Spring 2019 Public Health Internship Program – PBH 341R

This internship is for undergraduate public health students at UT Austin who are interested in gaining experience in public health laboratory science or epidemiology through partnerships with state and local public health agencies.

Student interns will have the opportunity to conduct goal-oriented, semester-long research projects for university credit under the supervision of public health scientists in laboratory science or epidemiology. In addition to valuable research experience, student interns will gain communication skills by preparing both written and oral presentations about their completed projects. They will present their projects before an audience that includes their fellow interns.

Students will be selected to participate based on merit via a competitive process without regard to race, color, religion, or gender. Completed applications will be reviewed and students will be interviewed in person or by telephone. Selected students will be assigned research projects based on the mutual interest of the student and mentor.

Student interns must complete 180 hours of work for the semester (approximately 12 hours/week) to earn 3 hours of academic credit in PBH 341R Public Health Research. They must provide their own transportation to the internship site and are responsible for obtaining necessary vaccinations, including vaccination against Hepatitis B virus. Training will be provided in safety, computer security awareness, and in the basic principles of patient’s rights to privacy and confidentiality.

Application Requirements

- U.S. Citizenship is required for all internships carried out at the Texas Department of State Health Services (TDSHS). This is not a requirement for internships carried out at the Austin Travis County Health and Human Services Department (ATCHHSD).
- Enrollment at the University of Texas at Austin as a degree seeker or post-baccalaureate student
- Junior or senior standing with at least a 3.0 grade point average (GPA)
- Prerequisite Coursework: Completion of PBH 317, BIO 325, SDS 328M, and PBH 354. For laboratory internships, completion of BIO 326M and BIO 226L is required.
- If you have not completed (or are not currently enrolled in) the prerequisite coursework, but believe that you may be qualified to participate because of other experiences, please e-mail Dr. Marilyn Felkner (marilyn.felkner@austin.utexas.edu) to discuss your individual situation.

Application Process

- Complete the online application form and submit it by the deadline, November 1, 2018.
- Provide your resume to Shawna Al-Mashouq (shawna.almashouq@austin.utexas.edu).
- Applicants must be able to commit to working 12 hours per week for the semester at the internship site plus additional time working one-on-one with Dr. Felkner.
- Students will be notified by November 9th about internship decision.
The University of Texas at Austin Public Health Internship (PBH 341R) Project Descriptions

1. Project Title: Tobacco Free Campus Program: Bystander Intervention and Enforcement

**Supervisors:** Nosse Ovienmhada, UT Wellness Manager and Madison Wisdom, Tobacco Free Campus GA.

**Project description:**
On April 9, 2012, The University of Texas at Austin became a tobacco-free campus. The University prohibits the use of any tobacco product on campus property, including but not limited to cigarettes, cigars, water pipes (hookah) and smokeless tobacco. It also prohibits innovations in smoke or tobacco products such as any non-FDA approved electronic nicotine delivery device, e-cigarette or vape pen. The full text of the policy including the definition for tobacco products is available on the University Policies website. The purpose of this study is to assess tobacco usage and policy compliance at UT Austin.

**Expectations:** The student should have experience using Microsoft Excel, Word and PowerPoint. Additional training will be provided on Qualtrics. Work will be performed at the UT Administration building and on Main Campus between 8:00am and 5:00pm. The student will need to complete a one-hour class on Tobacco Free Campus Enforcement and BeVocal. The student will use a questionnaire on Qualtrics to collect information on tobacco use and enforcement.

**Products:** The student will prepare a written report to be shared with the Tobacco Advisory committee, Peers Against Tobacco (statewide tobacco initiative) and Eliminate Tobacco Use. The student will also prepare a detailed map of hotspot areas and signage on UT Property to present a formal recommendation.

2. Project Title: Passive Triatomine Surveillance in Texas, 2012-2018

**Supervisors:** Whitney Qualls, MS, PHD and Bonny Mayes, MPH, Zoonosis Control Branch, Texas Department of State Health Services, Austin, Texas

**Project description:** The Texas Department of State Health Services (DSHS) partners with the U.S. Centers for Disease Control and Prevention to test Triatomine bugs for the parasite *Trypanosoma cruzi*. DSHS only accepts Triatomine bugs implicated in a human exposure for testing. The DSHS has a Triatomine submission form that must be submitted with the specimen that collects a range of data about the collection of the bug and the demographics of the submitter. Since 2012 (2012-2017), 633 Triatomines have been received by the Texas DSHS representing six species in 107 of 254 counties. As of October 1, 2018, we have received an additional 208 Triatomines for testing. The data collected on the Triatomine submission form and CDC testing data has not been analyzed to understand 1) the species of Triatomines associated with human exposure in Texas, 2) the geographic and seasonal distribution patterns of the Triatomine species, 3) the sex and age of persons submitting Triatomines, and 4) the patterns of geographic distribution and incidence of Triatomine species infected with *Trypanosoma cruzi*.

**Expectations:** The student should have experience using Microsoft Excel and Word. Work will be performed at the Texas Department of State Health Services, Zoonosis Control Branch offices located at 1100 West 49th Street between 8:00am and 4:30pm. The student will be responsible for creating a spreadsheet to organize the Triatomine data and conduct a survey with submitters whose Triatomine submission was found positive for *T. cruzi*.

**Products:** The student will analyze the data and prepare distribution maps and a written report that will be developed into a manuscript with the student as an author. The student will also prepare a poster and a 30-minute oral presentation to be shared at a professional meeting.
3. **Project Title:** Epidemiologic Description and Trends of Infant Mortality, Travis County, 2008-2017  
**Supervisors:** Jeff Taylor, MPH, Epidemiology and Disease Surveillance Unit, Austin Public Health

**Project description:** In March 2018, the Austin City Council adopted a new strategic direction termed *Strategic Direction 2023*. This direction has six strategies including a Health & Environment strategy. The Health & Environment strategy includes a metric for Austin Public Health to report the infant mortality rate (the number of deaths of infants younger than 1-year-old per 1,000 live births). This metric is an overall measure of the health status of the whole population. During 2009 – 2013, over 360 infant deaths were reported in Travis County. Approximately 17% of the deaths are due to unintentional injuries or homicides. Broader knowledge related to infant mortality would assist Austin Public Health in developing initiatives and program expansions to reduce infant mortality.

**Expectations:** The student will conduct a literature review to identify published articles related to infant mortality. The student will summarize and analyze infant mortality data for Travis County for 2008-2017. Analysis would include identifying leading causes of death and summarizing rates by race/ethnicity, age, and educational attainment of the mother, and adequacy of prenatal care utilization. The student should have experience using Microsoft Excel and Word. An Excel file will contain a line listing of infant deaths. Excel will be used to prepare graphs. Work will be performed at the RBJ Health Center at 15 Waller Street between 8:00am and 5:00pm. The student will need to complete a one-hour class on confidentiality information security procedures.

**Products:** The student will prepare a written report to be shared with staff at Austin Public Health. Components of the report will be included in the 2019 Critical Health Indicators Report prepared by Austin Public Health. The student will also prepare a 20-minute oral presentation to be shared with Austin Public Health staff during a staff meeting.

4. **Project Title:** Retail Food Safety

**Supervisors:**
- Dr. Rod Moline, Section Director, Policy Standards and Quality Assurance Section, Public Sanitation and Retail Food Safety Unit.
- Jason Guzman, Training Lead, Public Sanitation and Retail Food Safety Unit.

**Project description:** The Texas Department of State Health Services – Public Sanitation and Retail Food Safety Unit (DSHS) conducts routine inspections to identify violations of the various types of foodservice and retail food establishments under DSHS jurisdiction. The department conducts inspections on food establishments to measure the occurrence of food preparation practices and employee behaviors most commonly reported to the Centers for Disease Control and Prevention (CDC) as contributing factors in foodborne illness outbreaks. The department uses compliance for establishments that do not meet minimum food safety standards set by the department. Facility types from three different segments of the retail and foodservice industry:

- **Institutional Foodservice:** Hospitals, Schools
- **Restaurants:** Fast Food, Full Service
- **Retail Food Stores:** Deli (freestanding specialty), Meat market (freestanding specialty), Seafood (freestanding specialty)

**Expectations:** The student should have experience using Microsoft Excel and Word. Be familiar with Google Chrome based programs. Work will be performed at the DSHS - Exchange Building, 8407 Wall St., Austin, TX 78754 between 8:00am and 5:00pm. The student will need to complete online web course curriculum for Retail Food
Safety Inspection Officers through FDA's Office of Regulatory Affairs' Office of Training Education and Development (OTED). The student will shadow inspectors during field surveillance and aid Quality Assurance Officers in compliance case development. Requires (15%) Travel – to Waco and Temple Offices for field surveillance. It is preferred that a student have at least one day per week without class to participate in field surveillance in rural areas of Central Texas.

**Products:** The student will learn and have a basic understanding of Retail Food Safety and how the Texas Department of State Health Services – Public Sanitation and Retail Food Safety Unit conducts routine inspections and compliance within the department. Any written reports or presentations developed from the internship must be reviewed and approved by the program.

5. **Project Title:** Community Impact (American Heart Association)

**Supervisors:** Nora Silva, Desirae Fletcher

**Project description:** The Community Impact project consists of various components. There is a focus on reaching diverse communities and addressing social determinants of health. One of these components is the planning and implementation of the annual Vestido Rojo event. The event targets Hispanic/Latino women with information on healthy eating, CVD risk reduction, and chronic disease management. Another component is the self-management blood pressure program Check. Change. Control. (CCC) The project includes training volunteers, implementing the CCC program, and leading educational sessions. The final component is community education through health fairs and community events. Resources for healthy eating, chronic disease management, such as diabetes and cholesterol, as well as information on physical activity benefits and smoking cessation are part of this community impact work.

**Expectations:** The expectations for this project include a review of the overall goals and completion of training for all areas within the project with AHA staff. Interns will need to be aware of resources needed for each project and prepare them prior to activity. For example, if there is a planned health fair, the students will put all material needed earlier in the week to ensure all resources are available. Students are also asked to research and utilize the American Heart Association website and resources for information to ensure it is information the AHA supports. Interns may potentially lead external educational presentations. Resources and materials are provided by AHA. They will present to AHA staff first to ensure standards of expectation are met before presenting externally. Materials and resources will be returned and stored accordingly. In addition, interns will be expected to share their academic knowledge within team interactions and community events. The Vestido Rojo event requires recruitment of volunteers, including Madrinas, helping with set up, evaluations, sessions and tear down of event. Bilingual/Spanish speaking is a plus but not necessarily required for the Community Impact project.

**Products:** The Vestido Rojo event has a goal attendance of 600, as well as a goal around community ambassadors, called Madrinas, being recruited. Another goal is to engage at least 5 community partners in the Vestido Rojo event. This helps increase the level of community buy in and response. Community partners also help recruit event attendees. The goal for the CCC program is for a program site to host at least 1 educational session and engage at least 10% of their constituents. For community events and health fairs, at least 1000 individuals will be impacted with health information or resources because of our participation over the semester.

6. **Project Title:** Virtual Tissue Repository Background Research

**Supervisors:** Melanie Williams, Ph.D., Branch Manager, Cancer Epidemiology and Surveillance Branch, Texas Department of State Health Services
Project description: Student will research the concept and implementation of a “Virtual Tissue Repository” by contacting cancer registries throughout the United States and higher education stakeholders at research institutes in Texas. In addition, the student will review information on this topic provided by the National Cancer Institute.

Expectations: Student should have excellent oral and written communication skills and be comfortable contacting and communicating with public health professionals. Student should have or develop a professional vocabulary specifically related to virtual tissue repository and to cancer registries and epidemiology in general.

Products: Student will provide an executive summary of findings and a contact sheet for future communication with virtual tissue repository subject matter experts and stakeholders.

7. Project Title: Evaluating missed opportunities for perinatal HIV and congenital syphilis prevention in Texas

Supervisors: Margaret Vaaler and Kacey Russell, Epidemiology and Supplemental Projects Group, TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Project description: Despite current recommendations for the prevention of perinatal HIV and congenital syphilis in Texas, missed opportunities for prevention continue to occur. The TB/HIV/STD Epidemiology and Surveillance Branch at the Texas Department of State Health Services seeks to better understand and to identify missed opportunities for treatment and prevention with an overall goal to improve service systems and community resources for women, infants and families.

Expectations: The student will be responsible for identifying similar analysis conducted through a literature review. They will use SAS to conduct analysis of surveillance data to evaluate engagement in prenatal care, treatment, testing and the likelihood of perinatal HIV transmission and congenital syphilis in Texas. The student will be responsible for drafting an abstract that outlines significant findings from the analysis. The student will also conduct medical chart reviews of mother-infant pairs to identify any gaps in treatment and participate in the FIMR HIV and congenital Syphilis (FIMRSH) case selection. The student will need to complete security and confidentiality training. The student will receive training and guidance in the use of statistical software (SAS) and data collection methods for perinatal surveillance and FIMR HIV and congenital Syphilis (FIMRSH).

Products: The student will produce data analysis to contribute to facts sheets for perinatal HIV and congenital syphilis and case selection for FIMRSH reviews.

8. Project Title: Immunization – Public Education

Supervisors: Darrick Nicholas, Linc Allen

Project description: With proper supervision, intern will conduct usability assessment of online communication tools (e.g., main website, social media) connected to the Immunization Unit, Texas Department of State Health Services. Intern will also assist in implementation and evaluation of various public education components associated with integrated communications strategy.

Expectations: Using critical thinking skills, the intern will be able to identify possible ways to improve online communication for target audiences. The ideal intern would have experience with website content management, design programs (Adobe Creative Suite) and an eye for detail.

Products: Website audit report
9. Project Title: Infection Control Assessment and Response in Texas: Identifying Educational Needs

Supervisors: Susana Baumann

Project description: Beginning in May 2016, the Centers for Disease Control and Prevention developed a survey tool for assessing the infection prevention programs in a range of healthcare facilities, from acute care hospitals to long-term care facilities and outpatient clinics. This project ran until May 2018 with 202 infection control assessments performed across the state of Texas. These data have already been collected and are stored in a database but have not been analyzed using inferential statistics to determine the statistical significance of the findings. Stratified analysis could be done to compare between regions and counties, or portions of Texas (such as the “border regions”) and the rest of Texas in order to best serve the unique needs of the different areas of Texas.

Expectations: The student will need experience with Microsoft Excel and Word and a knowledge of descriptive and inferential statistics, including the basic Z- and T-tests comparing means of two populations. The student should also be able to interpret statistical data and compile a report that can communicate the findings of the data analysis to a lay audience. ArcGIS mapping can be utilized as appropriate. The student should be able to understand survey methods and data entry and coding, in regards to survey codebooks. The hours can be flexible for currently enrolled students and can range from part to full time.

Products: The end product should be a written report or powerpoint discussing the findings in Texas with minor statistical analysis to back up the interpretation. There can be latitude given on the topic of the presentation, depending on what findings are of most importance. The student will be expected to present this report or powerpoint presentation to the HAI Epidemiologist Team and Group Manager.

10. Project Title: Trauma Registry Data Analysis

Supervisors: Karla Jones, TPD RRMC
Gaylen Tips, TPD SAMC
Diana Kraus, AVP Trauma CWTX Division

Project description: Trauma is the leading cause of death in ages 0-44 years of age. Physical trauma is severe blunt, blast or penetrating injury primarily caused by automobile crashes, gunshots, knife wounds, falls, battery, or burns. The survival of trauma patient is reliant upon the strength of the trauma system in that patient’s geographical area. The trauma system must provide:

- Immediate response and medical care at the scene of the injury
- Rapid transport from the scene of the injury to a qualified trauma facility
- Qualified trauma medical facilities capable of delivering immediate medical care and ongoing treatment for the injury patient.

Excellent trauma care relies on an excellent trauma system. It requires a coordinated, multidisciplinary approach to the care of the patient. Unlike other medical problems, a trauma patient’s care cannot be reviewed and a decision reached as to where the patient wants to go or who should care for him. The survival of the trauma patient is dependent upon the trauma system to make that decision in the most expedient manner possible.

In order to improve the lives of injured patients, Trauma Centers are verified by the American College of Surgeons Committee on Trauma based on the ‘Optimal Care of the Injured Patient’. These standards are based off of data from the individual centers trauma registry. Data integrity and validation are the cornerstone of the centers Trauma Quality Improvement Program (TQIP). TQIP is a risk adjusted benchmarking collated from the individual facilities submission of data to the National Trauma Data Bank (NTDB). HCA also has developed an enterprise data center Eagle program in which the variables from TQIP have been extracted in order for the individual centers to have real-time benchmarking capability.
**Expectations:** The student should have experience using Microsoft Excel and Word. Work will be performed at two St. David’s Hospital Campuses:

1. Round Rock Medical Center at 2400 Round Rock Avenue, Round Rock TX 78681
2. South Austin Medical Center at 901 W Ben White Blvd, Austin, TX 78704

The scope of work is evolving with the implementation of the HCA Trauma Quality Eagle project which is based on the data from the Enterprise Wide Data Center. The data sets need to be compared, validated with drill down information on the top 5 outliers of the individual center. The student will work with their supervisor on action plans to mitigate the variances.

**Products:** The student will prepare a written report to be shared with the trauma center leadership based on their individual TQIP reports, data validity and the HCA Trauma Quality Eagle software. The student will also prepare a 20-minute oral presentation to be shared with the individual facilities Trauma Operations Committee.

11. **Project Title: Infection Prevention**

**Supervisors:** Lynda Watkins  
St. David’s Hospital

**Project description:** Infection prevention is fundamental to quality patient care. The student will assist certified infection preventionists in preventing health care-associated infections through collecting and analyzing data and providing patient and provider education. The student may also assist in researching current topics and updating procedure manuals.

**Expectations:** The student should have experience using Microsoft Excel and Word. The student must be knowledgeable regarding microbiological and immunological factors in infectious disease.

**Products:** The student will prepare a written report based on the specific assignments the student receives. This report will be shared with the infection prevention leadership