Public Health Practice

Stories from the Field
The University of Texas School of Public Health
Student Practicum Experiences
Fall 2014 – Biostatistics
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 fifteenth-edition e-magazine showcases student practicum experiences throughout the Fall 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

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

<table>
<thead>
<tr>
<th>Secondary Primary Malignancies</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turning Cancer data into Discovery</td>
<td>Weiqin Liao</td>
</tr>
<tr>
<td>Winston Chan</td>
<td></td>
</tr>
</tbody>
</table>
Secondary Primary Malignancies

**Public Health Significance**

Most of the work conducted at my practicum revolved around the assessment portion of the essential public health services. This is done primarily through monitoring and investigating. As mentioned above, we looked primarily through the SEER-Medicare linked cancer database for our patient cohort to determine a risk prediction model for SPM. This also helped to evaluate current treatment methods of dealing with head and neck cancer. We attempted to find if treatment methods such as radiation vs. surgery had any effect on the chance of developing a SPM. This serves as an assessment of yet another essential public health service through the evaluation of health services, as well as ensuring doctors and patients can make the best informed decision when treating head and neck cancer.

**Advice for Future Practicum Students**

Don’t be afraid to talk to people in your field no matter how important they may be. They often love sharing tips to young aspiring students who take the initiative to learn.

**Prediction Model for SPM in HNSCC Patients**

By: Winston Chan

Head and neck cancer is the 6th most common malignancy in the world. Despite new treatment methods for head and neck cancers, 5-year survival has not dramatically improved. One main reason is the development of a second primary malignancy (SPM) that occurs quite often in head and neck cancer patients than cancers of other sites. Using the SEER-Medicare linked cancer database, a study cohort was created to determine a risk prediction model for a SPM in Head and Neck Patients. The SAS statistical programming software was primarily used to analyze our cohort and conduct a logistic regression on our data. The results of the regression are shown in figure 2 below. At the end of the practicum a scientific poster was created to show our findings to be presented to all MD Anderson staff as well as all summer Trainees.

**Memorable Experiences**

- Presented a poster and gave an elevator speech on my topic open to all MD Anderson Employees
- Conducted several career interviews with people in my profession to learn about what life is like as a biostatistician

**Discussion of Results**

As expected from the literature review, tumor site, and tumor stage were significant risk factors of developing a SPM. What proved interesting is the fact that treatment with chemotherapy proved to be highly significant, whereas treatment through surgery was not.

<table>
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*slentry=.15 slstay=.2

**Variables not in final model: Surgery, Poverty Status**
Turning Cancer data into Discovery

Data analysis for breast cancer of SEER Program

By: Weiqin Liao

I am doing my practicum with Dr. Zhao in the Department of Health Service Research at M.D Anderson Cancer Center this Fall Semester. The work I have done here mainly focuses on doing data analysis for breast cancer data using data obtained from SEER research data (http://seer.cancer.gov/data/).

My responsibilities are: 1) Familiar with data structure, variable names, variable coding, ICD-O-3 cancer sites, and ICD-O-3 history types in the SEER data. 2) Attend the analysts’ seminar. 3) Conduct descriptive statistical analysis using SAS.

Public Health Significance

The Surveillance, Epidemiology, and End Results (SEER) Program funded by the National Cancer Institute and CDC collects and publish data on cancer incidence and survival throughout the United States started 1973. The information from population-based cancer registries covers approximately 28 percent of the US population. The goal of this program is to help the researchers get information to investigate the risk of cancer.

The Public Health Essential Service that most closely relates to my practicum is “Monitoring Health to Identify and Solve community Health Problems”. My project is using statistical methods to identify factors associated with breast cancer.

My host organization, Department of Health Service Research, contributes to public health by conducting innovative and high quality research in health care, health economics and effectiveness.

Practicum Highlights

- Practicing and Improving my SAS skill in practical problems
- Learning a skill is a long process, be patient and confident
- Asking for help from your preceptor and other colleagues, they are your best teachers
- Don’t be afraid of making mistakes

Advice for Future Practicum Students

Source: http://seer.cancer.gov/registries/
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/