Screening & Prevention

Cervical cancer causes 270,000 deaths each year with more than 80% of these deaths occurring in developing countries.

Cervical cancer is the 2nd most common cancer in women.

80% of women will have HPV by age 50.

Prevalence of High-Risk HPV in the postpartum period

By: Erin Dressel

I was part of a study in the UT Houston Pediatrics Department titled “Prevalence of Human Papillomavirus Infection among HIV exposed infants.” I entered data from maternal and infant collection forms and patient charts into the study database. My main objective was to analyze a subset of the data to construct my own abstract. I did a cross-sectional study using a retrospective chart review of abnormal Pap smears and sexually transmitted infection history of mothers enrolled in this study. I compared this data to the vaginal swabs that were collected after delivery to test for high-risk HPV. The finding of high prevalence of HR-HPV after delivery could support implementation of HR-HPV screening in the postpartum period, especially in resource poor settings where a woman’s first entry to health care may be at the time of delivery.

Public Health Significance

My practicum follows 3 of the Essential Public Health Services. First, the study that I participated in examined the prevalence of HR-HPV in a cohort of HIV exposed and non-exposed infants in the Houston community. Second, the results of the study will inform, educate, and empower people about the prevalence of HR-HPV in immunocompromised patients, such as those with HIV. Third, this study researched new insights by studying HR-HPV prevalence and persistence among HIV exposed and non-exposed infants, which is a novel approach in this area of research. My own abstract will encourage further research on HPV prevalence in the postpartum period, which will support the need for screening women after delivery. This will have an impact in developing countries because lack of access to screening procedures delays diagnosis and accounts for the increased morbidity and mortality from cervical cancer.

Favorite parts of my practicum

• Working on an HPV factsheet to increase vaccination rates in Texas
• Visiting the UT Pediatric HIV clinic and observing the collection of samples for the study

Advice for future practicum students

• If you have the opportunity to see the data collection process, do it! It makes your practicum experience so much more real and you know you are making an impact in public health.

Cervical cancer causes 270,000 deaths each year with more than 80% of these deaths occurring in developing countries.

80% of women will have HPV by age 50.

HPV prevention involves increasing awareness of the virus.

Image credit: http://humanpapillomavirusweely.com/prevention.html
**Public Health Significance**

The main public health effort of this study was to research and investigate a novel way to approach a potentially fatal and expensive nosocomial disease. Our findings may allow for a more accurate diagnosis of CDI in the future hospitalized setting, thereby restricting the irrational use of antibiotics, reducing the cost of care and ultimately improving patients' outcomes.

**Clostridium difficile-Associated Diarrhea**

**Calprotectin: A Novel Marker in the Diagnosis of C. difficile Associated Diarrhea**

*Clostridium difficile* is the most important definable etiological agent of antibiotic-associated diarrhea. The infection results from three factors: presence of an elderly person or patient with important co-morbid illnesses; suppression of competing gut flora by antibiotics; and exposure to *C. difficile* spores in the environment (often a hospital).

The organism is present in the stools of 5% of healthy human adults (usually in low numbers) with rates of colonization reaching 15%-25% in hospitals where spores found throughout the environment can lead to intestinal colonization.

Utilizing qPCR has become the standard method for detection of CDI because of test sensitivity. The major problem with qPCR is it detects genes of toxigenicity not functional toxins and does not distinguish between colonization and infection. The problem of CDI diagnosis is further complicated by the fact that in patients with hospital- and antibiotic-associated diarrhea, CDI is only found in 10% of cases of these cases of diarrhea.

Therefore, rapid diagnostic aids are required in differentiating patients who are only colonized with *C. difficile* versus those who have true *C. difficile* associated diarrhea (CDAD).

We hypothesized that because *C. difficile* toxins A and B in patients with CDI produce mucosal inflammation, levels of Calprotectin, a biomarker found in the cytosol of neutrophils, would be elevated. Our results showed that Calprotectin is a sensitive marker of CDAD and allows prediction of CDAD severity.

**Advice for Future Students**

When it comes to research, do not be discouraged if you run into delays and/or roadblocks. Stay focused on your objectives and be accountable, it will pay off!
The Childhood Obesity Research Demonstration Project

By: Emily LaBerge

As a research intern at the Dell Center, I worked on various projects, but mainly the CORD Project and its components. Some of these projects include CATCH, which is the nutrition and exercise curriculum currently being implemented by teachers in HISD and Austin schools, as well as QTLM, a video game created for children teaching about healthy foods and the benefits of eating these foods.

My duties included collecting surveys across Houston from teachers in HISD schools, data entry, and focus group transcription.

I was unable to see the results from this year's CATCH curriculum (the surveys I collected), as the University of Houston statistics team is currently analyzing them. I was, however, responsible for reaching the goal percentage of collected surveys to allow for statistical analysis.

The Texas CORD Project also embodies the evaluation essential service. My practicum experience was composed of data collection, and the data collected will be analyzed to evaluate the success of the CORD project and to make improvements in future programs.

Although my practicum experience only fulfilled two essential services, the Michael and Susan Dell Center for Healthy Living fulfills almost all of the services, including monitor, diagnose and investigate, mobilize, link, and research.

Public Health Significance

The Public Health Essential Services I experienced while working on the Texas CORD project during my practicum included Inform, Educate, and Empower and Evaluate.

The CATCH component of the Texas CORD project is designed to inform and educate children on the dangers of obesity, the benefits healthy eating, and the benefits of exercise. It also empowers these children with the skillset and confidence to live a healthy lifestyle.

Advice for Future Practicum Students

• Utilize your academic advisor! Take the time to ask your advisor about their research and the research of other faculty members to get ideas for your practicum experience.
Projected impact of universal decolonization of ICU patients on the cost and incidence of hospital acquired MRSA infections in Memorial Hermann Hospital.

By: Andrea LeBlanc

For my practicum, I worked with the Infection Control Department of Memorial Hermann Hospital in the Texas Medical Center. I evaluated the implementation of a new program to control hospital acquired MRSA infections in the hospital. This new program entailed giving daily chlorhexidine baths and applying mupirocin twice daily to decolonize ICU patients upon admission to the hospital. This evaluation showed an annual cost savings of $187,607 at the TMC campus and 5 avoided hospital acquired MRSA infections over a 2 year period.

I presented this evaluation at the July Critical Care meeting and the hospital will begin a pilot program to implement the new program based on these findings. I have also written an abstract on these findings that will be submitted for publication.

Public Health Significance

Infection control practices in the healthcare setting work to provide Essential Services of Public Health by monitoring the health status of the patient population, diagnosing and investigating infection cases, informing and educating hospital staff on infection prevention practices, mobilizing departments within the hospital, developing processing plans to prevent infection, and researching new solutions to control and prevent infections.

Memorial Hermann works towards these services by tracking infectious agents in each unit to identify trends and risk factors for infection. This helps them to target prevention strategies in the best way possible. Each unit in the hospital has research initiatives targeted towards these trends to continually improve infection rates.

The department also works with a variety of other hospital departments that impact infection control, such as Environmental Services, Engineering, and Food Services to name a few. These departments work together to help prevent infection transmission in the best way possible.

Practicum Highlights

- I learned the responsibilities of an infection control practitioner by rounding with each unit. I got to experience surveillance and monitoring of infections and learn the definitions and risk factors for common HAIs.
- I also evaluated the implementation of a proposed MRSA program in terms of infection rates and cost.

Lessons Learned

During my time working in Memorial Hermann, I learned the importance of being flexible very quickly. The hospital is a very unpredictable and fast-paced working environment. Therefore, even if you make appointments something emergent could likely come up. In these cases you have to be understanding and learn to make other productive uses of your time where it is most necessary.

Also, I learned that seemingly simple infection precautions are not as much of a given as you would think. I was shocked with the amount of resistance towards hand washing policies. Given this, it is important to gain rapport in the unit you are working in and be firm yet respectful.
Population Genetics - Intelligence

To apply knowledge and test the water about research

By: Chang Li

I am a MPH student in Epidemiology department, and my community setting is Human Genetics Center here in Houston.

My major role in this practicum is to read papers regarding the relationship between pathogen stress and IQ, and genetic component under them. The goal is to form my own hypothesis based on paper reading and statistical tests.

My major product till now is the replication of a published paper.

There is population based evidence shows association between early childhood infection and cognitive impairment in later life.

This is typical graph shows Linkage disequilibrium of different single-nucleotide polymorphisms. Source: www.molvis.org

Public Health Significance

I did my practicum in a research setting, Human Genetics Center, and its goal is to understand etiology of common diseases in various populations.

To follow this goal, its most related Essential Public Health Services provided is to inform people about health hazards in the community. Take my practicum for example. If the result that early childhood infection may cause impaired cognitive function in later life proved to be true, then there is another advantage in controlling for infectious diseases. People in community will be more motivated to comply with preventive behaviors recommended by CDC or WHO. In turn, a virtuous circle can be formed, and the great public health good are more likely to be achieved.

Source: evidencebasedliving.human.cornell.edu

Highlights:

- Successfully replication of a published paper.
- Starting to learn some programming skills to make my work more efficient.

Advice for Future Practicum Students

- If anyone is interested in population genetics and wants to do your practicum in a research setting then Human Genetics Center in Houston is a great choice. I have learnt a lot and at the same time had a lot of fun.
HIV Linkage Study

Assessment of two different HIV report systems

By: Jin Liu

I work on the public issue of HIV linkage study program. I work in the City of Houston—Human and Health Service.

According to CDC, HIV must be reported when diagnosis is positive. We can get data of HIV report from hospital in two ways. We want to compare these two methods and find which one is better.

A professional article will be used to report our results. I join the file organized, literature review and data analysis.

I will share my work experience for my practicum site. The real result will be a publication.

Public Health Significance

My program is related to the Essential Services of Public Health: Link people to needed personal health services and assure the provision of health care when otherwise unavailable.

We try to find a better report system and revise current report system in the future. Report system is assessed in two aspects: timeliness and completeness.

A good report system can make sure new diagnosed HIV patients get personal health services.

Keeping patients’ information confidential is really important in HIV program.

- I was training many times on confidential code.

Feel free to contact with staff, when you meet with difficulty.

- They are experienced. If you ask them for help, you will save some time and learn a lot from them.


http://www.drkabra.com/images/diseases/hiv01.jpg
Vaccine Surveillance

CDC Rotavirus Vaccine Effectiveness Surveillance: a multi-site study across the U.S.

By: Ahlam Mohammed

Over the summer, I had the opportunity to complete my practicum working as a project and data coordinator intern at the Immunization Project department at Texas Children’s Hospital (TCH). I specifically worked on CDC’s Rotavirus vaccine effectiveness surveillance study, as Texas Children’s is one of the seven sites across the United States where the surveillance is being conducted.

According to the CDC, rotavirus was the leading cause of severe diarrhea in U.S. infants and young children before the introduction of rotavirus vaccine for infants in 2006.

Public Health Significance

The Immunization Project as part of TCH addresses all of the Public Health Essential Services (PHES), but primarily focuses on mobilizing, empowering, and educating the community and healthcare providers on vaccines, monitoring health status, linking people to needed services, evaluating effectiveness and quality, and conducting research. The essential service of public health that is most closely related to my work was research.

The CDC estimates that more than half a million deaths are caused worldwide each year by rotavirus in children younger than 5 years. Since they have been introduced, the rotavirus vaccines have been shown to be safe and effective at preventing diarrhea.

The department also maintains a helpline that provides vaccine information and service availability for the public to ensure the well-being of children in the community.

Duties

- Review subjects' enrollment
- Abstract medical records and review charts
- Enter data into databases
- Follow-up with subjects

Advice for Future Students

Being organized and attentive to detail is necessary in research. Stay motivated, work efficiently, and ask questions. Try to get the most out of your practicum experience and from the knowledge of the experts in the field. Applying theory and knowledge gained in the classroom into practice is very enriching. ENJOY!
Validity analysis of depression screening instruments among HIV infected Adolescents in Malawi

By: Chi Nguyen

For my summer practicum, I am involved in several projects, and most of them are still ongoing. I am going to summarize the study that we have preliminary results. This study examines the prevalence of depression among HIV-infected adolescents in Malawi and uses Receiver operating characteristic (ROC) analysis to verify depression screening tool preferable for use in this population.

Study participants are adolescents aged 12-18 years old, receiving HIV/AIDS care from Baylor College of Medicine clinic in Lilongwe, Rainbow ART clinic at Mzuzu Central Hospital and ART clinic at Zomba Central hospital in Malawi.

Two depression screening instruments were used- Beck’s Depression Inventory-II (BDI-II) and Children’s Depression Inventory-2- short (CDI-2). A clinical interview using the Children’s Depression Rating Scale-Revised (CDRS-R) was used to confirm the diagnosis of depression.

Of the 562 participants enrolled, the prevalence of depression by screening tool is 25.6% (BDI-II), 20.8% (CDI-2) and 18.9% (CDRS-R). The ROC analysis shows that BDI-II is better than short CDI in detecting depression (AUC are 0.82 and 0.76, respectively) and difference between BDI and short CDI is also significant (p=<0.0001).

Public Health Significance

Depression among HIV infected patient affects medication adherence. Studies found that elevated symptoms of depression independently predicted ART discontinuation.

In Malawi, there is sparse data on the extent and nature of mental health; especially depression among HIV infected adolescents. This study determines the prevalence of depression and validates screening instruments to facilitate diagnosis and treatment among this vulnerable population.

Lessons Learned for Future Students

• Always be motivated, creative and hard working.

Validity analysis of depression screening instruments

Through this practicum, I have learned about

• Data management and data cleaning
• Analysis skills including logistic regression and Receiver operating characteristic (ROC) analysis
• Working collaboratively in a team

Source: [www.newsbitlii](http://www.newsbitlii)
Clinical Research Database

Special events/duties during my practicum

Gained in depth knowledge about different phases of a clinical trial.

Collaborated with the research team and the CTRC staff to assure that orders, schedules and instructions in the Lab Tracker database are accurate and up to date.

Using a clinical trials database to maximize the efficacy of research related activities.

My practicum was at the Advanced Research Management And Data Analysis (ARMADA) Department of the MD Anderson Cancer Center. I worked on maintaining the electronic database (ARMADA/Lab Tracker) in which all the data pertaining to the clinical trials conducted by the Clinical and Translational Research Center (CTRC) is stored. What I basically did was review protocol documents including abstracts, texts and informed consent for relevant information and documented the requirements accurately in the ARMADA/Lab Tracker database. The end product is a complete and accurate database containing all the data about the trials that was conducted through the CTRC. I also used this database to generate summary reports, lab budgets and fax order sheets to perform comparative analysis of the data.

Public Health Significance

With regard to the Essential Services of Public Health, my practicum is related to research for new insights and innovative solutions to cancer, to evaluate the effectiveness, accessibility, and quality of personal health services and to inform, educate, and empower people about cancer. The Lab Tracker/ARMADA database is important for storage of protocol and patient data, to quickly access and generate relevant information, and to track the progression of the clinical trials. It also helps the smooth progression of clinical trials in an accurate and timely manner. Funded by the National Cancer Institute, the Clinical and Translational Research Center at The University of Texas MD Anderson Cancer Center conducts early phase, complex, new drug research and develop new agents for the treatment of cancer and related diseases. MD Anderson’s Phase 1 Clinical Trials Program is the worlds largest and has nearly 10,000 patients on therapeutic clinical trials.

Lessons Learned

"Well-designed, well-run clinical trials are the only way to determine the true effectiveness of a promising new agent or intervention being investigated”

-Cancer Clinical Trials: The In-Depth Program, National Cancer Institute.

Source: http://www.cartoonstock.com/directory/c/clinical_trial.asp

Source: http://www.ipost.com/blog/cloud_computing/protecting-participants-information-in-clinical-trials/
Gastric Cancer Research

Practicum Highlights

- Acquiring incidence and mortality information from the Texas Cancer Registry
- Speaking and obtaining data from the Texas Health Behavioral Risk Factor Surveillance System
- Conducting literature review for independent factors of gastric cancer
- Creating a multilevel intervention paradigm incorporating epidemiology and community health

Lessons Learned

- A project schedule is important to establish goals and deadlines
- Conducting research takes time
- Applying interventions methods differs among infectious diseases and chronic diseases
- Socio-demographic differences and disparities among specific ethnicities contribute to the development of specific cancers
- The best way to learn research is to apply it

Gastric Cancer in South Texas Hispanics

By: Angela Rodriguez

At the Institute of Health Promotion Research (IHPR), research has found that gastric cancer (CG) incidence is higher in South Texas in Hispanics compared to Hispanics in other Texan regions and the U.S. My main goal at IHPR was to find the contributing factors leading to this high incidence. One of my objectives was to create a database composed of dependent factors such as incidence & mortality and independent variables such as behavioral risks, socio-demographics, and contributing external factors. Data was retrieved by county to compare regional disparities. My next goal was to conduct a literature search to write a review paper implementing a multilevel intervention that would address prevention, detection, and the individual. The last product will be a power-point to summarize my major findings and intervention applications.

Public Health Significance

The Institute of Health Promotion Research contributes to all 10 essential public health services. They investigate and find solutions to unequal health among Hispanics in cancer and chronic disease development in South Texas and the nation. They currently have several research projects focusing on cancer, chronic disease, and healthy lifestyles.

My contribution at IHPR addressed four of the public health services: monitor, diagnose & investigate, inform, and research. The creation of the database with dependent variables addressed the monitoring essential public health service. Obtaining incidence and mortality data on gastric cancer by county insured that we monitored the health status in the Texas. Researching independent factors lead to diagnosis & investigation. These factors may help us find the contributing disparities that influence gastric cancer development. By stating the results in a review paper, we are able to inform others about the research findings. Lastly, by applying a multi-level intervention, future research applications in gastric cancer may be developed.

Helicobacter pylori is a type 1 carcinogen in the development of gastric cancer that will remain at the center of public health interventions and research.


Heli
Helicobacter pylo
Helicobacter pylori
Helicobacter pylori.
Preparing for a Disaster

By: Michael Strayhom

My practicum site was the Texas Department of State Health Services - Health Service Region 6/5 South in Houston. As part of the Public Health Emergency Preparedness (PHEP) team, I helped to assess potential hazards and risks in the region’s communities as well as build community partnerships and engage with community organizations to support health preparedness. I also attended several meetings and trainings with stakeholders from across the region. The primary public health topic I worked on was hazard and risk mitigation, in which the various counties developed and submitted mitigation strategies that were then compiled into a single report for the entire region.

My final product was a mitigation report that summarized the projects created by the counties through Risk Based Funding. These projects addressed the CDC’s PHEP capabilities and helped to mitigate hazards and risks through better community planning and preparedness.

Highlights

• Attended a quarterly state PHEP meeting in Austin
• Received Incident Command System (ICS) training

Public Health Significance

The CDC developed 15 public health preparedness capabilities that PHEP uses to guide their preparedness planning efforts. Among these capabilities are community preparedness, emergency operations coordination, information sharing, and responder safety and health. Of the essential public health services, PHEP primarily develops policies and plans that support individual and community health efforts. Risk Based Funding allowed health departments across Region 6/5 South to create projects that better prepared individuals and communities for many different hazards. For example, the city of Houston was able to provide preparedness trainings to vulnerable and underserved individuals and communities to improve disaster readiness and resiliency, while Fort Bend County established a text messaging system that enables subscribers to receive information during emergencies.

Advice for Future Practicum Students

Take advantage of every opportunity that might come your way. There will be many chances to learn new things about public health and meet people with interesting perspectives.

As you might expect, hurricanes are the top hazard for the Region 6/5S, followed by pandemic flu and communicable biological terrorism.

http://www.ready.gov/hurricanes
CRE Assessment in Connecticut

Practicum Highlights

- Learning from the experiences of other state health departments
- Collaborating with subject matter experts
- Creating an assessment that will be considered by the Reportable Conditions Committee

Advice for Future Practicum Students

- Make the most of your practicum by experiencing and learning as much as possible

Exploring CRE Surveillance in Connecticut

By: Eva Thomas

My practicum was in the Healthcare Associated Infections (HAI) program of the Connecticut Department of Public Health with Dr. Richard Melchreit. Connecticut DPH has been considering the implementation of a carbapenem resistant Enterobacteriaceae (CRE) surveillance plan. My part was to perform an assessment of CRE in Connecticut that will support the development of the CRE surveillance plan.

Public Health Significance

"Monitor health status to identify community health problems.” – Public Health Essential Service #1

"Develop policies and plans that support individual and community health efforts.” – Public Health Essential Service #5

CRE are a group of highly resistant gastrointestinal bacteria that have high mortality rates (~40-50%) when sterile sites are infected.

I spoke with HAI staff in other state health departments about their CRE surveillance plans and was able to learn from their experiences. I surveyed microbiology labs and infection preventionists to understand CRE occurrences and determine their capacity for CRE surveillance. I also spent some time on-call to learn about the daily issues that the state epidemiologists address. Additionally, I developed a side project to examine health disparities in HAI.

The Connecticut DPH leads many public health efforts in Connecticut including various surveillance and intervention programs.

My work will be taken to the Reportable Conditions Committee for consideration this fall. My final reports may also inform policies of the Council of State and Territorial Epidemiologists.
Adverse Drug Reactions to Antiretroviral Therapy in India

By: Humsini Viswanath

My topic for my practicum was to study the prevalence, types, and risk factors associated with adverse drug reactions (ADRs) among patients on antiretroviral drugs (ARV) at an Antiretroviral Therapy (ART) Center in Chigateri General Government Hospital.

My duties included: all of the data collection, which included medical record abstraction. I also did most of the analysis using SPSS and Excel. Along with data collection and analysis, I was able to visit other health clinics and organizations in the area to better understand health care treatment in India for HIV patients.

My final product for my practicum was a research article. I am hoping to continue analyzing the data more in depth as my thesis project so as to better understand the risk factors of adverse drug reactions!

Public Health Significance

My practicum encompassed several of the Essential Services of Public Health. Specifically, the two main Essential Services that related to my experience were ‘Monitor health status to identify community health problems’ and ‘Diagnose and investigate health problems and health hazards in the community’.

Since my practicum was primarily a research project on adverse drug reactions for antiretroviral therapy, diagnosing and investigating health problems and health hazards in community was the main purpose. The goal of my project was to identify the most common adverse drug reactions to help the ART Center in the Chigateri General Hospital better help patients through the therapy and to prevent adverse drug reactions from occurring by looking at risk factors.

SSIMS & RC as a medical school mainly works in diagnosing and treating patients, assessing problems in the community, and implementing community-wide projects.

Highlights from my Practicum

- Learning about rare cases of contracting HIV in the ART Center
- Visiting the Primary Health Center in Lokikere village
- Meeting His Holiness the Dalai Lama

Advice for Future Students

- Always be open. Enjoy everything you do, and try to learn as much as you can. Meet as many people as you can, you never know what type of connections you will make. Going abroad for your practicum teaches you a lot about yourself and flexibility.
Speech Restoration after Laryngectomy

A retrospective review of experience of voice prosthesis

By: Yijia Wang

In the past 8 weeks, I participated in a retrospective study which evaluated the indications, complications, and device life of a type of voice prosthesis in a large cohort of patients who had their larynx (voicebox) removed at the University of Texas MD Anderson Cancer Center (MDACC). Working in the incredible research group under the leadership of Professor Jan S. Lewin, the chief of Speech Pathology and Audiology Section, I had a chance to apply what I have acquired in School of Public Health into a real-life study. With the help of one of the principle investigators, Dr. Katherine A. Hutcheson, and my co-worker Martha Portwood, I went through chart checking, data analysis, and literature searches, and now I am working on the manuscript for this project. Hopefully, it will be submitted in the near future.

From this study, I become more confident in statistical analysis and academic writing. I appreciate the people I work with, and feel proud of my participation in this study.

Public Health Significance

Cancers of the Head and Neck, especially the larynx, have a major impact on vocal function. Functional rehabilitation helps laryngectomized patients restore phonation and speech, and therefore rebuild their self-confidence, increase participation in social activities and achieve a better quality of life.

Today, public health efforts address cancer populations by identifying risk factors, detecting disease early, and improving patients' quality of life. The project on which I participated is one of many studies at MDACC that aim to identify the best way to help laryngectomized patients achieve optimal speech performance that closely approximates the normal speech production of laryngeal speakers. From public health perspectives, the retrospective study provides new insights to solve health problems in an important clinical setting.
For more information regarding The University of Texas School of Public Health, Office of Public Health Practice and the practicum program, please visit: https://sph.uth.tmc.edu/practicum/