Public Health Practice

Assessment

Policy Development

Assurance

UTHealth School of Public Health Practicum Experiences Fall 2015 - 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 gain a deeper understanding of public health practice, interact with professionals in the field, and expand their repertoire of professional skills.

This 18th edition e-magazine showcases student practicum experiences throughout the Fall 2015 semester. Prior editions may be accessed on the practicum website at https://sph.uth.edu/academics/public-health-practice/#tabs-2 (click on the Reports tab)
**Practicum Topics**

**Houston**

*Number of Students: 11*

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Public Health Significance

My practicum experience closely relates to the following Essential Services of Public Health: Assure competent public and personal health care workforce. One of the main goals of the project is to provide information and instruction for clinical trainees as they relate to patient activities and the use of institutional systems.

The QI project addressed patient safety topics such as adverse patient event reporting, needlesticks, & how and when to a Code Blue/MERIT Team.

Ensuring an Efficient and Thorough Orientation for Rotating Clinical Trainees at MD Anderson

By: Kathy Abusager

During my practicum experience at University of Texas MD Anderson Cancer Center within the Department of Medical Education, I assisted in survey development and in data collection for a quality improvement (QI) project to determine the thoroughness of the topics covered in orientation and where delays were occurring.

The results indicated that safety topics should be reinforced. Therefore, the team members involved proposed an intervention to address areas of concern. We developed orientation resources for staff members and trainees to be used before and during rotation. These materials were then pilot tested using two clinical training programs to obtain feedback and make revisions.

Materials will be made available to all clinical training programs in January 2016.

Advice for Future Students

- Use this opportunity to grow not only as a student but as a professional.
If you’re able to share, what were the major findings or results?

Need for routine surveillance rather than duodenal resection in high risk patients with no high grade dysplasia.

Special events/ duties/ highlights during your practicum

- Received Cash Award for performance

Public Health Significance

Tell us how your practicum experience related to the Essential Services of Public Health.

Inform and educate people on health issues

Select the Public Health Essential Service(s) (PHES) that most closely relates to your practicum experience.

Inform, educate and empower people about health issues

Diagnose and investigate health problems

Fall 2015. Sarah Ahmed. MD Anderson Cancer Center. Case Report, Clinical Trials
Promoting Healthy Lifestyle Changes

Practicum Highlights

- On September 17, 2015, I assisted the Shape Up Houston staff in organizing and conducting the Houston Mayoral Candidate Forum on Urban Health and Wellness.

- I completed five literature reviews on different public health problems and created health challenges related to each. Formulating the concepts, design, and all supplemental documentation for each challenge was a huge feat and the biggest highlight of my practicum experience.

Advice for Future Practicum Students

- The practicum experience is a wonderful opportunity to see firsthand what it is to be a public health professional. I would advise future students to do their practicum in not only something they are interested in, but also in an area where they will gain the most knowledge. If handled correctly, practicum is a very enlightening experience.

Getting the Community in Shape for a Healthier Tomorrow!

By: TRISHA AMBOREE, MPH CANDIDATE

During my practicum experience, I served as Project Intern for Shape Up Houston which is a non-profit organization that serves as the primary wellness program for corporations, business employees, and the general public. As a Project Intern, I was given the task of creating five different health challenges to be used by each Shape Up Houston participant. In creating these challenges I worked under the supervision of Elyse Heob, Project Manager. I completed literature reviews on public health issues that target the prevention of chronic diseases (ex: reducing salt intake). Based on these literature reviews, the health challenges were formulated with documentation like How-to-Guides, Educational Handouts, etc. These challenges will be implemented into the Shape Up Houston program in 2016 and will promote healthy lifestyle changes.

Public Health Significance

My practicum experience relates to every aspect of the Essential Public Health Services list. My time at Shape Up Houston significantly correlates with the following services: “Diagnose and Investigate”, and “Inform, Educate, and Empower”. I identified health issues within the community, performed literature reviews to investigate the problem, informed and educated the public about the health problem, and then formulated health challenges to improve upon those issues. Shape Up Houston contributes to public health within the community by taking the time to advocate for healthier lifestyles. By exposing its users to health issues and giving solutions on how to promote healthy living, Shape Up Houston challenges its users to get involved and be proactive in their own health. For example, the Get Fit with Fruit health challenge asks users to commit to eating fruit rather than other fatty/salty/sugary snacks. This is an example of developing plans that support individual and community health efforts.

Image source: http://shapeuphouston.org/
Cancer Cachexia and Weight Loss

Finding Pathways for an Effective Treatment of Cachexia

By: Shiva Baghaie

At the Michael E. DeBakey Veterans Affairs Hospital, I worked with a research team led by the P.I. Dr. Jose M. Garcia, MD, PhD. I was able to work with high throughput data and analyze information from mouse models and clinical data. Our project was focused on understanding molecular mechanisms of muscle wasting and significant weight loss related to cachexia. I was able to organize and analyze data on genetics, aging, and other physiological processes. I was also involved in the patient research recruitment process and recorded data from patients who met the eligibility criteria for our study.

Public Health Significance

Within the large community at the VA Hospital, U.S. veterans are offered many services that cater to their health needs. As many of the veterans at the VA have debilitating illnesses, it is our duty to use valuable clinical and laboratory information to monitor their health status to potentially develop optimized treatments in the future.

I chose this practicum opportunity because a large proportion of U.S. veterans have cancer, and a large proportion of them are affected by cachexia. With the lack of effective treatments, our research is important in identifying and solving health problems in this community of service men and women.
Public Health Significance

Epilepsy is a disorder which is characterized by recurrent seizure episodes. There are different types of seizure and they mainly occur due to abnormal electrical activities of the brain. Epilepsy can be caused by various neurological disorders such as stroke, brain tumor, head injury, or central nervous system infection. The major complications with seizure are that it can cause memory loss, behavioral changes, or trauma and can be sometimes fatal. Currently 2.4 million adults in the United States are living with epilepsy. The total expenditure on epilepsy amounts to $15.5 billion yearly. Thus epilepsy not only causes a health burden but also creates an economic burden as well. Finding new and improved treatment methodologies for seizure and epilepsy can help those people struggling with the disease. Thus the project has a tremendous amount of public health significance.

Source:
http://www.cdc.gov/epilepsy/basics/fast-facts.htm

Highlights of practicum

1) Application of epidemiological concepts in conducting research

2) Communication of epidemiologically significant information to lay persons.

3) Gaining experience with electronic health record in managing and creating databases.

Seizure: small change in normal brain activity. Can be caused by small electrical abnormalities of brain as well as infection and high fever.

Epilepsy: a disorder of the brain characterized by recurrent episodes of seizure.
Public Health Significance

Of the Essential Services of Public Health, my practicum experience related to informing and educating people about health issues. Helping the public to critically read scientific papers can help them develop more informed opinions and decisions about health topics. Cardno Chemrisk is a scientific consulting firm that helps its clients characterize health and environmental risks that are associated with exposures involving chemicals, pharmaceuticals, or radionuclides. The Essential Services of Public Health that the company performs are diagnosing and investigating health problems and hazards, as well as developing policies and plans to support efforts for individual and community health.

Critically Reviewing Scientific Literature

By: Laura Choi

I completed my practicum at Cardno ChemRisk. My project for the semester was to help write a manuscript about how to critically read scientific papers involving health-related research.

With new and oftentimes contrasting health-related news bombarding us seemingly every day, how do we know which findings are grounded in sound science and which are subject to error?

The team I worked with sought to help readers answer this question by providing guidelines on how to critically analyze scientific papers.

Other duties during my practicum

- Learning about public health, epidemiology, and toxicology as they apply to consulting
- Understanding aspects of workers’ right-to-know under the Hazard Communication Standard

Advice for Future Students

- My advice for future students is not to be afraid to branch out into areas that are not typical for your area of study. Working for a company such as Cardno ChemRisk taught me so much and was a very enjoyable experience.
Outcomes of Patients with Advanced-Stage cSCC

By: Neha Desai

I worked in the Head & Neck Surgery department at MD Anderson Cancer Center under the guidance of Dr. Neil Gross. The project was to study the outcomes of patients with advanced stage cutaneous squamous cell carcinoma of the head & neck at MD Anderson cancer center over past 10 years.

My major role for the project was to assist in protocol writing, data abstraction, data entry and analysis, extensive literature reviewing and manuscript writing.

I got the opportunity to interact and learn from other doctors and researchers associated with the project which was a fruitful experience for me.

Public Health Significance

My practicum focused closely on the Essential Public Health Services principles like
- monitor health status to identify and solve community health problems
- diagnose and investigate health problems and the health hazards in the community.

Cutaneous squamous cell carcinoma (cSCC) is second most common carcinoma in Caucasians affecting about one million people per year in the US and contributes to 20% of all the cutaneous malignancies.

It is important to understand the role of immunosuppression and the prognostic factors related to the outcomes of aggressive cSCC patients.

Such a retrospective study would eventually help the physicians to formulate effective treatment plans including surgery along with adjuvant radiotherapy and chemotherapy for the patients and in reducing the mortality by timely action & improve the quality of life.

Most effective treatment regimen for advanced stage cSCC:
Surgery + Adjuvant Radiotherapy

Source: http://www.headandneckcancerguide.org/

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HIV and Pediatrics

Practicum Highlights

- Rotations at the Juvenile Detention Center, Pediatric Infectious Disease Clinic and Children’s Memorial Hermann Hospital.
- Developing a project to assess and inform physicians of compliance to current and former HIV testing guidelines among adolescents aged 13-18.

Advice for Future Practicum Students

- The practicum is a great time to explore your interests in public health.
- Map out what you want to do for the project early on and use it to develop your skill set as a future public health professional.

An Approach to Evaluating How Physicians Test For HIV

By: Joshua Fernelius

I had the opportunity to work under the guidance and expertise of Dr. Laura Benjamins, a practicing pediatrician and faculty member in the Department of Pediatrics at the McGovern Medical School.

The project I developed this semester was a proposal evaluating physician compliance to HIV testing in general pediatrics and whether these practices align with the current routine opt-out guidelines and age requirements.

Along with project development, I also had the opportunity to rotate through three unique, high-risk healthcare settings: the Harris County Juvenile Detention Center, Children’s Memorial Hermann Hospital and the UT Physicians Infectious Disease Clinic.

In visiting these sites, I was able to better develop a project to assess and inform practitioners as to their rate of HIV testing and if trends in testing reflect compliance with changes in adolescent HIV testing guidelines.

Public Health Significance

Throughout my practicum experience I encountered several aspects of the ten public health essential services.

The proposal I spent time developing is a useful tool in not only monitoring health status within the general pediatric population, but also a way to ensure and evaluate effectiveness of the current population-based health services like routine-opt HIV testing. Screening programs, such as this, underscore the importance of regulations that protect health and ensure safety.

Understanding how guidelines from the Centers for Disease Control and Prevention, The American Academy of Pediatrics and The United States Preventive Services Task Force impact how screening is carried out in the healthcare setting was an extremely important part of the experience.

Physicians rely on these recommendations help to guide medical practice. My ultimate goal is that this project will enhance future policy development surrounding HIV testing.

HIV infection inside the host’s bloodstream. http://www.cdc.gov/hiv/basics/whatishiv.html
Healthcare Epidemiology

Practicum Highlights

- I had the opportunity to co-author an article on the importance of the influenza vaccine for UT Physician employees.
- I also became familiar with high level disinfection practices, injection safety, hand hygiene, sterilization, isolation procedures, and some aspects of healthcare quality improvement.
- I am also helping to score outpatient clinic surveys so that we can prioritize and assess the infection control needs of the clinics.

Advice for Future Practicum Students

- It is best to get started working on your final project as soon as possible since one might run into possible barriers.
- Do research on the topics you are not familiar with so that you feel more comfortable and knowledgeable working with others in your practicum setting.
- Keep in touch with your preceptor. Keep them updated on your progress and do not hesitate to ask questions.

Infection Control

I completed rotations with several infection preventionists (IP) at Memorial Hermann Hospital in the Texas Medical Center, and became familiar with the practical aspects of healthcare epidemiology in the hospital setting such as surveillance, outbreak investigations, and daily responsibilities of the role of an IP. Additionally, I had the opportunity to shadow and help conduct outpatient UT Physician clinic surveys with an IP, which allowed me to practice the role of an IP and apply my infection control knowledge. For my project, I am working on implementing a new preoperative protocol for patients undergoing knee or hip surgeries at Memorial Hermann Orthopedic and Spine Hospital to help prevent surgical site infections. I am responsible for educating nurses on compliance documentation as well as product use. I have put together an information packet for nurses and will be discussing cultural barriers which might affect implementation during the training session in the next few weeks. I will be collecting compliance forms, and monitoring the need for nurse re-education.

Public Health Significance

Those essential public health services most relevant to my experience were learning about diagnosing and investigating healthcare acquired infections, enforcing infection control policies at outpatient clinics, assuring a competent workforce through nurse education, helping to develop and implement a new preoperative protocol which in the future might become a policy, researching literature for best preoperative practices, and evaluating compliance with the preoperative protocol. These are all relevant to population health in helping to prevent hospital acquired infections which are costly to both patients and healthcare institutions. Additionally, researching cost-effective preoperative products and practices to help reduce surgical site infections which might be feasible to implement in a low-income country is beneficial. Healthcare institutions prefer to invest resources wisely and simultaneously ensure the protection of the health of their patients. As technology advances and spreads globally, it is crucially important to share these findings with the public health community so that successful evidence-based practices may be adopted in other countries who are strapped for resources.

By: Yvana Rivera

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Pathogenic Bacteria in Your Microbiome?

Prevalence and Carrier Profile of S. aureus in stool samples from a county in Texas

For my practicum I worked with Eric Brown PhD, Center for Infectious Disease (CID) at UT-Houston School of Public Health, and my advisor, on a research project involving isolation of *Staphylococcus aureus* from stool samples.

There are three types of nasal carries for *S. aureus*: persistent, intermittent, and non-carriers. Persistent carriers are more likely to become infected by *S. aureus* but also exhibit a decreased morbidity of infection. Persistent nasal carriers are also more likely to be carriers of *S. aureus* in their GI tract.

We are working on part of a long-term research project at identifying and tracking carrier status of *S. aureus* in a population from Starr county, TX...

I worked on identifying presence and isolating *S. aureus* from stool samples. If present then subsequent assays were performed to distinguish variation in the strain of *S. aureus*. A sample was then frozen and sent of for DNA sequencing to provide a complete genetic profile.

Currently there are no final conclusions or findings that can be presented. This is a long-term project that I am continuing to work on and use for my thesis.

Public Health Significance

There are a few aspects of this research project that are significant to the field of public health. The first is that type II diabetics have an elevated likelihood of being persistent nasal carriers for *S. aureus*. While nasal carriers are more frequently infected by *S. aureus* they also experience reduced morbidity of the infection. In this research project we are comparing stool carrier status of *S. aureus* with nasal carrier status to get a more complete view of colonization in the host. Nasal carriers are more likely to also be gut carriers of *S. aureus*. While not all strains of *S. aureus* are pathogenic, many are and can cause serious infections. Methicillin-Resistant *S. aureus* (MRSA) is a highly pathogenic strain of *S. aureus* and can also be found in carriers. Presence of antibiotic resistance is screened for during the isolation procedure. MRSA can be spread through skin-skin contact, even if that contact is indirect such as shared equipment at gyms.

In this practicum I have primarily addressed the first Essential service of Public Health by identifying and solving community health problems. At this moment in the research we are at the stage of identifying the problems, rather than solving it. However, through the increased knowledge gained with this research a more complete understanding of carrier status of *S. aureus* will be able to be utilized in future research and planning.

Advice for Future Practicum Students

My advice would be to not be afraid of doing your practicum early on in your masters. This is my first semester here at the School of Public Health but I knew going in I wanted to do a research thesis in infectious disease. So I used my practicum as a starting point to get involved in a long-term research project that should culminate in my thesis.

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Dental Care of Cancer Patients

Implementation of a comprehensive approach among cancer patients through Dental Care. By- Aditya Wagh

I did my practicum at MD Anderson Cancer Center in Department of Behavioral Science this semester working on a manuscript. This manuscript is developed on basis of a study to show how dental office can be effectively utilized to provide patient care to cancer patients. My duties included literature review, writing different sections of manuscript and conducting basic data analysis. The important finding of the study documented in the manuscript is that dentists can effectively promote tobacco prevention and oral self-examination strategies in cancer patients to avoid recurrence and/or further morbidity. The final product was completion of manuscript underlining importance of dental care in cancer patients.

Special events
- I learned details of manuscript submission which is most important aspect to document your research work.
- Due to this practicum, I could contact many dentists and was able to know their perspectives about treating cancer patients.

Public Health Significance
The research conducted at MDACC addresses the importance of dental care in pre- and post-treatment outcomes of cancer patients. Dentists are at best position to identify pre-cancerous/cancerous oral conditions and tobacco habit though intra-oral examinations of patients. The PHES related to my practicum are- 1) Diagnose and investigate health problems and health hazards in the community. 2) Research for new insights and innovative solutions to health problems. Our study investigated that in cancer patients due to lack of oral self-examination and tobacco habit, complete cancer cure is hampered. Also, a new solution by increasing dentists’ awareness to timely intervene cancer lesions and/or prevent further progress of already present lesions was proposed.

Advice for Future Students
- Identify your research interest and formulate your action plan.
- Prepare a timeline way in advance to plan different components of your practicum.
- Try and learn new skills during your practicum which can be useful in future endeavors.

An Oral Cancer Screening May Just Save Your Life!
An oral cancer screening by dentist can provide timely interventions to prevent further morbidity. Source: http://www.drcurtiskaiser.com/
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/