

Public Health Practice



Stories from the Field

The University of Texas School of Public Health
Student Practicum Experiences
Spring 2014 – Biostatistics

Prevention diabetes safe kids clean water policy disaster response
cancer adolescent sexual health HIV/AIDS research obesity
alcohol empowerment vaccinations maternal & child health

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 thirteenth-edition e-magazine showcases student practicum experiences throughout the Spring 2014 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: 2

Hours per Week per Student	Approximately 12
Campuses (Houston)	1
Division	1

Student

Biostatistics

Longitudinal Data Analysis in a Neurological Study	Weilu Han
GIS for Child Abuse	Jialing Zhu

Longitudinal Data Analysis in a Neurological Study



ADHD in Children;
Source;
http://www.medicinenet.com/adhd_children_pictures_slides/how/article.htm

Special events/ duties during your practicum

- Communicating timely and professionally with researchers.
- Dataset cleaning strategy for cohort study and design of models

Lessons Learned [OR] Advice for Future Students

- Don't get discouraged facing real life large dataset, because the work can be tedious and require a lot of attention to details
- Make use of the feedback to help you grow and improve.

Secondary data analysis of neural activity recordings on freely Behaving rats

Weilu Han

This semester, I worked with Dr Adrianna Perez on a project to investigate How and where methylphenidate exerts effect in adolescent and adult brains. I was provided with two datasets. One is study on adolescent rats and the other one is on adult rats. The dataset include rats, structure, channel, and type of treatment (0.6, 2.5, 10, Saline). Saline is control which is injected on

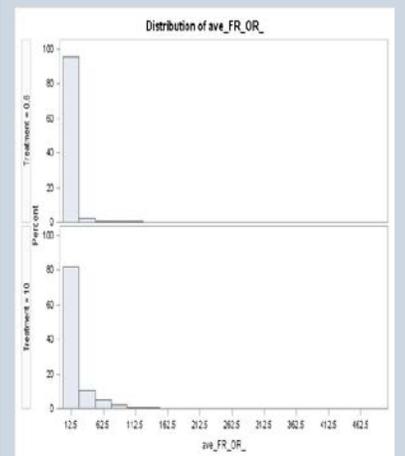
day 1 or day 10; I verified, cleaned the datasets and extracted summary statistics. I was also responsible for carrying out the analysis under different types of models. A challenge for this practicum is that the dataset is extensively large, so we had to do data reduction to make the programming more efficiently. The analysis of the model is still ongoing, and we should be getting the results of the analysis in the next month.

Public Health Significance

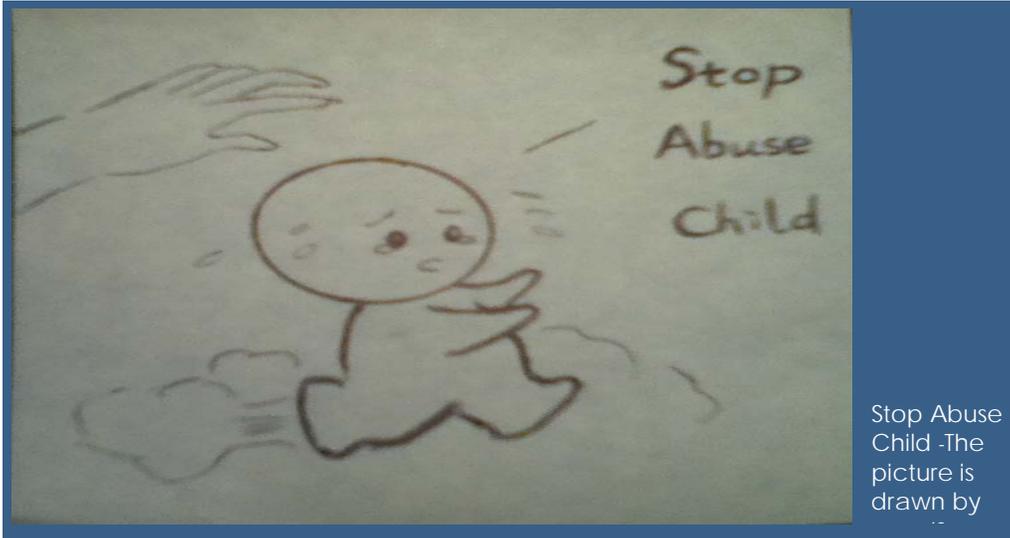
My practicum experience is closely related to the 10th public health essential service, which is Research for new insights and innovative solutions to health problems. Even though data analysis does not require the direct involvement into lab operation or patients, we can use statistical tools to detect significant associations and provide evidence based results for researchers. Methylphenidate is used to treat attention deficit disorder in children and adult. There has been

some recent publications on the risk and benefits of its use. By providing final model developed for all the structures of the functional neurological activity in the brain and per brain structure, we can give some insight into this field and how the ADHD treatment works across the different cell structures in the brain.

Histogram of Firing rates when treatment=0.6 or 10



GIS for Child Abuse



Special duties during my practicum

- Format the new data set, match and merge the old data set that had been sorted with the new data sets that includes the addresses in SAS.
- Determine how to get Zip Code and Congressional Districts data from the addresses, use ArcMap10 to map the data.
- Do the cost burden analysis.

Advice for Future Students

- Do not be shame to ask questions
- The practicum can give you a better idea how your future work will be like, so pick something you really like to do.
- Connect the statistic knowledge with real life problems.

Characteristics and Economic Burden of Childhood Non-accidental Trauma

By: Jialing Zhu

I am now working with the injury prevention department at Children's Memorial Hermann Hospital on a project to investigate the characteristics and economic burden of non-accidental trauma.

The injury prevention program faces lifetime injury risks through the use of a public health strategy to cope with

policy, environmental factors, systems, and delivery of education with the ultimate goal of reducing overall burden of injury by changing individual behavior.

I am responsible for data collection, statistical analysis, GIS mapping, cost burden analysis, and creating an infographic to be used in the community to raise awareness for prevention.

Public Health Significance

Diagnose and investigate

Child abuse not only affects the victimized child, but also impacts to the greater community. For that reason child abuse is a serious public health issue.

The aim of this project is to examine the factors of injury and economic burden of pediatric non-accidental trauma in Harris County, then use spatial statistical methods to identify areas in the community with the higher frequency of child non-accidental trauma for future targeted

interventions to prevent the problem.

For this reason, data analysis is critical to look at incidence of non-accidental trauma as well as the cost of hospitalization due to non-accidental trauma. By doing Geographic information System (GIS) analyses, researchers are able to focus on limited resources most efficiently and targeted specific locations within the community to target for injury prevention.



Children's Memorial Hermann Hospital - The picture is photoed by myself.

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/>