The practicum experience is an integral part of the MPH curriculum. 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 sixth-edition e-magazine showcases student practicum experiences throughout the Fall 2011 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: 17

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## Epidemiology

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Residual neck disease is a common occurrence in patients who have undergone Chemoradiotherapy for oral squamous cell carcinoma and predicting the factors responsible for failure is a challenge.

Area of work: Oropharyngeal Squamous Cell Carcinoma.

Active interventions to manage cases of Oropharyngeal Squamous cell carcinoma were undertaken.

Most of the duties involved data abstraction from the electronic medical record system.

A manuscript was prepared compiling the results obtained.

**Public Health Significance**

Tell us how your practicum experience related to the Essential Services of Public Health. (See http://www.apha.org/programs/standards/performancestandardprogram/resexsentialservices.htm)

The Public Health Essential Service(s) (PHES) that most closely relates to my practicum experience is Diagnose and investigate.

Diagnosing treatment failure and a thorough investigation to identify causes of failure was an essential feature seen frequently in my practicum setting.
Post t-PA Hemorrhage Treatment

Current treatment with clotting factors does not improve outcome from Intracranial Hemorrhage after Thrombolysis for Acute Ischemic Stroke.

Alderazi Y J, Barot NV, Mishra V, Grotta J C, Savitz S I.

At University of Texas Medical School at Houston, I have worked on acute ischemic stroke under guidance of Dr. Sean Savitz, who is the head of stroke division.

There are many projects currently running under Dr. Savitz and I have worked in few of them but I have worked more in the project named above which was a retrospective analysis of survival and neurological recovery in patients who received t-PA for the treatment of acute ischemic stroke.

We extracted data from electronic records from 2007 and 2011 and evaluated around 50 patients with standard statistical analysis. I have worked on data extraction, data entry and data analysis and we developed an abstract and submitted to the “Stroke” journal.

Public Health Significance

My Practicum experience is part of two broad themes of essential public health services. The first one is evaluation of effectiveness; accessibility and quality of personal and population based health services and also research for new insights and innovative solutions to health problems.

Stroke is now third leading cause of death in United States. T-PA is now the most standard early treatment option available for stroke. Around 5% of patients who receives it develop hemorrhage as a complication so it’s highly important to evaluate whether current treatment standards are effective or not.
Duties during my practicum

Attended regular Clostridium difficile (CD) hospital task force meetings, enteric disease journal club and research meetings held during the time of the practicum.

Learned about various clinical trials being carried out at St. Luke’s hospital.

Reviewed the literature on CD diarrhea in the U.S., and worked on reviewing and studying topics like alternate treatment strategies for Recurrent CD diarrhea and proton pump inhibitors and enteric infections during this semester.

“Overall wellness starts with public health and ends with public health”

By: Chirag Bavishi, MPH student

It was a hospital based practicum on C. difficile associated diarrhea under Dr. Herbert L. DuPont at St. Luke’s Episcopal Hospital.

I attended the regular clostridium difficile meetings, learned about the various clinical trials conducted at St. Luke’s hospital and reviewed the literature pertaining to CD diarrhea.

I did a systematic review on the use of proton pump inhibitors (PPI) and increased susceptibility to enteric infections, which also got published in a leading journal named Alimentary Pharmacology and Therapeutics. I am also planning to work on a second systematic review on recurrent CD diarrheas.

The key findings of my systematic review paper is that there is enhanced susceptibility to enteric infection caused by Salmonella, Campylobacter and C. difficile by PPI use, with adjusted relative risk ranges of 4.2–8.3 (two studies); 3.5–11.7 (four studies); and 1.2–5.0 (17 of 27 studies) for the three respective organisms.

Public Health Significance

CDI is the most common cause of hospital acquired diarrhea having significant mortality and morbidity.

It also has a huge economic and public health burden. If we can improve the treatment as well as the preventive approaches for CDI, then it will have a significant impact on public health.

Our study team under Dr. DuPont conducts many epidemiological, and clinical studies in this field to understand this important public health problem and to make a significant difference in the community.

My systematic review gives an important message to the clinicians about the adverse effects of PPIs which are the third largest selling drugs and overuse of PPs causes several enteric infections causing serious public health concerns.

Fall 2011, Chirag Bavishi, St. Luke’s hospital.

Clostridium difficile diarrhea
Life at the Houston Department of Health and Human Services

By: Austin Brown

I spent my practicum as an intern in the Consumer Health Services division of the City of Houston Department of Health and Human Services (DHHS). The primary objective of my practicum was to participate in the day-to-day operations at the Bureau of Consumer Health Services. In particular I was to assist with the inspections, site visits, and documentation of violations regarding public pools and spas and commercial food operations.

I spent the majority of my time with public pool and commercial food inspectors. As my practicum unfolded, however, I was afforded the opportunity to work alongside a number of individuals at the health department.

Public Health Significance

Over the course of several months I shadowed employees involved in the supervision and enforcement of the Houston’s smoking ordinance; public swimming pools; commercial food establishments; fats, oils, and grease (FOG) generators; commercial food planning review; and the lead-based paint control program. I witnessed firsthand the precautions a local health department takes to protect the health of the public. At the conclusion of my experience I prepared a written report summarizing some of the most common violations and making recommendations for the future.

My time at the Houston Department of Health and Human Services was an eye-opening experience. I am extremely fortunate to have had the opportunity to work with Consumer Health Services. I gained knowledge from experts in a variety of public health disciplines. The time I spent with these experts provided me invaluable practical experience and professional development. All the lessons I learned over the past several months will only benefit me in my future career in public health.
MOOD DISORDERS—CLINICAL TRIALS!!

New Avenues for those Who Are Suffering from Resistant Depression.

By: Angelica Ma. Colmenares

Depression has been postulated under the monoamine hypothesis where there is a primary dysfunction of Serotonin (5-HT), Norepinephrine (NE) and Dopamine (DA) system. This hypothesis has guided the development of antidepressants for years. While current medication have shown efficacy in the treatment of depression, a significant group of people are unresponsive to multiple antidepressant treatments causing a great challenge for both patient and clinicians. A new approach is needed to treat this group of patients.

Along with my team and under supervision of Dr. Sores, we are conducting a new clinical trial where we are assessing the efficacy and safety of a novel medication in patients with Major Depressive Disorder (MDD) and have demonstrated inadequate response to antidepressants. One of my main functions during my practicum is helping out with all study clinical assessments.

The approach taken by the clinical research team are conducting neuropsychiatry interviews, clinical laboratory testing, collecting and reporting the medication adverse events and patient follow ups.

My duties included patient recruitment, screening process, providing psychometric tools to the study participants, assisting the research coordinator with IRB amendments and approvals for further clinical trials. In addition, I participated in reviewing and auditing clinical records from previous studies.

Public Health Significance

Major Depressive Disorder can be a chronic, disabling disorder which according to World Health Organization estimates will be the second leading cause of disability by 2020. This mood disorder is affecting around 35 million people in the USA and generating a devastating impact in the society and economy. The annual estimate cost of depression is $83.1 billion in the year 2000. In addition, depression can end in fatal outcome like suicide.

The Public Health Essential Service(s) (PHES) that most closely relates to my practicum experience is “research for new insights and innovative solutions to health problems”

Finding new avenues for people who are struggling with depression would prevent them from experience persistent psychological impairment, lack of well-being and risk to commit suicide. This will be a great contribution to the field of public health because in overall, this approach will improve considerable the quality of life in depressed patients and reduce the medical care cost.


Depression is among the leading causes of disability worldwide. Source: http://www.medicinenet.com/depression_overview_pictures_slideshow/article.htm
Recanalization Rates:
IA Thrombolysis: 51%
IA Thrombectomy: 74%

That's fantastic!!
But, wait…what's this?

Clinical Outcome (mRS<2):
IA Thrombolysis: 21.7%
IA Thrombectomy: 12.1%

Well, in spite of lower recanalization, IA thrombolysis provides 2X better outcome as compared to IA thrombectomy.

Intra-Arterial Lytic Drugs v/s. Intra-arterial Thrombectomy
By: Devsmita Das

The current standard of care for acute ischemic stroke (AIS) is administration of IV-tPA within 4.5 hours of stroke onset.

IAT (IA lysis and IA thrombectomy) provides more localized and more effective recanalization in AIS and has gained much popularity in recent years.

Moreover, data shows that IA thrombolysis substantially improves clinical outcomes in AIS. Similar data is not available for IA thrombectomy.1

We hypothesized that IA thrombolysis (drug only) would demonstrate better clinical outcomes as compared to IA thrombectomy (mechanical devices).1

The main objective of this study is to provide empirical evidence for comparative efficacy of IA thrombolysis and IA thrombectomy.1

My role in this project was to ensure the accuracy of the IAT database which is to be used in future large scale studies by the UT stroke team.

Public Health Significance

The use of FDA approved mechanical devices has become very common, in spite of lack of clinical efficacy data for them.

RCTs are required for bridging the gap in the current knowledge regarding use of thrombectomy devices for AIS. Such knowledge would further help in developing specific guidelines for use of IAT as a standard for stroke treatment.

Large databases are essential resources for research related to Public Health.

The UT stroke team has been recently involved in two large scale RCTs evaluating IA therapy: IMS-III and MR RESCUE. However, these are limited by slow enrollment partly due to lack of clinical equipoise.1

The current study serves to evaluate the effectiveness of IA thrombectomy vs IA thrombolysis and also provide empirical data that would support large scale RCTs involving IA devices.

1 ISC and Nursing Symposium Poster Presentations, Stroke 2011;42;e111-e350
What do we do……

I worked on setting up congenital heart disease (CHD) and cardiomyopathy (CMP) biorepository, and creating Lab Information Management System (LIMS) at Children's Memorial Hermann Hospital.

We started with IRB application, including informed consent and protocol preparation, then we moved on to design flowchart for the study.

We use Access to create the LIMS and forms of the study, which are ready to use for data entry and data collection, respectively.

What is Significant…..

According to Essential Services of Public Health, my host organization’s work contributes to the following service:

10. Research for new insights and innovative solutions to health problems.

A biorepository is secure vault in which biological specimens are stored for use in current and future medical research. By creating a repository of clinical and genetic data, as well as tissue and other physical specimens, that can be drawn from in the future, researchers can continue to study CHD and CMP, and explore new treatment options.
Liver transplantation policy and HPS

“Illustration is an invaluable resource and it must be utilized optimally.”

Image Source: www.medindia.net

Adherence to criteria for increasing priority for liver transplantation in patients with Hepatopulmonary syndrome

By: Madhav Desai

I am working on a liver transplantation study in patients with hepatopulmonary syndrome (HPS). HPS policy group from UNOS/SRTR database was studied to see if the UNOS policy 3.6.4.5.1 performed optimum allocation of liver among waiting list candidates or not. It was a wonderful experience. I come to know many things about the recent research in this field as well as I gained practical knowledge regarding practice of public health and its implications.

Public Health Significance

My practicum taught me the most important essential services of public health: Evaluate effectiveness population-based policy/health services and research for new insights and solutions for health problems. Our study done using UNOS/SRTR database shows that the OPTN policy regarding prioritization of HPS candidates for liver transplantation does not need revision but UNOS/SRTR data collection methods needs to be more thorough as they lack key data for diagnosing patients for HPS and so to apply the present policy.

During my practicum, I learnt about hepatopulmonary syndrome and liver transplantation policy related to it. I worked on UNOS database and understood how to write a manuscript. We studied that UNOS/SRTR database should be more thorough in collecting data from waiting list candidates so that current policy can work efficiently and there can be an optimum organ allocation. Our findings stand in support of need for improvements in present data collection system.

Although it looks purely clinical project but it carries profound public health significance. Many of alcoholics suffer cirrhosis and so may suffer from HPS. They need liver transplantation as a method of cure and to prolong life and to improve longevity. Considering the impact of Cirrhosis and expertise in liver transplantation, effective policy can make a change in the course of disease. That leads to decrease in overall burden of HPS. Ultimately, lives saved make a big change in the picture of public health. It also addresses the issue of optimum utilization of precious resources like liver transplantation.

“Population health is not only achieved by establishing a health organization; but continuous scrutiny over its function is also a necessary part of it.”

In Fall 2011 I worked on an epidemiologic study with Dr. Kristy Murray to assess the clinical characteristics of pediatric West Nile Virus (WNV) cases detected in 2003-2004 across Texas. The case series comprised 28 cases (median age: 12 years, range: 4 months to 18 years) with 16 hospitalizations and no deaths.

My duties involved reviewing and analyzing the case series and assisting with sample processing of the patients in the current study cohort.

The results of the analysis are summarized in the section below.

Primary vectors of WNV: Culex spp mosquitoes
Courtesy: UCLA
(http://sciencedude.ocregister.com/tag/orange-county-vector-control-district/)

Special Events

- October 2011 WNV Patient Meeting, a semiannual event.

  - Over 50 patients from the study cohort visited to give an interview and test samples.
  - I supervised the lab based sample processing and testing for the presence of virus.

Public Health Significance

This practicum experience provides the services 1-3 and 10 of the ten essential services of public health, viz. monitor, diagnose and investigate WNV infections reported in Texas; inform and educate the patients and conduct research for new insights and the prevention and control of WNV.

By assessing the case series of pediatric WNV infection, we aim to understand the potential risk factors for infection and the analysis would aid physicians in evaluating their patients.

Of the 28 cases, 5 were classified as meningitis (WNM), 10 were encephalitis (WNE) and 13 were uncomplicated fever (WNF). 13 (46.4%) of the cases developed a rash. The most commonly reported symptoms were fever (78.5%), headache (71.4%), muscle weakness (21.4%), stiff neck (21.4%), altered mental status (32.1%), flaccid paralysis, seizures and coma. All the children who underwent lumbar puncture had pleocytosis (median count: 253 WBC/mm³ with a range of 34-795).

The results obtained from the analysis of the pediatric case series would be incorporated into a manuscript for a descriptive study of WNV clinical investigation.

Best way to prevent WNV: Avoid mosquito bites!!

Image Courtesy: (http://www.oxfordcounty.ca/Healthyplaces/Environmentalhazards/WestNilevirus.aspx)
During the Fall 2011, I worked on my practicum under a collaborative project between my mentor at SPH, Dr. Laura Mitchell and Dr. Mousumi Moulik and few other Pediatric Cardiologists at UT Med School. At my practicum I assisted in developing a Pediatric Congenital Heart Disease (CHD) Bio repository study research proposal and IRB application. Additionally, I assisted in designing a database for this bio repository.

This study is currently aiming to develop a Pediatric CHD Bio repository and database. Data analysis will be done in the second phase of the study, once the repository has been established.

**Public Health Significance**

The outcomes of this practicum aim to fulfill the services 3 and 10 of the ten essential services of public health, viz. Inform, educate and empower people about health issues and Research for new insights and innovative solutions to health problems.

Pediatric Congenital Heart Diseases are the most common type of birth defect. Congenital heart diseases are responsible for more deaths in the first year of life than any other birth defects. Genetic defects and their role in Congenital Heart Diseases have been scientifically established. By carrying a genome wide association study we aim to have a better understanding of the various genetic mechanism and inheritance, which influence the type, severity, syndrome complex and outcomes of these Congenital Heart Birth Defects. Having a better understanding of the genome wide association of these CHD will help us shape innovative and scientifically advanced treatment modalities for these birth heart defects.

This study in its current phase does not aim on carrying out any data analysis.
C. difficile has been linked with diarrhea especially in hospitalized patients and it has become a public health menace. The Center for Infectious Diseases is conducting various studies to describe the pathogenesis, antibiotic associated diarrhea and other clinical trials that will be helpful in gaining insight into Clostridium difficile Associated Diarrhea.

I was involved in enrolling patients into the pathogenesis study.

My duty was to identify eligible patients based on the inclusion criteria, go into the rooms of such patients and introduce the study to them. Once a patient shows interest to be in the study, the informed consent is signed.

I made a presentation during one of our weekly research conference and met with my preceptor for an oral assessment.

**Public Health Significance**

My practicum experience focused majorly on research for new insights and innovative solutions to health problems.

Most people undergo recurrence of diarrhea shortly after they recover from the first episode. This project is aimed at understanding how the host inflammatory and immune response to Clostridium difficile-associated diarrhea relates to recurrent infections.
Blood Culture Yield

My Practicum experience
- Attended regular meetings and communications with members of the research team
- Assisted in proposal development, data management and data collection

“Research is to see what everybody else has seen, and to think what nobody else has thought.”

Albert Szent-Gyorgyi

The Effect of Antibiotic Use on Blood Culture Yield in Cancer Patients

By: Adeniran Olaoya

Blood cultures are used to test for the presence of bacteria in the blood. Physicians rely primarily on blood cultures to ascertain the cause of infection among critically ill patients. However, studies in the past have shown that blood culture yield may become less reliable due to prior antibiotic exposure in patients.

There are guidelines regarding the number of times blood samples should be obtained for culture before antibiotic therapy is started, but guidance regarding obtaining and using blood cultures in patients with existing antibiotics is lacking.

Public Health Significance

The Public Health Essential Service that is most relevant to my practicum experience is “research for new insights and innovative solutions to health problems.”

MD Anderson Cancer Center makes a great contribution towards the prevention and treatment of cancer with the use of state of the art and cutting edge research.

This project will hopefully contribute to the body of knowledge that will help provide guidelines regarding the use of blood cultures in critically ill patients with existing antibiotic use, that will eventually help reduce mortality in these patients.
Emergency Preparedness in Hospitals

Development of a Pilot Model for Predicting Industry Average Levels of Security Personnel Staffing for Hospitals

By: Nathan Parker

The objective of this project was to develop a predictor model for hospital security staffing levels, identifying “industry averages” for full-time equivalents and security program expenditures.

Mr. Karim Vellani of Threat Analysis Group, LLC enlisted Dr. Robert Emery and me to analyze initial pilot survey data from 64 U.S. member hospitals of the International Association for Healthcare Security & Safety. Data included information on physical characteristics of hospitals, crime statistics, and hospital classifications.

The final product from this project was a presentation to security professionals from IAHSS member hospitals to explain the project and the predictor model.

Public Health Significance

This project relates most directly to 8th Essential Service of Public Health, “Assure a competent public health and personal healthcare workforce” (http://www.apha.org).

Dr. Emery likes to say that in the world of emergency preparedness, the successful days are the ones in which nothing happens. Hospital security is crucial to maintaining the safety of patients and staff; however, security managers have little to guide them in determining the levels of services that their hospitals require.

The purpose of this project was to provide this guidance. Using the model, hospital security managers can input common metrics and characteristics of their institutions and receive statistically valid benchmarks – the “industry standards” – for staffing needs.

This project has public health significance in that it will help hospital security managers staff their hospitals appropriately and according to their specific security needs. Most importantly, these “industry averages” will help ensure the safety of the patients and staff in hospitals.

Practicum Notes

• Multiple linear regression analysis was performed using STATA statistical software, version 11.

• The project has been submitted for presentation at the 2012 Annual General Meeting of the International Association for Healthcare Security & Safety.

A security staffing predictor model was developed for member hospitals of the International Association for Healthcare Security & Safety.

Symbol courtesy of IAHSS, http://www.iahss.org

Hospitals can use the predictor model to determine how many security full-time equivalents they need to meet industry averages.

(Total full-time equivalents)\(^{1/2} = 1.25 \times 10^{-6} (\text{Total inpatient sq. ft.}) + 2.71 \times 10^{-5} (\text{Yearly security calls}) + 6.69 \times 10^{-7} (\text{Total research sq. ft.}) + 0.0014 (\text{Number of hospital beds}) - 0.404 (\text{Trauma center}) + 3.17

Overall p-value = 0.0044

Note: Trauma center = 1 if hospital houses a trauma center, 2 if hospital does not house a trauma center.
ORAL BACTERIA IN CARDIOVASCULAR DISEASE

Wake up in the morning............

Brush your teeth, tongue, gums....

Are all the bacteria gone??????
Nooooo......But, that's alright.

The Best oral hygiene technique cannot get rid of all the bacteria in the oral cavity and that is good news. Not all oral bacteria are harmful and some of them are necessary too......

Helpful Oral Bacteria

Happy Heart

Images Source:
http://www.imageenvision.com/collection/organ_hearts.html


ORAL BACTERIA IN CARDIOVASCULAR DISEASE

By: Deepa Parthasarathy

• The main objectives of the project are to understand and identify the role of oral bacteria in Nitric Oxide (NO) production and homeostasis, and how a particular species/strain of nitrate reducing bacteria contribute to protection from cardiovascular disease.

• We hypothesize that the presence of specific strains of oral bacteria with functional nitrate reductase enzymes reduces risk of cardiovascular disease by providing a source of NO.

• To the contrary, patient populations who are deficient in these specific commensal bacteria have reduced Nitric Oxide generating capacity and may be more prone to cardiovascular disease.

• The goal of the study is to compare the oral bacterial community of the healthy controls to the patients with known cardiovascular disease and quantify the nitrate reducing capacity of the community in both the populations.

Public Health Significance

• The lab’s research is involved in providing a better understanding of Nitric oxide interactions at various cellular and molecular levels. The nitrate-nitrite-NO pathway has been shown in both animals and humans to reduce blood pressure, restore endothelial function, protect from myocardial ischemia-reperfusion injury, prevent microvascular inflammation and reduce triglycerides and C-reactive protein.

• Understanding this pathway will provide the basis for new preventive or therapeutic strategies in diseases associated with Nitric Oxide insufficiency and new guidelines for optimal health.

• This study helps us to find a link between the oral health and risk of cardiovascular disease. Since most of the useful bacteria also are eliminated by certain types of mouthwash, any break through in this context might question the use of such mouthwash preparations.

• Individuals who are deficient in these commensal oral bacteria involved in nitrate reduction are Nitric Oxide deficient. Such screening will likely unveil a new risk factor for cardiovascular disease since the first activation step from dietary nitrate is reduction to nitrate.

Source: www.gut.bmj.com        Source: Dr. Bryan’s PPT- Zand et al, Nutritional Research 2011

Source: Deepa Parthasarathy

Institute of Molecular Medicine, Houston

Oral Bacteria In CVD
• Having the opportunity to interview and speak with bladder cancer patients.
• Learning how to apply statistical models to research.
• The opportunity to attend interesting lecture series that covered a wide range of cancer research topics.

“Attitude is a little thing that makes a big difference”
- Winston Churchill

**Genetic Variants within the Wnt/β-catenin Signaling Pathway as Predictors of Bladder Cancer Risk:** Jeanne Pierzynski

My practicum was at MD Anderson Cancer Center in the Epidemiology Department. I was working on a research project that looked at genetic variants in the Wnt/β-catenin stem cell signaling pathway and risk of bladder cancer. The bladder cancer project is part of an on-going bladder cancer research project that continually recruits patients to participate.

I was responsible for the data analysis and interpretation and development of the manuscript that will be submitted for publication. We found interesting results that will add to bladder cancer research.

I also helped with interviewing bladder cancer patients who are part of the on-going study. This included phone interviewing them about their nutrition, smoking, family history, occupational history, and medical history.

**Public Health Significance**

The Essential Services of Public Health that most relates to my practicum experience is research. The Epidemiology Department at MD Anderson Cancer Center is devoted to research.

The research that is done in the Epidemiology Department is important because it is advancing the field of cancer research, specifically cancer prevention. The Epidemiology Department is located in the Cancer Prevention Division.

The research I completed in bladder cancer is important to public health because it looks at possible risk factors that can be modified before the development of bladder cancer. For example, my research looks at specific genetic variants as risk factors. Based on the results of the research, gene therapy approaches could potentially be developed to prevent the development of bladder cancer. An important part of cancer research is working to prevent cancer before it develops.
Advances in treatment have been hampered by minimal knowledge of defective regulation of cancer cell death.

Cells normally undergo suicide after death receptors Fas are switched on. But in cancer cells, this switch is defective, and cells do not die. We worked proteins such as CD 74 and HHV8-K1 that target Fas mediated cell death.

We discovered that these proteins such as CD74, which are highly expressed in cancer cells block cell death, especially when administered with chemotherapeutic drugs.

We submitted a poster to the 53rd ASH conference titled “Anti-CD74 antibody hLL1 is associated with Lymphoma and CLL Cell Effects in vivo”.

Public Health Significance

We were able to conduct research for new insights and innovative solutions to health problems such as cancer.

The experiments will serve as the basis for developing anticancer drugs and testing them in clinical trials for patients who lack effective therapies.
Clostridium difficile (C. diff) has gone a long way from being one of the rare post surgical complications to be one of the most common nosocomial infections in the modern world. It is the most common cause of hospital acquired diarrhea (15-30%). It was first discovered in fecal flora of healthy newborn in the year 1935. C. diff is a gram positive bacteria found in soil and is a normal inhabitant of human gut. According to CDC hospitalized patients acquire C. diff infection either through contaminated hands of health care professionals or through exposure to contaminated environment in hospitals. The use of antibiotics that inhibit colonic flora further promotes its growth by altering the normal gut flora. 20-30% of the people who become infected with C. diff in hospitals finally go on to develop C diff associated diarrhea. Though our knowledge about C. diff has increased since earlier time, we still have to go a long way to control this superbug. The emergence of the new hyper virulent strains of C. diff (B1/NAP1/027) calls for novel research to control this rising rate of C. diff infection. The C. diff research team at St Luke’s is one such team which is striving very hard to control this superbug’s spread.

C. difficile was named difficile when it was first discovered because it was difficult to culture, but does this statement hold true in modern day world.

It might be still difficult to culture C. diff but the cases of C.diff are on rise in this modern day era and it is one of the most common nosocomial infections. The National Prevalence Study of C. diff of the year 2008 in U.S. Healthcare Facilities found out that 13 out of every 1,000 inpatients were either infected or colonized with C. difficile and the rate was 6.5 to 20 times more than previous estimates. Though the exact cause of its rise is not known, the increased use of antibiotics and continued ignorance about C. diff among health care workers are the most common attributable cause. Many of the health care staff are unknowingly contributing to its spread and thus adding further burden to our already overstretched healthcare expenditure. The need of the hour is to develop new ways to tackle this bacterium and to promote the concept of effective preventive method among health care workers.
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/