Public Health Practice

Stories from the Field
The University of Texas School of Public Health
Student Practicum Experiences
Summer 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 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 seventeenth-edition e-magazine showcases student practicum experiences throughout the Summer 2015 semester. (Prior semesters may be accessed through the e-book, a collection of student abstracts and e-magazines describing their experiences.)
Practicum Topics

Number of Students: 22

<table>
<thead>
<tr>
<th>Hours per Week per Student</th>
<th>Approximately 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campuses (Houston)</td>
<td>1</td>
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<tr>
<td>Department</td>
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</tr>
</tbody>
</table>

Epidemiology

- Preventative Care for Diabetics: Abed Abdelaziz
- Consumer Facility Health Inspection: Jeff Cao
- Hospital Infection Control: Kate Ferguson
- Improving Cancer Rehabilitation: Jamie Fuega
- Hepatitis C: Outreach in Harris County: Raoul Garcia
- Staphylococcus aureus in Starr County: Katherine Garrett
- Myelodysplastic Syndrome: Kankana Ghosh
- Online Survey Tool Evaluation By Patients: Jasmeet Gill
- Tick-Borne Relapsing Fever: Kristofer Harris
- HIV Surveillance Project: Heidi Hsiao
- Hospital Acquired Infections: John Hrvojic
- Texas State Policy Evaluation & Surveillance: Kelsie Landis
- DSHS: Rotations in Public Health: Elise Rush
- Burden of Hip Fractures in Diabetic Minorities: Ammar Saigal
- Adverse Effects of Antibiotics: Claudine Salire
- Breast Cancer Survivor QoL: Erika Stoerkel
- Evaluating Opioids in Supportive Care: Sruthi Suravarapu
- Memorial Hermann/ UTHealth Infection Prevention Internship: Hong Thai
- Fecal Microbiota Transplants (FMT): Eva Valilis
- Improving Postoperative Outcomes For Oncologic Patients: Rachel K. Voss
- LGBTQ Health in Texas: Laura Witte
- Projecting Cancer Incidence in Illinois: Jennifer Wood
Preventative Care for Diabetics

Osteocalcin as an Indicator for Diabetic Fracture Risk

By: Abed Abdelaziz

I worked with Dr. Ambrose and Dr. Rianon at UTH. We did research on the potential for osteocalcin as an indicator in fracture risk for diabetic patients.

As part of the approach, the lab’s goal was to find a protein or metabolite that could serve as an indicator. Osteocalcin was chosen because of its specificity and relationship with bone turnover.

My role was to help design a study to measure osteocalcin levels in fracture patients. After designing the study, data was collected, assays were run, and the data was analyzed.

We used t-tests to compare osteocalcin levels in patients with diabetes compared to non-diabetics.

We also used multivariate analysis to identify the relationship between glucose tolerance levels (measured with HbA1c) and osteocalcin levels.

Public Health Significance

Diabetic patients face many health issues. One of which is increased fracture risk. Our lab’s goal was to improve preventative care.

My practicum experience most relates to research for new insights and innovative solutions to health problems.

The increased risk of fracture with diabetic patients is not a novel issue, but the use of osteocalcin as an indicator may provide new insight.

One of the most important concepts I learned in public health was that of preventative care. The keystone of our research was developing an improved form of preventative care.

When patients visit the doctor, they can be told their risk of developing diabetes based on the HbA1c test. The goal is to develop a similar test for fracture risk when diabetic patients visit their physician.


Intro to Clinical Research

- Designing a research study was one of the highlights of this practicum. It was great to apply all the epidemiology we’ve learned.

- As part of the data collection process for the retrospective study, I learned about chart reviewing. Using an electronic medical record system was a great learning experience.

- I got an opportunity to observe assays in the lab. Specifically, I learned how to do HbA1c and osteocalcin assays.

Advice for Future Students

- Pick a subject area you may be interested in and research it.

- Seek out advisors. There are plenty of people willing to help.
Consumer Facility Health Inspection

My Experience as a Health Inspector

By: Jeff Cao

For the past two months, I have been busy traveling around the city of Houston as an intern with the Houston Department of Health and Human Services.

My role as a health inspector trainee has brought me to every part of Houston, where I interact with business owners and workers regularly.

My primary responsibilities are to investigate and identify violations to city health policies at each establishment I visit, alongside a trained health inspector. Upon finding any clear or possible violations, enforcement action is taken, ranging from a verbal explanation and warning to closure of the facility.

Working in the field with inspectors from the Fats Oils and Grease (FOG), commercial pool, mobile food, and restaurant sanitation units has allowed me to see the whole spectrum of strategies that are used to keep the consumers of this city safe and healthy.

Public Health Significance

The practicum experience has been valuable as an opportunity to see how public health essential services are carried out in the city I call home.

Based on the CDC’s Essential Services of Public Health list, this experience has enriched my knowledge of particularly the first three functions: To monitor and identify public health problems, to investigate and diagnose health problems in the community, and to inform and empower members of the community in mitigating these issues.

Training alongside health inspectors from the departments of Fats Oils and Grease (FOG), Pools, and Food Sanitation has provided many opportunities to see how the aforementioned public health functions are carried out.

The city currently employs a surveillance network that can be accessed by any consumer to report observed violations or health issues to the Bureau of Consumer Health. The inspectors carry out both routine and complaint inspections to identify or confirm these issues. The inspectors then judge the significance of confirmed issues and inform facility managers on how to correct the issue, thereby protecting the consumers of Houston.

Lessons Learned: A “Pearl of Wisdom”

An inspector wisely told me “you are way too young to make assumptions”. Regardless of my age, it has become clear to me that we, as public health workers, should never assume that consumers know better or know what is best for themselves. It is up to us to help protect the public’s health.
Hospital Infection Control

Infection Control Based In-services at Vibra Rehabilitation Hospital

By: Kate Ferguson

This summer I was fortunate enough to be involved in providing infection control training to hospital staff at Vibra Rehabilitation Hospital. Hospital staff included administration, therapy staff, nurses, and environmental services. Training topics included multi-drug resistant organisms, catheter associated urinary tract infections, and environmental cleaning. These topics are important within the hospital setting to prevent the spread of infections. My host organization allowed me to conduct ongoing trainings and create my own training materials. I utilized a product called Glo-Germ to demonstrate transmission of pathogens when proper cleaning and disinfection is not performed. I was able to create many hands-on activities to foster fun and engaging learning experiences.

Special events/ duties

- I was given the opportunity to learn about the Commission on Accreditation of Rehabilitation Facilities (CARF)
- I created an Infection Control Jeopardy game to test staff members and create a little friendly competition

Public Health Significance

I believe my practicum experience most reflects the Public Health Essential Service (PHES) of assuring a competent public and personal health care workforce.

Healthcare-associated infections (HAI) are a threat to patient safety and are monitored by the Centers for Disease Control and Prevention. The prevention and reduction of healthcare-associated infections is a top priority for the U.S. Department of Health and Human Services (HHS). Therefore, training in infection control topics is essential for anyone working in the healthcare environment.

During my time at my practicum site I assessed healthcare workers' competencies at pre and post training sessions. During these thirty minute training sessions I covered anything from MDRO isolation to proper hand hygiene with the use of Glo-Germ.

The department heads and administrative staff at Vibra Rehabilitation Hospital were supportive of all training activities. Without their support allotted staff training times would have been much more difficult to coordinate.

Advice for Future Practicum Students

When working at a practicum site don’t be afraid to ask as many questions as possible. Remember you are the student and can benefit from your practicum preceptors knowledge base.
Improving Cancer Rehabilitation

Practicum Highlights

- Shadowing Dr. Ng was a great highlight for me, because working with her allowed me to broaden my knowledge and perception as to the overall effects of the treatments being administered.

- Another highlight was being able to see patients and hear their testimonies about how effective rehabilitation has been for them.

Lessons Learned

Advice for Future Practicum Students

- One word of advice I have for future practicum student is “don’t be afraid to step outside of your comfort zones.”

- One never knows what new skill they will gain or project they can be a part of that will help them in their public health career.

The Impact of Cancer Rehabilitation

By: Jamie Fuega

My practicum was completed at MD Anderson in the Palliative and Rehabilitation Department. The focus of this department is to improve the quality of life for MD Anderson cancer patients and their families. The Public Health issue I worked on was Cancer (all types); more specifically integrated treatment approach to cancer rehabilitation.

Under the supervisor of Amy Ng, MD., the principal investigator, I worked on the project: Patient Reported Outcomes in Acute Inpatient Rehabilitation.

Public Health Significance

My practicum experience was connected to many of the Essential Public Health Services. This project most closely relates to research for new insights and innovative solutions to health problems. The use of data management forms, that range from patient consent, to forms that monitored the clients condition from the time of admission until the date of discharge; tested the effectiveness of the rehab program.

Cancer Rehabilitation has the capability to greatly improve the quality of life of cancer patients.

Results yielded from this study will show what techniques are working and which need to be improved. It will also lead to more research being done into the benefits of cancer rehabilitation for all cancer patients.

This research is the key to improving public health concerning cancer by learning how to improve rehabilitation services available to survivor patients undergoing cancer treatments.

Future studies of rehabilitation care for acute cancer patients must continue in order for this program to broaden and allow for a greater use and success.
Hepatitis C: Outreach in Harris County

**Practicum Highlights**

- Able to reconstruct a database in a method to increase efficiency and ease while automating reports.
- Broadening my knowledge in ArcGIS and implicating it into Public Health to identify areas of need, areas utilizing the services, and locations which currently provide services.
- Discovering in preliminary analysis that in the confirmed Hepatitis C antibody birth cohort collected through January 2013-December 2014 in Harris County reflected that of the National Health and Nutritional Examination Survey for 1999-2002.

**Advice for Future Practicum Students**

- Even though it has been said over and over again, it cannot be stressed enough: Always make backups of your work and label them accordingly.
- Do not be afraid to leave your comfort zone. Always continue learning and strengthening your skills and working on your weaknesses.

**Data analysis for Hepatitis C Virus in Harris County**

By: Raoul Garcia

During my practicum, I was the first to apply data analysis on a database that contained over 15,000 records. The liver outreach program at St. Lukes is the only one in Texas and one of six in the United States that provides free Hepatitis C (HCV) screening and assistance in linkage to care.

After researching HCV statistics, I analyzed the rates in the database according to age. Preliminary analyses on data collected from 2013-2014 showed 5.9% of Caucasians under 60 had active cases of HCV while the Hispanic population had 22.82% of active cases. The over 60 group were 26.9% and 10.8% for Caucasians and Hispanics, respectively. Data collected was from clinics which specialize with high risk individuals. Using ArcGIS, I was able to display hotspots and areas of people that utilized the free services and the areas with high active cases of HCV. This will help aid in providing necessary funding and targeted outreach.

**Public Health Significance**

The program that St. Luke is running is helping in monitoring the health status of individuals and investigating health problems. In addition, they are empowering individuals with choices about their health issues by assisting in linkage to care and making partnerships with clinics across Houston to reach a goal.

Through data analyses, we will be able to evaluate the effectiveness of the program and increase accessibility to care to areas underutilizing the services and assist in creating a permanent structure within the population-based health services.

If health care groups used the MMWR Hepatitis C Birth Cohort Publication for Hepatitis C assessment and funding, they would go under the assumption that cases were decreasing. The work of St. Lukes Hospital helped fill in the gap post 1980’s, which shows an increase, thus providing support that funding is needed for this health issue.
Determining prevalence of S. aureus strains on the Texas-Mexico border

Katherine Garrett

During my practicum experience, I worked in a microbiology lab at the University of Texas School of Public Health Center of Infectious Disease (CID). Each week, nasal swabs would be delivered from the field researchers based in Starr County, Texas, near the Texas-Mexico Border, to our lab at the UT School of Public Health.

My job was to culture these samples and test them for various indicators of the presence of S. aureus.

Concurrently, I was able to perform epidemiologic data analysis on previously collected raw data. Due to the discovery of some exciting results found over the course of the summer, I look forward to future publication of the work in the coming months.

Public Health Significance

Staphylococcus aureus is a common bacterial pathogen found in approximately 30% of nasal cavities. While the irregularly clustered coci do not generally cause harm, infections in those with chronic diseases such as diabetes, cancer, and other immuno-compromising disease are particularly susceptible to infection.

Complications due to S. aureus infection include bacteremia, pneumonia, endocarditis, and osteomyelitis. Moreover, incidence of methicillin resistant S. aureus (MRSA) is increasingly more common, highlighting the need for more substantial data for colonization both in health care settings and in the general population [CDC 2015].

Advice for Future Students:

• Be a Sponge
  Listen and absorb knowledge from the other members of the lab— you'll pick up a lot!

• Be Patient
  Laboratory methods weren't invented in a day and can't all be learned in a day.

• Read, Read, Read!
  If you really want to gain the most out of your experience, delve into the literature and get a grasp of the clinical and/or public health relevance of your work.

• Contribute
  As you learn, don't be afraid to voice your own opinions and options for future research—it's a collaborative process!
I performed a clinicopathologic study of the molecular mutations associated with MDS under the continuous supervision of Dr. T. Muzzafar at the department of Hematopathology, UT MD Anderson Cancer Center.

**Public Health Issue:** Poor prognosis and treatment of MDS (Blood Cancer)

**Approach:** We analyzed somatic mutations of 28 genes related to MDS among 200 patients with MDS.

We also conducted CEBPA mutation analysis. We were looking for association between specific mutations and prognostic variables of MDS in order to improve prognosis and treatment. I collected patient data, analyzed it, and assisted in manuscript writing.

**Final product:** Abstract submitted to American Society of Hematology.

**Results:** Significant associations were found for eight genetic mutations.

**Public Health Significance**

This practicum experience is closely related to the following Essential Services of Public Health:

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Research for new insights and innovative solutions to health problems.

**Problem:** MDS has a poor prognosis. The mortality rate is high due to limited treatment options.

**Solution:** Our project aimed at identifying significant association between prognostic variables and genetic aberrations related to MDS. This will improve prognosis and facilitate targeted therapy.
My duties were to develop a questionnaire, generate participants list and analyze collected electronic data. I will be generating a QI report as a final product of this practicum. The main findings are:

1. Majority of the patients were satisfied with the survey system used at BSC.
2. Survey responses show that patients would appreciate to know the findings of completed questionnaires.

### Evaluation of patient’s experience at Baylor Scoliosis Center

By: Jasmeet Gill

I have completed my practicum with The Office of the Chief Quality Officer at Baylor Scott & White Health in Dallas, Texas, during summer 2015. My project involved the patient population receiving care at Baylor Scoliosis Center (BSC) which provides health care to a large number of adult patients with scoliosis.

I approached The Office of Chief Quality Officer due to my interest in gaining experience in the conduct of a quality improvement (QI) project for my practicum.

My mentor provided me with the tools to develop project components & timelines, guidelines on basic survey analytics and survey reporting. With the support of the survey team that launched the online survey, we have collected electronic survey data.

### Public Health Significance

My practicum experience relates to item nine of the "Essential Services of Public Health" that is to evaluate effectiveness, accessibility and quality of health services.

Baylor Scott & White Health (BSWH) is well known health care system in North Texas for educating people about health issues. They also evaluate effectiveness and quality of clinical systems, and conduct research for new and innovative solutions to health problems. The Office of the Chief Quality Officer focuses on improving the quality of health care across the BSWH system. The vision of BSWH is to provide safe, high quality and effective health care services.

Scoliosis is common spinal deformity that demands prolonged medical care as well as emotional and physical support. At BSC, physicians are using standard quality of life questionnaires to assess the impact of disease and effect of treatment on patient’s physical and emotional health and social life. Each patient completes a minimum of one survey per year using the online survey system. Completing the survey requires a good amount of a patient’s time and concentration. These questionnaires are an important aspect of health services provided to the patients at BSC. Under guidance of the survey analytics team of BSWH and BSC, I planned to assess patient’s experience and satisfaction of using these online surveys. We have also asked questions to understand the patient’s perspective on the importance of the questionnaires. My practicum project aims to perform quality assessment in order to support the vision of BSWH.

### Lessons Learned

- Learn to develop a survey questionnaire.
- It was great experience to develop a project idea, identify a study population sample and finally outcome evaluation.

Practicum is a great opportunity where you can practice the theoretical knowledge learned during your coursework. Never hesitate to ask questions.

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"Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives." - William A. Foster

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https://chapters.theiia.org
**Defining the Distribution and Disease Burden of Tick-Borne Relapsing Fever**

By: KRISTOFER HARRIS

I had the opportunity to work with a research group at Baylor College of Medicine under the expertise of Dr. Lopez.

The project I partook in included an extensive literature review, screening for relapsing fever spirochetes in different populations, as well as collecting ticks in the field.

One of my duties in the lab included screening for relapsing fever by western blot using the specific antigen GlpQ in rodent and human populations. The tested human samples have been used to demonstrate the prevalence of relapsing fever in patients from Argentina.

I also assisted in locating potential tick habitats in South Texas, and actively gathering ticks in the field.

**Public Health Significance**

The National School of Tropical Medicine at Baylor College of Medicine investigates and researches neglected diseases from around the world in order to create solutions for health problems. As part of this branch, the tick-borne relapsing fever research team looks to prevent and treat an illness that is illustrated by recurrent fever, nausea, muscle aches, and headaches.

Much progress has been made in order to help identify animals and humans stricken with relapsing fever. Advancement includes laboratory diagnostic techniques, identification of antigens specific to relapsing fever, and identification of animal hosts of the disease. Further questions need to be answered however. A few of these questions include: what is the human prevalence of relapsing fever in countries around the world, are there additional animal hosts for the disease, and if so where are they located?

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**Special events/duties during your practicum**

- Actively gathered ticks in the South Texas
- Screened for relapsing fever spirochetes by utilizing molecular techniques in the laboratory

**Advice for Future Students**

- Start searching for a practicum site early on.
- Utilize this time as a student to explore your interests
- Don’t be afraid to try something new. Because of this practicum, my career path has changed.

 Tick-borne relapsing fever is transmitted through several kinds of soft ticks. Shown here is the soft tick Omithodoros hensli.

Source: http://www.cdc.gov/relapsing-fever/distribution/
Hospital Acquired Infections

Infection Prevention in a Hospital Setting

By: John Hrvojic

For my practicum, I had the great opportunity of participating in the Department of Infection Prevention at Memorial Hermann Hospitals located throughout the Houston area.

Memorial Herman has a robust infection prevention program. The initial part of the practicum had us rotating through all their service lines, providing excellent exposure to this field of practice. The topic of my project is concerning infection prevention for elective knee arthroplasty; with a focus on future process improvement. I was responsible for co-developing a check list derived from evidence-based measures and then using these check lists in the operating room to establish a base-line. The findings from these observations will be presented to the involved departments and used to shaped policy and interventions in the future.

Special events/duties/highlights

- Rotated through the hospitals; went on rounds with IPs
- Exposed to all aspects of infection prevention
- Observed arthroplasty surgeries to gather primary data for the project

Public Health Significance

What makes infection prevention such an important and challenging field is that it encompasses all 10 of the Public Health Essential Services (PHES) as described by the CDC.

My practicum gave me exposure to a vertical slice of all these services. One of the major responsibilities of Infection Preventionists (IP) is to daily monitor and investigate all potential and confirmed hospital acquired infections. This information is then compiled and reported monthly as part of their mandate to assure competent care providing and to enforce laws and evaluate outcomes.

All this gathered data is then used to inform the development of policy. The new policies provide evidence-based practices to help educate the workforce and inform the community, patients and visitors, in order to provide a safer and healthier environment.

The objective of my project is to provide an assessment of current practices in elective knee surgeries. This project will lay the groundwork for future policy development and quality/process improvement in the future.

Advice for Future Practicum Students

The most important advice for future practicum students is to start laying the groundwork for your practicum as early as possible through networking and to make sure you are very strategic or goal orientated in your practicum/project selection. Now is the time to develop your skill set.

The 10 Public Health Essential Services

Source:
http://www.cdc.gov/nphpsp/images/phs-figure2.gif
&
http://www.cdc.gov/nphpsp/essentialservices.html

Summer 2015 • John Hrvojic • Memorial Hermann • Infection Prevention
HIV Surveillance Project

Practicum Highlights

- Identify the locations of new diagnoses of HIV patients in 2014
- The importance of:
  - Accurate data compilation
  - Protected Health Information and patient’s confidentiality

Advice for Future Practicum Students

- Be familiar with SAS, ArcGIS, and/or Access, which are often used in public health studies

HIV surveillance project: Geocoding and Data Linkage

By: Heidi Hsiao

My practicum at the Bureau of Epidemiology of the Houston Department of Health and Human Services (HDHHS) was the HIV surveillance project from the Centers for Disease Control and Prevention (CDC).

The main purpose of this project was to identify the location of new diagnoses of HIV patients in Harris County in 2014 using ArcGIS.

During the practicum, two issues came up. The first issue was the integrity of the information in the database. We found database errors which included typos or missing data. This may lead to erroneous results or biases. We were able to correct these errors by validation with original patient documents.

The second issue was being aware of policies regarding patient’s Protected Health Information (PHI). As I frequently referenced original patient documents, it was important to be familiar with the CDC’s policies regarding patient PHI and patient confidentiality. Being aware helped prevent any violations of patient confidentiality.

Public Health Significance

My practicum experience is related to the public health service to diagnose and investigate health problems and health hazards in the community.

Patient’s information would be first collected by Epidemiologists in the Surveillance team at Bureau of Epidemiology and the Informatics team converts the information into spatial data.

The Bureau of Epidemiology of the HDHHS is also responsible for the surveillance of other infectious diseases besides HIV in Houston/Harris County.

The disease surveillance is critical for disease monitoring and identifying public health issues early on. It is crucial for accurate disease surveillance, since the result will allow people to make conscious decisions regarding lifestyles, health education and health policies/laws.
Understanding the Impact of Policy on Public Health

By: Kelsie Landis

For my practicum this summer, I worked in the Office of Policy and Planning at Harris County Public Health and Environmental Services (HCPHES). My goal was to develop an appropriate method for evaluating state policy and to apply it to current state law and proposed legislation. The tool that I created uses ideas and guidelines from the CDC, APHA and the PHF. While HCPHES is already involved in the policy process, this step-by-step guide provides a way to document what is being done at each step during and after the active legislative session to assess the effectiveness of the policy. I also constructed a manual that can be used to implement policy surveillance at HCPHES. Policy surveillance involves the synthesis and comparison of laws and policies across jurisdictions to see changes over time, as well as to measure the effect of policy on health outcomes. I created this guide using guidance from the Robert Wood Johnson Foundation Public Health Law Research Center as well as Seattle & King County Public Health.

Public Health Significance

My practicum experience primarily focused on the development of policies and plans to support health efforts. The policy evaluation tool that I created will help to document HCPHES staff’s involvement in the legislative process to ensure that policies with public health significance are identified and addressed by the department both during and after the legislative session. Policy evaluation will also help to determine the significance of existing policies and shape the development of new policies in the future. This is especially important in public health to make sure resources are used effectively to protect population health and safety.

The creation of a policy surveillance system will also expand HCPHES’s ability to understand how health policy, both at the state level and locally, influences the health of populations in Harris County. Understanding which policies have been implemented effectively and are most likely to lead to improved health outcomes is essential when trying to build and support healthy communities.
from the fundraiser (out of 700 people that purchased plates). Our results suggest that the potato salad was contaminated with enterotoxigenic E. coli bacteria, and this is what caused the illness.

**Insights into the many health services of Region 8**

**By: Elise Rush**

During my time at the Texas Department of State Health Services Region 8 Headquarters, I was able to experience public health work in several departments: HIV/STD, Tuberculosis, and Epidemiology.

The majority of my time was spent with the Epidemiology department, working on enteric disease investigations and analyzing a foodborne outbreak of unknown origin in Victoria, Texas.

Our investigation into the source and cause of the foodborne outbreak identified a BBQ fundraiser as the source. We conducted interviews with 65 people that attended the fundraiser or ate food from the fundraiser (out of 700 people that purchased plates). Our results suggest that the potato salad was contaminated with enterotoxigenic E. coli bacteria, and this is what caused the illness.

**Internship Highlights**

- Learn about TB genotyping and participate in a cluster investigation
- Participate in a clinic interview for new STD patients
- Interview patients with enteric illnesses to determine possible exposures

**Public Health Significance**

The work done at Region 8 encompasses nearly all of the 10 Essential Public Health Services. The work that I was able to assist with during my practicum mainly focused on four of the essential services.

- The main focus of the epidemiologists is to monitor the health status of the community, and when health issues are identified they must investigate health problems and health hazards in the community. I contributed to this work by investigating enteric diseases.

- The most important work done by the HIV/STD group is to link people to needed personal health services. Anyone that is diagnosed with an STD can receive treatment from DSHS. During initial interviews, patients are offered any needed tests and health services in order to ensure that diseases will be treated properly and will not spread.

- Finally, any department that works with diseases must be able to inform, educate, and empower people to understand the cause of their disease and prevent re-infection.

**Lessons Learned**

There are two important skills to have for this practicum: the ability to seek out and organize learning experiences and the ability to communicate effectively with the public about disease exposures and prevention.
The Disproportionate Burden of Hip Fractures in Diabetic Minorities

Are Racial Minorities with Diabetes in the United States more likely to experience a fracture of the hip?

After submitting an abstract to the American Society of Bone and Mineral Research detailing the microscopic cellular differences in RANKL expression between diabetic and non-diabetic spine tissue based on Immunohistochemical assays, Dr. Roberto Fajardo (Assistant Professor of Orthopaedics, UT Health Science Center at San Antonio) and I are now exploring this research question using clinical records from the Nationwide Inpatient Sample for practicum purposes.

Public Health Significance

My practicum experience investigates the health problem of diabetic spine fracture in the community with respect to race and many other variables. Publication will enable us to educate our scientific peers about our findings. We hope that this will help provide new insights into hip fracture in the context of Type II Diabetes Mellitus. This will be the contribution of my practicum to public health.

My host organization, the UTHSCSA Dept. of Orthopaedics, is always involved in ongoing efforts to bolster the state of public health knowledge that currently exists. We achieve this by collaborating with biostatisticians and analyzing data on a population-wide scale.

The clinical outcome of hip fracture will be cross-analyzed using a list of ICD-9 encoded variables that we hypothesize are pertinent to fracture risk (e.g. bone density, race, etc.).

I have written literature reviews, compiled ICD-9 codes, and provided data analyses for preliminary data output queries.

The final product of this practicum experience will be a written manuscript describing the statistical findings from NIS hip fracture records from the year 2006 to 2012 which will be submitted for publication.

Results are currently pending for the last data crunch but preliminary findings show a relatively increased burden of this pathology among diabetic Asians and Latinos.

Lessons Learned/Advice for Future Students

- Pick something you are passionate about!
Hematological changes associated with long-term antibiotic usage in children with bone and joint infections

By: Claudine Salire

Beta-lactams are the most ubiquitous antibiotics prescribed. Because some conditions require long-term (over two weeks) use, adverse effects are of concern. One of the most serious is neutropenia. Without prompt attention, opportunistic infections or even death may result. These complications have been noted in pediatric populations but never fully assessed.

In order to determine the frequency of beta-lactam associated neutropenia in children with osteomyelitis and septic arthritis, a retrospective chart review was conducted on the pediatric population at Texas Children’s Hospital. Specifically, I was tasked with finding eligible patients based on strict exclusion and inclusion criteria. Relevant medical information was compiled into a database that I maintained until analysis can be conducted.

The data collected can hopefully be utilized to find factors that predict complications from prolonged beta-lactam antibiotic use. This study aligns with the mission of the pediatric infectious disease section at Baylor College of Medicine. The section not only provides exceptional clinical care of pediatric patients, but its clinical and basic science research into the management and prevention of infectious diseases benefits families worldwide.

Public Health Significance

This study addresses several of the Public Health Essential Services. Particularly, it focuses on diagnosing and investigating health problems in the community and researching new insights and innovative solutions to health problems. Because of the paucity of information on the effects of long term beta-lactam usage in a pediatric population, this study aims to bridge the gap in knowledge.

Normal blood vs Neutropenia

Neutropenia is characterized by abnormally low number of neutrophils - a type of white blood cells that helps fight infections, specifically bacterial and fungal.

Source: https://wedishnutrition.files.wordpress.com/2014/10/234992.jpg

Advice for Future Practicum Students

• Be ambitious in what you want to accomplish during your practicum, but also be realistic. While results may not come instantaneously, be patient and keep your eyes on the bigger picture.

• Conduct as much relevant research before and during your practicum as you can.

Practicum Highlights

• Data mining and database management
• Utilized EPIC to abstract relevant information
• Detailed procedures for patient exclusion and inclusion.
• Maintained subject confidentiality by de-identifying information

Baylor College of Medicine

Source: www.bcm.edu
Breast Cancer Survivor QoL

Internship experience at IHPR
By: ERIKA STOERKEL

My practicum began 26 May and will end 19 August. The internship took place at Institute of Health Promotion Research (IHPR), UTHSCSA.

During my interview with Edgar & Dr. Long-Parma we decided it was a feasible goal for me to gain experience in scientific writing and statistical analysis.

I worked with Dr. Alan Holden, PhD and Edgar Munoz, MSc on the Komen Breast Cancer Survivor Health Screening Promotion Project: Staying Healthy, PI: Dr. Amalie Ramirez.

In preparing a protocol paper and creating a qualitative exit interview database, we are able to identify the barriers to prevented successful

Public Health Significance

My practicum experience related to the Essential Services of Public Health, most specifically:

- Monitor health status to identify and solve community health problems.
  - I assisted with identifying and describe intervention strategies to improve the quality of life and treatment adherence among breast cancer survivors by conducting a literature review and working on a protocol paper.
- Research for new insights and innovative solutions to health problems.
  - In preparing the protocol paper, I reviewed exit interviews in which barriers seemed to be a huge impact in intervention success for these breast cancer patients.

Special duties during your practicum

- Assisted in writing of protocol paper including tables and literature review
- Assisted with qualitative database for exit interviews in which participants list their barriers to certain recommended interventions (e.g., colonoscopy, mammogram, nutrition classes, exercise) to enhance survivorship.

Advice for Future Practicum Students

Share with your preceptor and faculty advisor what you are interested in. Interests can include areas of research as well as experiences and goals you wish to have for your practicum experience. For instance, I was interested in writing and data analysis.

The goal of my internship was to use this experience and gain writing experience for a publication.

Most likely your preceptor and faculty advisor will be interested in helping you gain your desired experience and make it a positive learning experience.

Caption describing picture or graphic – INCLUDE SOURCE

“For Hispanic/Latina women breast cancer is the leading cancer.” (Ramirez, A. Komen Breast Cancer Survivor Health Screening Promotion Project: Staying Healthy, 2014)

http://www.saludtoday.com/blog/tag/cancer/
Public Health Significance

Cancer is one of the major causes of death in the United States. With the increase in technology there is an increase in the expectation in the treatment for cancer to increase survival rate. The rigorous treatment chemotherapy and radiation therapy, the patients need support to bear the side effects caused by these treatment. ASCO along with WHO started the palliative care to support these people and increase the Quality of Life of these patients till the time of their death.

MD Anderson Cancer Center is one of the pioneers in providing this facility. Also, the Palliative Care department is trying to conduct studies to learn the efficacy of the supportive treatment (opioids) provided. It is important as this study is trying to evaluate and improve the treatment if necessary, which will help the patients of advanced cancer, and provide them with a good quality of life.

Effect of Opioids on the Breakthrough Pain in Supportive Care for Advanced Cancer Patients

This practicum allowed me to gain experience in field epidemiology and also learn many things public health issues that need attention. People with Advanced cancer undergo chemotherapy and radiotherapy as a part of the cancer treatment regimen. The regimen itself has a large number of side effects, which the supportive care clinic is trying to alleviate. I was a part of the research study being conducted to check the efficacy of the opioid drugs that are being used in the supportive care patients for the breakthrough pain. My practicum was with the Palliative Care department of MD Anderson and my site was at the supportive Care Clinic in the MD Anderson.

My duties included screening patients, enrolling them into the study, as well as data entry.

Lessons Learned

• It is a wonderful opportunity where you can actually learn what Public health is on site. Use this opportunity to meet new health care professionals and learn new things and expand your network.

Summer 2015 • Sruthi Suravarapu • MD Anderson • Efficacy of Opioids in Breakthrough Pain
Memorial Hermann/UTHEALTH Infection Prevention Internship

Practicum Highlights

- Rotated with Infection Preventionists (IPs) to multiple Memorial Hermann hospitals.
- Learned the roles and responsibilities of IPs.
- Become familiar with the epidemiology of infection prevention.

Lessons Learned

- Memorial Hermann has a robust, multi-level infrastructure for the infection prevention program. It was very impressive!
- Every IP and regional manager was extremely organized, making communication within the system very fluid.
- This practicum taught me many facets of healthcare that I did not know about. I felt very informed at the end of the internship.

Advice for Future Practicum Students

- Be open-minded! Challenge yourself to step outside your comfort zone when selecting a practicum.
- The experience is what you make of it!

Improving quality of care through infection prevention

By: Hong Thai

This summer, I had an opportunity to rotate with the central Infection Preventionists (IPs) and local IPs throughout the Memorial Hermann Hospital System and learn about the essential roles of infection prevention. My daily rounds to inpatient, outpatient clinics, and ORs allowed me to appreciate all aspects of infection prevention.

Tremendous responsibilities are placed on Infection Preventionists to keep hospital patients and staff safe. An IP’s job entails monitoring for hospital-acquired infections and reportable diseases, conducting surveillance and audits, carrying out appropriate isolation protocols, and implementing Interventions using evidence-based research, just to name a few.

This practicum opportunity was invaluable to me as I hope to apply the insights gained to advocate for better quality of care in my future practice.

Public Health Significance

I was fortunate in that this practicum allowed me to witness the majority of the Public Health Essential Services being applied.

Most relatable was the “monitoring of health status to identify and solve community health problems”. Monitoring for hospital-acquired infections (CAUTIs, CLAPSIs, SSIs, PVAPs, etc.) allows the system to identify infection clusters and outbreaks, as well as problematic areas that need to be addressed. Through this application, the rate of preventable infections was shown to decrease dramatically in past years.


Lessons Learned

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- Every IP and regional manager was extremely organized, making communication within the system very fluid.
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- The experience is what you make of it!
Fecal Microbiota Transplants (FMT)

Determining the Stability of Frozen and Freeze-dried Health Donor FMT Stool Samples
by: Eva Valilis

Fecal Microbiota Transplants (FMT) can be appropriate treatment for those suffering from recurrent Clostridium difficile (C. diff) infections. C. diff causes pseudomembranous enterocolitis and severe diarrhea. Antibiotics cannot resolve the patient’s disease. Instead, healthy donor stool is given to a sick patient, which restores the patient’s gut health.

I was responsible for determining how long frozen and lyophilized (freeze-dried) stool samples could be kept without compromising their bacterial stability. Screening donors and collecting stool is an expensive task, and if stools can be kept for a greater period of time, we can treat more people at a lower cost.

While some bacterial genera had small significant differences over time, for the most part levels of bacteria were similar at 1 month of storage and 12 months of storage. Frozen and freeze-dried samples had similar stability.

Public Health Significance

This practicum experience most closely embodied the Public Health Essential Service(s) (PHES): Research for new insights and innovative solutions to health problems.

Microbiome research is rising in popularity and FMTs being researched as a potential therapy for not only C. difficile but also IBS, multiple sclerosis, obesity and mental disorders.

Determining the stool stability over time can help research institutions involved in FMT save money and treat more patients. In addition, administering freeze-dried stool product in capsule form is much more convenient than administering it through colonoscopy.

My results show that the microbial stability of thawed frozen stool and lyophilized stool is similar and can be kept for over a year. This is promising for pharmaceuticals interested in producing FMT product as a potential therapy for sick patients.

Special duties during my practicum

- As glamorous as it sounds, I thawed frozen stool samples and extracted bacterial DNA from them.
- I then quantified the DNA levels through quantitative polymerase chain reaction (qPCR).

Advice to Students

- Document all of the tasks you completed so you can go back and check your work if necessary.
- Remain patient; research will not always take you in the direction you expect. Don’t give up if you don’t get desirable results.

Freeze-dried healthy stool sample encased in capsule
Retrieved from http://media.npr.org/assets/imag/2014/10/10/poop-pills-c8a44bb5a03771bd9fd251d2b57d28c653f8fd2b-s900-c85.jpg
My practicum experience relates closely to Essential Public Health Service #9 because the goal was to evaluate the effectiveness and quality of the IMPAC clinic for patients at MD Anderson Cancer Center. Our analysis is not yet completed, but we hope to eventually use our results to provide guidance to surgeons about when to refer patients to the IMPAC clinic.

Ideally, with our results, we would be able to create some sort of online risk calculator that could be used in surgeons’ clinics to help them calculate who might benefit from referral. This will not only improve patient perioperative outcomes but also save money and healthcare resources by reducing postoperative complications and limiting unnecessary IMPAC clinic visits.

MD Anderson is well-known for its research activities to improve the care of cancer patients. It contributes to public health by researching efficacy of cancer treatments, advocating for cancer survivors, and even works to prevent cancer in the community.
LG BTQ Health in Texas

A needs assessment for the lesbian, gay, bisexual, transgender, and queer communities of Texas

I worked with two UTSPH professors, Dr. Vanessa Schick and Dr. J. Michael Wilkerson, to develop a needs assessment for LG BTQ community members across Texas. The needs assessment is an online survey that covers topics including: demographics; health seeking; quality of life; mental health; alcohol, tobacco, and drug use; and history of homelessness, incarceration, and abuse.

The development and distribution of the survey is based in Houston where Drs. Wilkerson and Schick have developed a community-academic collaborative with the Montrose Center, a well-established LG BTQ community organization. I contributed to the project by producing survey items, by preparing a presentation and website text for the Montrose Center, and by generating the online survey in Qualtrics.

Public Health Significance

My practicum experience most closely relates to the first Essential Service of Public Health: to monitor health status to identify and solve community health problems.

A fundamental aim of this research is to determine the prevalence of health issues affecting the lesbian, gay, bisexual, transgender, and queer population of Texas with respect to demographics (race, ethnicity, gender identity, level of education, area of residence, etc.). Past research has shown that LG BTQ individuals are at higher risk for anxiety and depression, substance abuse, lack of access to culturally competent health care, HIV infection, and homelessness; however, there are gaps in existing research about LG BTQ community health. The majority of studies have focused on white, middle-class gay males within urban communities, and in Texas specifically, there is a lack of statewide data about LG BTQ communities.

This project seeks to ascertain the health status of LG BTQ Texans and to assess the degree to which communities’ health needs are being met. The eventual goal of the needs assessment is to inform policies that address LG BTQ community health problems.

Advice for Future Practicum Students

It can be beneficial to seek practicum opportunities in a variety of settings. I learned about this project at a school social, and a classmate told me about another interesting practicum opportunity that I was also considering. It is worth looking around to find something that really interests you!

Highlights of My Practicum

• Working with two extremely supportive and dedicated researchers
• Participating in meaningful community-based research
• Learning about Qualtrics, a useful survey tool

Lessons Learned [OR] Advice for Future Students

It can be beneficial to seek practicum opportunities in a variety of settings. I learned about this project at a school social, and a classmate told me about another interesting practicum opportunity that I was also considering. It is worth looking around to find something that really interests you!

Caption describing picture or graphic.

Include source.

LGBTQ Pride. Photo credit: http://blog.diversitynursing.com/
Public Health Significance

ISCR is the only population-based source for cancer incidence information in Illinois. Data are funneled into a national cancer database maintained by the Centers for Disease Control and Prevention.

Collection of cancer data is useful for assessing the cancer burden, trends in populations, and patterns of occurrence. Data also help health officials develop policies and plans for cancer prevention and treatment services. In addition, cancer data may be used to advance clinical, epidemiologic, and health services research and may help determine what present and future resources are needed.


By: Jennifer Wood

This summer, I had the opportunity to intern at the Illinois Department of Public Health in the Division of Epidemiologic Studies.

One project on which I worked was an epidemiological report that will be published by the Division. I evaluated the Illinois State Cancer Registry’s (ISCR) and the American Cancer Society’s (ACS) projection methods for cancer incidence in Illinois for diagnosis years 2007 to 2012. The purpose of the evaluation was to measure the difference between the methods and to determine the usefulness of continuing with the ISCR projection method.

According to the results, the ACS projections were closer to the observed values than the ISCR projections for most cancer sites. However, the ISCR projections were closer to the observed values than the ACS projections for the total number of new cancer cases. Additionally, the ISCR method is more straightforward and requires less time than the ACS method and can be applied by central registries. Therefore, it is worthwhile for ISCR to continue using its own projection method for cancer incidence in Illinois.

Advice for Future Students

• A practicum is a great learning opportunity and provides insight into the public health field. Work diligently, gain new knowledge, utilize your resources, and have fun!
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/